



Engineering for Excellence

Shri Vithal Education & Research Institute's

# COLLEGE OF ENGINEERING, PANDHARPUR

P.B.No.54, Gopalpur - Ranjani Road, Gopalpur, Pandharpur - 413304, District: Solapur (Maharashtra)

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Website.: [www.sveri.ac.in](http://www.sveri.ac.in) (Approved by A.I.C.T.E., New Delhi and Affiliated to Solapur University, Solapur)

NBA Accredited all eligible UG Programmes, NAAC Accredited Institute, ISO 9001:2015 Certified Institute.

Accredited by The Institution of Engineers (India), Kolkata and TCS, Pune.



Ref.:-

Date: 06/07/2021

<b>Criteria 1.4.2:</b>	Feedback process of the Institution may be classified as follows: 1. Feedback collected, analysed and action taken and feedback available on website
<b>Findings of DVV</b>	1) Provide Stakeholder feedback analysis report signed by the Principal 2) Provide Department wise Action taken Report on feedback signed by the competent authority 3) Provide Document showing the communication with the Affiliating University for the Feedback provided 4) Provide document showing action taken by the affiliating university on the feedback
<b>Response of HEI</b>	1) Stakeholder feedback analysis report signed by the Principal is attached as <b>Appendix-I</b> 2) Department wise Action taken Report on feedback signed by the competent authority is attached as <b>Appendix-II</b> 3) Document showing the communication with the Affiliating University for the Feedback provided is attached as <b>Appendix-III</b> 4) Action taken Report by the affiliating university on the feedback is attached as <b>Appendix-IV</b>

  
**B. Ronge**  
**Coordinator**

Internal Quality Assurance Cell (IQAC)  
SVERI'S College of Engineering,  
Pandharpur



  
**B. Ronge**  
**PRINCIPAL,**  
**College of Engineering,**  
**PANDHARPUR.**

# **Appendix-I**

**SVERI's College of Engineering, Pandharpur**

**Department of Mechanical Engineering**

**Analysis of Stakeholders Feedback Report**

**Academic Year: 2019-2020**

# Analysis of Stakeholders Feedback Report

## A. Analysis of Students' Feedback Report:

### Department of Mechanical Engineering

Academic Year: 2019-2020

Total Responses =136

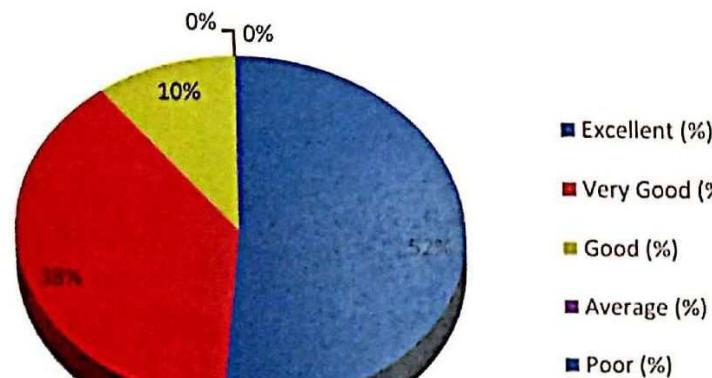
Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
1.	Rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course?	51.5	38.2	10.3	0.0	0.0
2.	How do you rate the relevance of the units in syllabus significant to the course?	45.6	39.0	15.4	0.0	0.0
3.	How do you rate the electives offered in relation to the technological advancements?	42.6	30.9	20.6	4.4	1.5
4.	Rate the courses in terms of extra learning or self learning considering the design of the courses?	40.4	33.1	19.9	5.1	1.5
5.	Rate the theoretical concepts of syllabus supported by Practical/Experiments?	40.4	37.5	22.1	0.0	0.0
6.	Rate the contents included in the syllabus with reference to professional and higher level learning skills?	47.8	33.8	18.4	0.0	0.0
7.	How do you rate the evaluation scheme designed for each of the course?	41.2	38.2	20.6	0.0	0.0
8.	How do you rate the sequence of the courses in the curriculum?	39.0	33.8	14.7	8.1	4.4
9.	Rate the satisfaction level of curriculum design as per the requirement of employability / higher learning?	36.0	36.0	16.9	6.6	4.4
10.	How do you rate the books listed as reference materials are relevant, updated and appropriate?	50.0	34.6	15.4	0.0	0.0



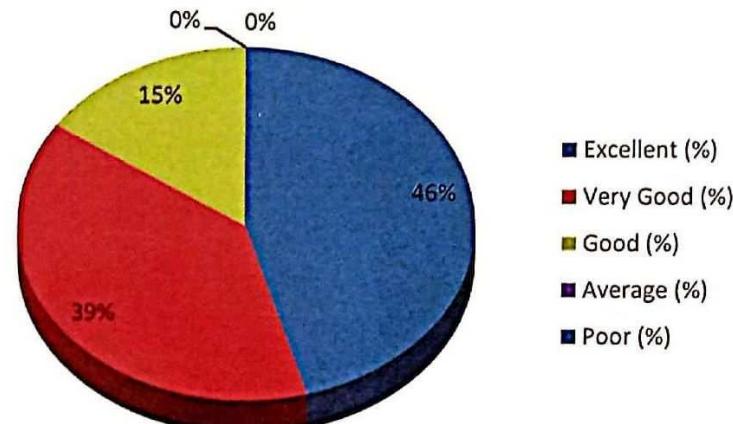
*B. R. Joshi*  
PRINCIPAL,  
College of Engineering  
PANDHARPUR

# Analysis of Stakeholders Feedback Report

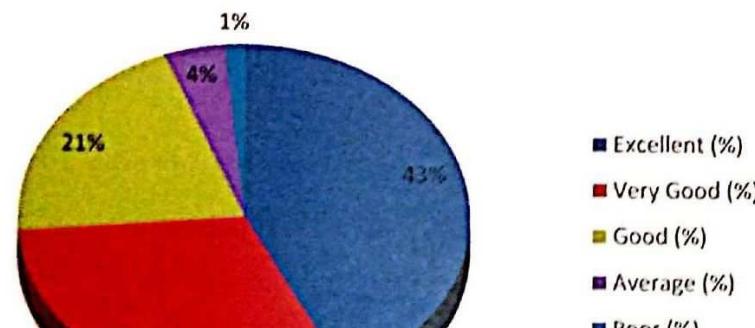
**Q.1 Rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course?**



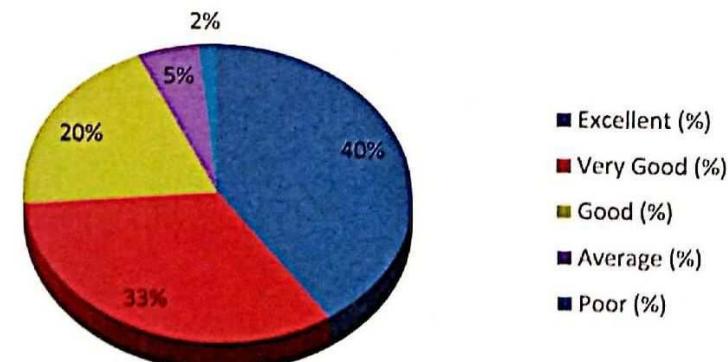
**Q.2 How do you rate the relevance of the units in syllabus significant to the course?**



**Q.3 How do you rate the electives offered in relation to the technological advancements?**

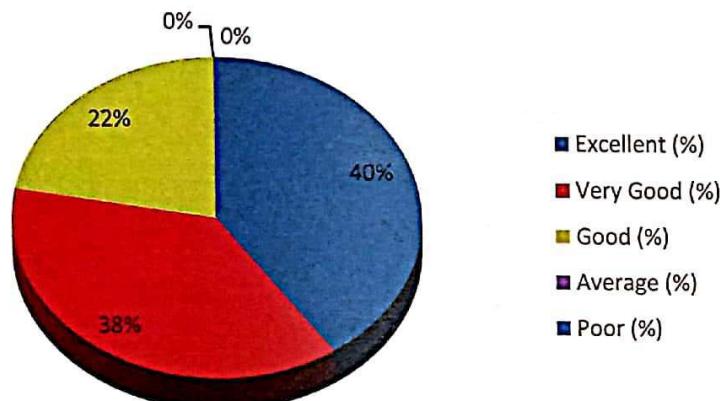


**Q.4 Rate the courses in terms of extra learning or self learning considering the design of the courses?**

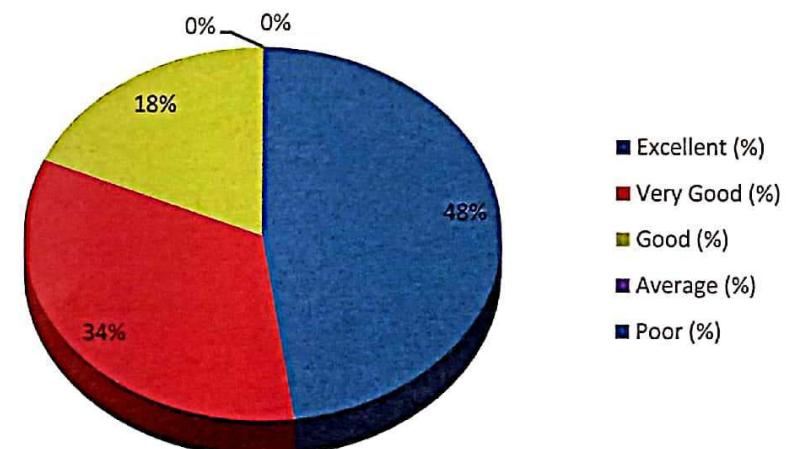


# Analysis of Stakeholders Feedback Report

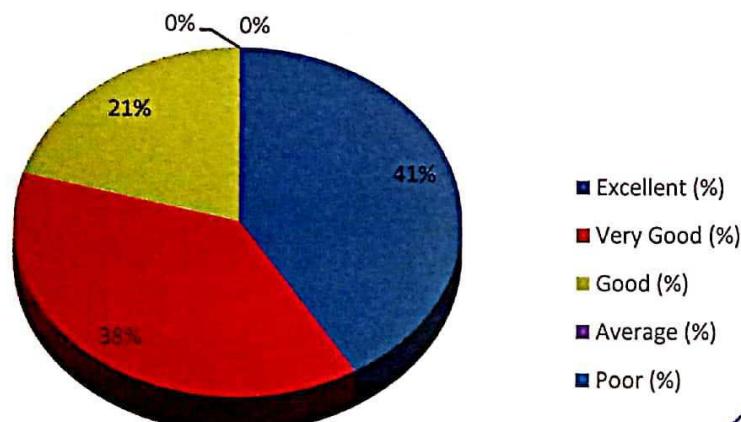
Q.5 Rate the theoretical concepts of syllabus supported by Practical/Experiments?



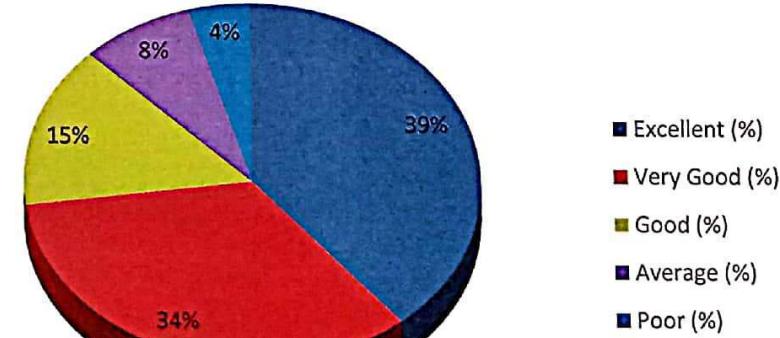
Q.6 Rate the contents included in the syllabus with reference to professional and higher level learning skills?



Q.7 How do you rate the evaluation scheme designed for each of the course?

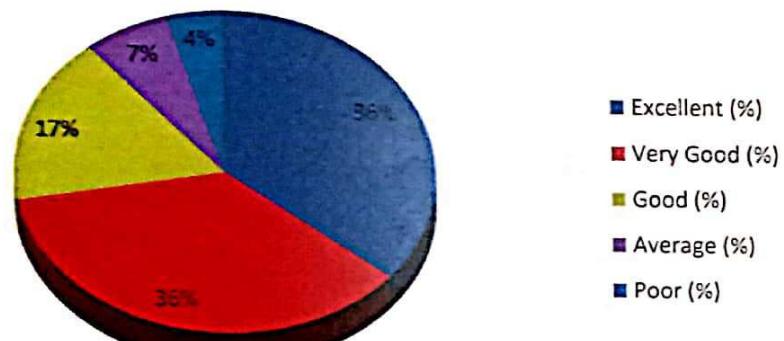


Q.8 How do you rate the sequence of the courses in the curriculum?

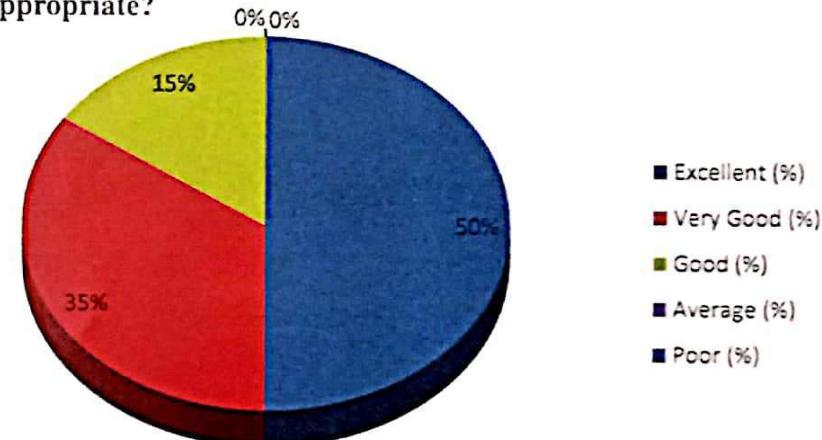


## Analysis of Stakeholders Feedback Report

Q.9 Rate the satisfaction level of curriculum design as per the requirement of employability / higher learning?



Q.10 How do you rate the books listed as reference materials are relevant, updated and appropriate?



# Analysis of Stakeholders Feedback Report

## B. Analysis of Teachers' Feedback on the Syllabus and its Transaction at the Institution

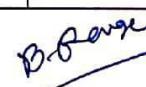
Department Name:- Mechanical Engineering

Academic Year: 2019-2020

Total Responses =32

Sr. No.	Particular	Strongly Disagree (%)	Disagree (%)	Neither Agree nor Disagree (%)	Agree (%)	Strongly Agree (%)
1.	The course objectives and outcomes of the current syllabi are well defined and clear for delivery of course.	3.1	15.6	28.1	31.3	21.9
2.	The current content of syllabus is fulfilling the need of industry, sufficient to bridge the gap between industry and academics.	0.0	15.6	18.8	46.9	18.8
3.	The course is well organized (e.g. teaching hours, the sequence of the courses in the curriculum).	0.0	15.6	25.0	31.3	28.1
4.	Emphasis on fundamentals, coverage of modern/advanced topics, good balance between theory and application.	0.0	18.8	15.6	56.3	9.4
5.	Evaluation schemes designed for each of the course are sufficient for providing proper assessment.	0.0	3.1	28.1	40.6	28.1
6.	The course/ syllabus has good balance between theoretical concepts of syllabus and Practical/Experiments.	3.1	12.5	18.8	37.5	28.1
7.	The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.	3.1	3.1	34.4	37.5	21.9



  
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## Analysis of Stakeholders Feedback Report

Sr. No.	Particular	Strongly Disagree (%)	Disagree (%)	Neither Agree nor Disagree (%)	Agree (%)	Strongly Agree (%)
8.	Current syllabus tries to build the opportunities in terms of employability and entrepreneurial attitude amongst the students.	0.0	9.4	25.0	46.9	18.8
9.	The books/ reference materials prescribed are relevant, updated and appropriate.	3.1	6.3	12.5	46.9	31.3
10.	The course/syllabus has enabled to update knowledge and perspective in the subject area.	0.0	9.4	28.1	34.4	28.1

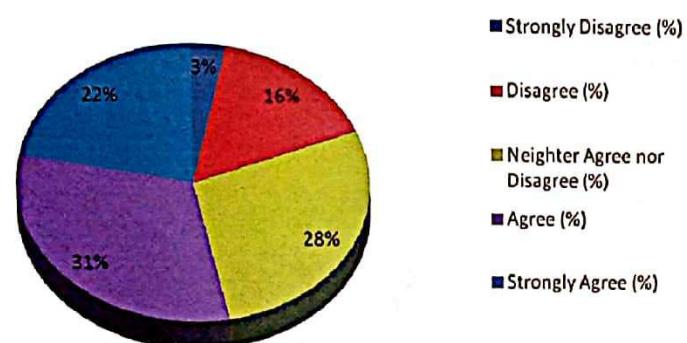


*B. P. O. R.*

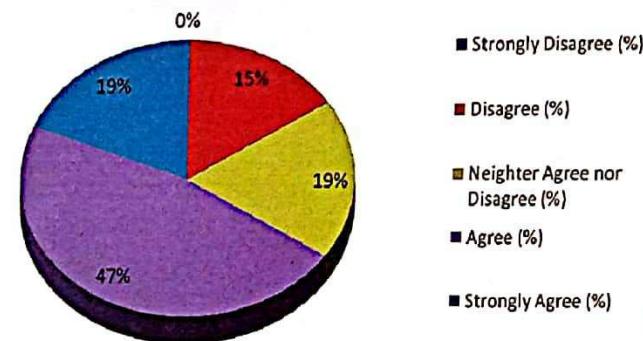
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## Analysis of Stakeholders Feedback Report

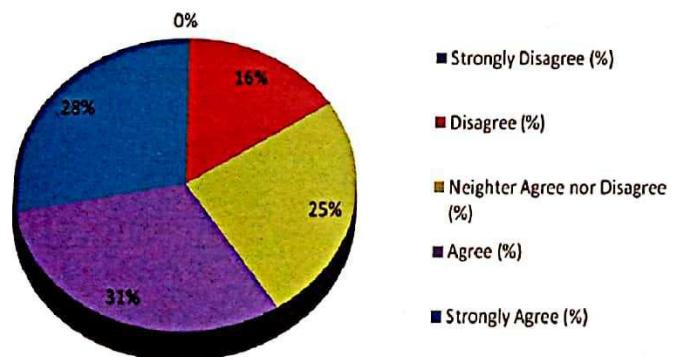
**Q.1 The course objectives and outcomes of the current syllabi are well defined and clear for delivery of course.**



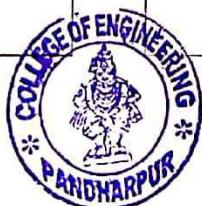
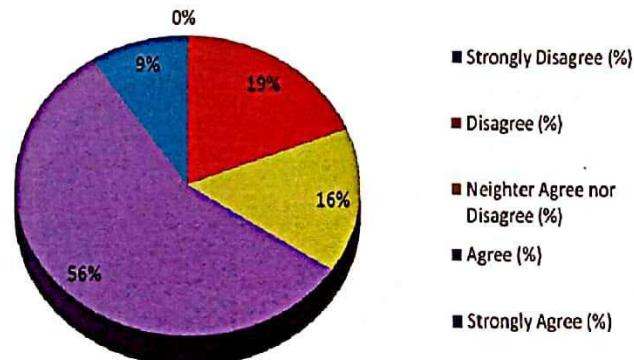
**Q.2 The current content of syllabus is fulfilling the need of industry, sufficient to bridge the gap between industry and academics.**



**Q.3 The course is well organized (e.g. teaching hours, the sequence of the courses in the curriculum).**

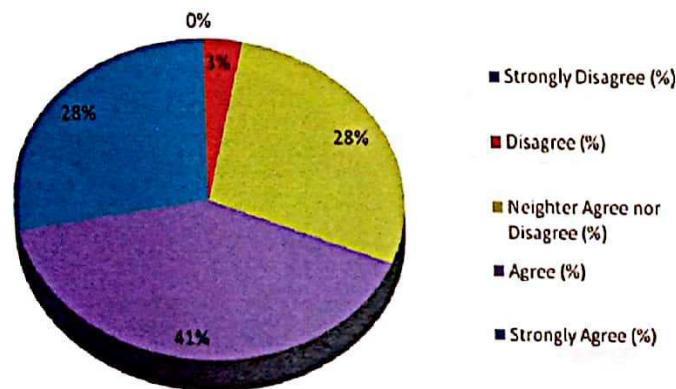


**Q.4 Emphasis on fundamentals, coverage of modern/advanced topics, good balance between theory and application.**

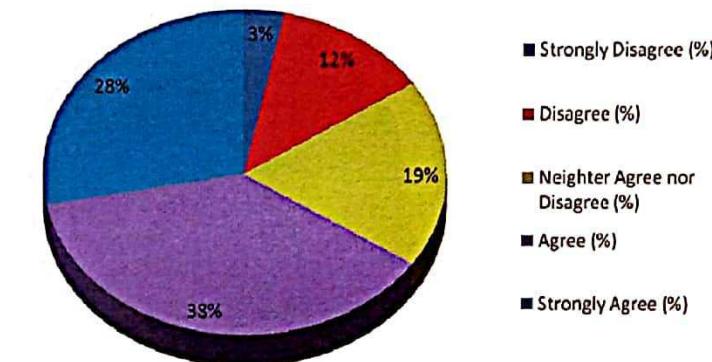


# Analysis of Stakeholders Feedback Report

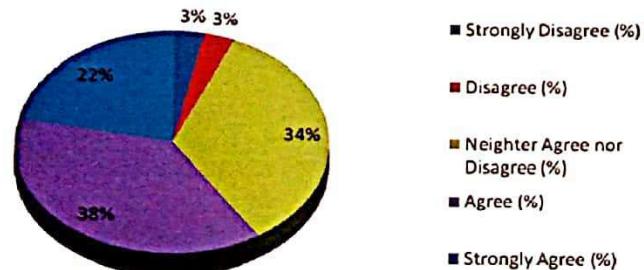
**Q.5 Evaluation schemes designed for each of the course are sufficient for providing proper assessment.**



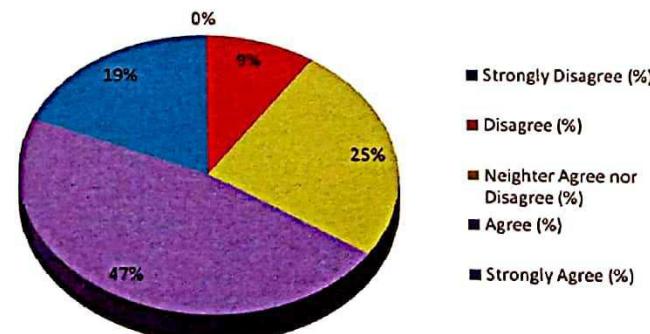
**Q.6 The course/ syllabus has good balance between theoretical concepts of syllabus and Practical/Experiments.**



**Q.7 The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.**

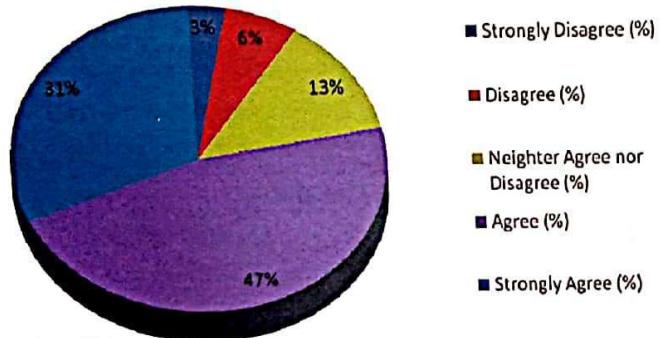


**Q.8 Current syllabus tries to build the opportunities in terms of employability and entrepreneurial attitude amongst the students.**

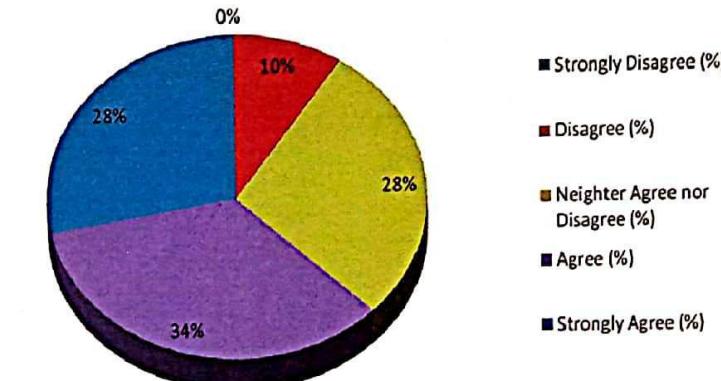


## Analysis of Stakeholders Feedback Report

**Q.9 The books/ reference materials prescribed are relevant, updated and appropriate.**



**Q.10 The course/syllabus has enabled to update knowledge and perspective in the subject area.**



# Analysis of Stakeholders Feedback Report

## C. Analysis of Alumni Feedback on the Syllabus and its Transaction at the Institution

Department Name:- Mechanical Engineering

Academic Year: 2019-2020

Total Responses =29

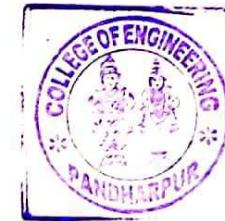
Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
1.	Course was well structured to achieve the learning outcomes (good balance of lectures, learning resources, tutorials, practical etc.)	51.7	17.2	27.6	3.4	0.0
2.	The syllabus was need based; Emphasis on fundamentals, coverage of modern/ advanced topics, good balance between theory and application.	48.3	13.8	20.7	13.8	3.4
3.	Current syllabus is adequately covers contemporary issues/emerging global and national trends in engineering.	41.4	20.7	10.3	24.1	3.4
4.	The syllabus meets the expectations in terms of learning values, skills, knowledge, attitude, analytical abilities, applicability, relevance and practical orientation to real life situations.	48.3	6.9	17.2	20.7	6.9
5.	Expectations about the course (Enhance by skill/knowledge base, better career opportunities etc) were achievable.	48.3	10.3	31.0	6.9	3.4
6.	The books prescribed/listed as reference materials are relevant, updated and appropriate.	44.8	10.3	27.6	17.2	0.0



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## Analysis of Stakeholders Feedback Report

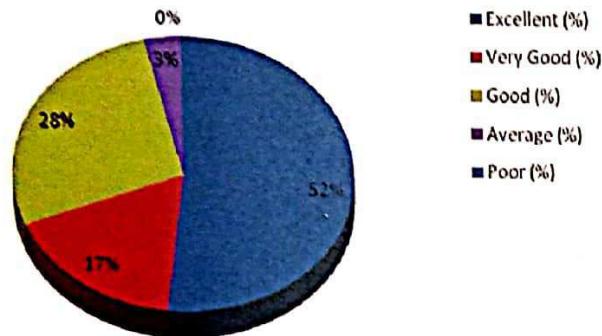
Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
7.	The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.	44.8	24.1	13.8	13.8	3.4
8.	The course enabled to build your future career.	48.3	13.8	24.1	10.3	3.4



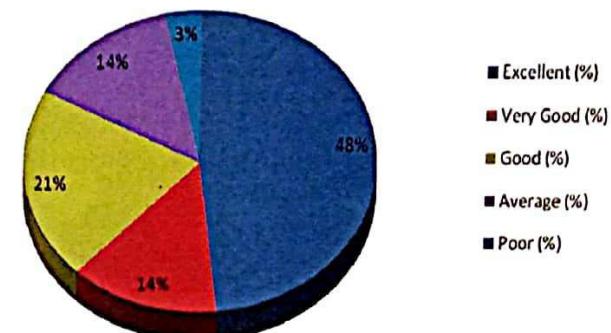
*B. P. Dange*  
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College of Engineering  
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## Analysis of Stakeholders Feedback Report

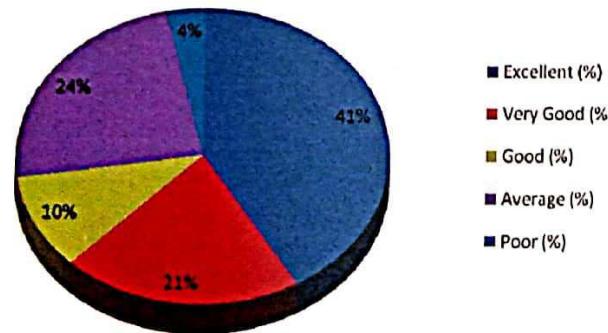
**Q.1 Course was well structured to achieve the learning outcomes (good balance of lectures, learning resources, tutorials, practical etc.)**



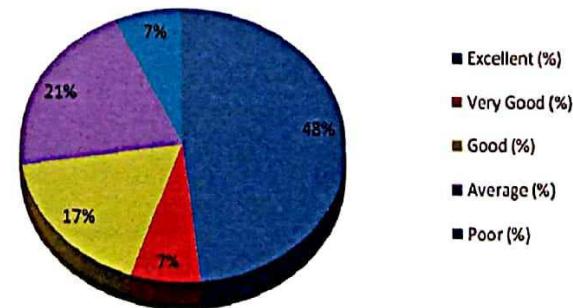
**Q.2 The syllabus was need based; Emphasis on fundamentals, coverage of modern/ advanced topics, good balance between theory and application.**



**Q.3 Current syllabus is adequately covers contemporary issues/emerging global and national trends in engineering.**

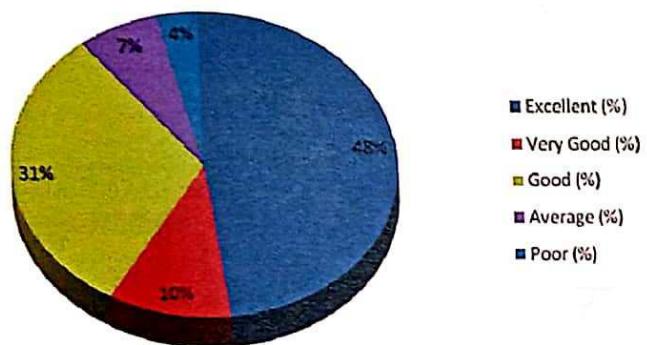


**Q.4 The syllabus meets the expectations in terms of learning values, skills, knowledge, attitude, analytical abilities, applicability, relevance and practical orientation to real life situations.**

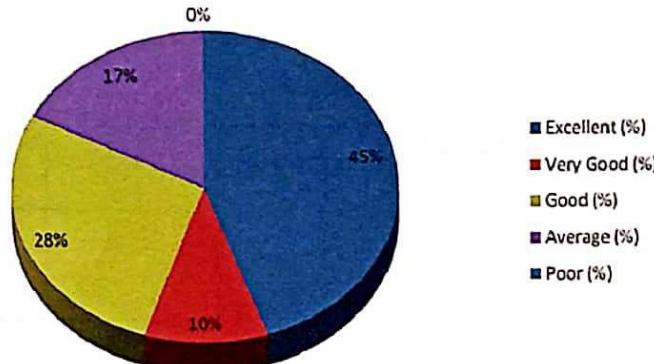


# Analysis of Stakeholders Feedback Report

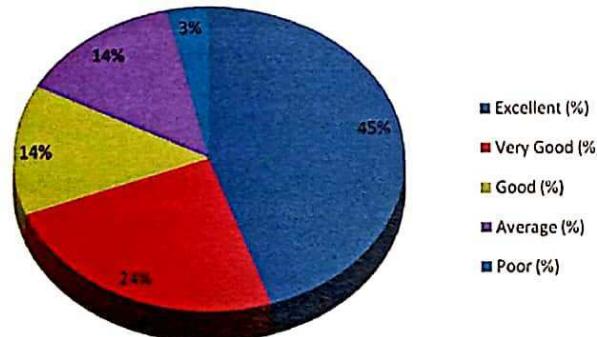
**Q.5 Expectations about the course  
(Enhance by skill/knowledge base, better  
career opportunities etc) were achievable.**



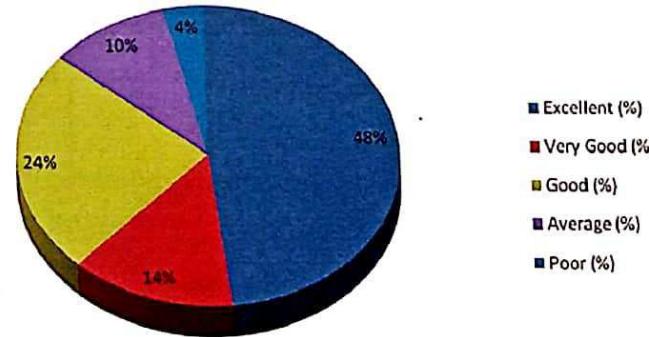
**Q.6 The books prescribed/listed as reference  
materials are relevant, updated and  
appropriate.**



**Q.7 The syllabus is covering inculcation of the  
aspects of life skills, transferable skills, cross  
cutting issues, gender equality, environment  
and sustainability, human rights and social  
security.**



**Q.8 The course enabled to build your future  
career.**



## Analysis of Stakeholders Feedback Report

## D. Analysis of Employers Feedback on the Syllabus and its Transaction at the Institution

Academic Year: 2019-2020

Total Responses = 4

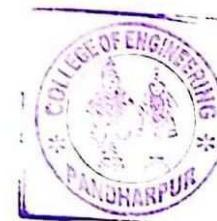
Sr. No.	Particular	Strongly Disagree (%)	Disagree (%)	Neither Agree nor Disagree (%)	Agree (%)	Strongly Agree (%)
1.	Current Curriculum of all Programmes is relevant for employability.	0.0	25.0	75.0	0.0	0.0
2.	Curriculum bridges the gap between Industry and Academic.	0.0	25.0	25.0	50.0	0.0
3.	Current curriculum offers need based and meets to the expectations of industry.	0.0	50.0	25.0	25.0	0.0
4.	Curriculum has enriched content which fulfils required orientation human resources.	0.0	0.0	75.0	25.0	0.0
5	Curriculum has application based courses which caters the needs of industry in terms of knowledge, skills, attitude and innovation.	0.0	0.0	25.0	50.0	25.0
6	Curriculum caters the need of industry and helps in building efficiency and effectiveness of organization.	0.0	25.0	75.0	0.0	0.0
7	Curriculum helps in building an entrepreneurial motive which helps to the students for starting their business enterprise.	0.0	50.0	25.0	25.0	0.0
8	Curriculum helps in edifice ability and motivation to the students for involvement in social activities.	0.0	0.0	50.0	25.0	25.0



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## Analysis of Stakeholders Feedback Report

Sr. No.	Particular	Strongly Disagree (%)	Disagree (%)	Neither Agree nor Disagree (%)	Agree (%)	Strongly Agree (%)
9	Curriculum exhibits to the students in communication skills and ability to function effectively as an individual as well as part of a team.	0.0	25.0	50.0	25.0	0.0
10	Curriculum show signs of independent thinking of students and appreciation of ethical values in their career.	0.0	25.0	50.0	25.0	0.0

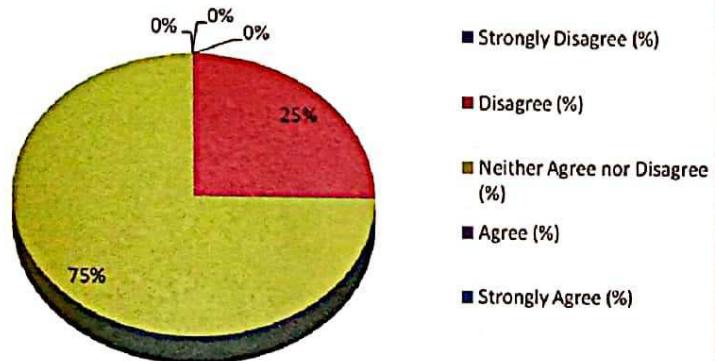


*B. Range*

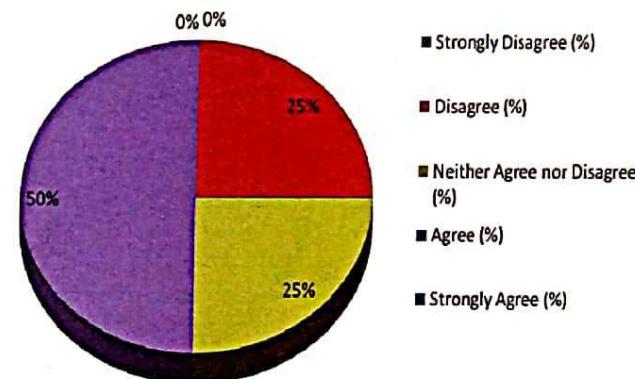
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# Analysis of Stakeholders Feedback Report

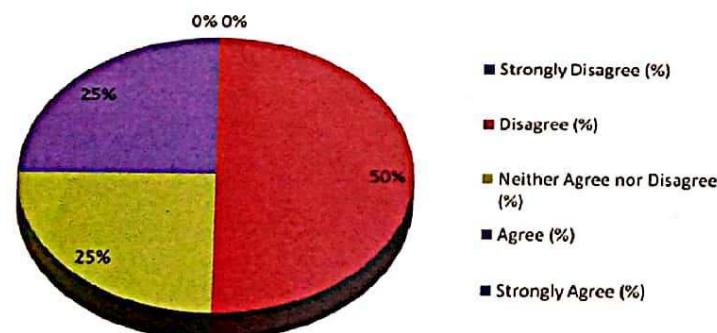
**Q.1 Current Curriculum of all Programmes is relevant for employability.**



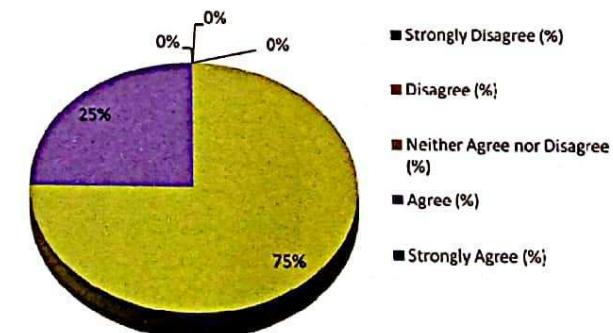
**Q.2 Curriculum bridges the gap between Industry and Academic.**



**Q.3 Current curriculum offers need based and meets to the expectations of industry.**

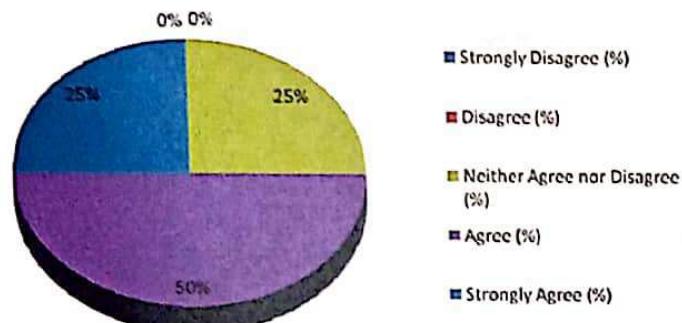


**Q.4 Curriculum has enriched content which fulfils required orientation human resources**

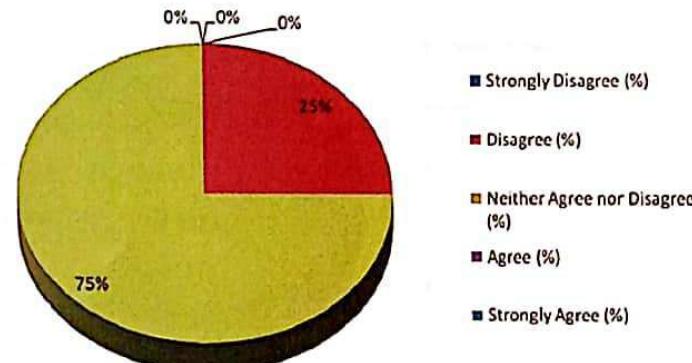


## Analysis of Stakeholders Feedback Report

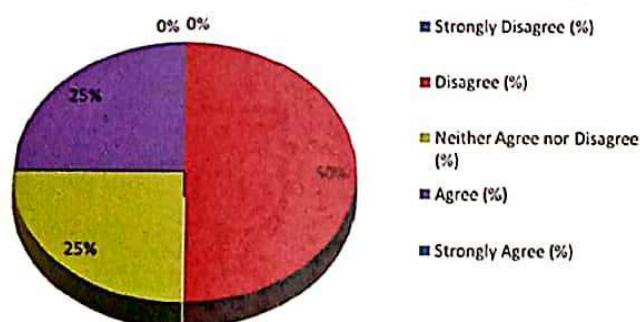
**Q.5 Curriculum has application based courses which caters the needs of industry in terms of knowledge, skills, attitude and innovation.**



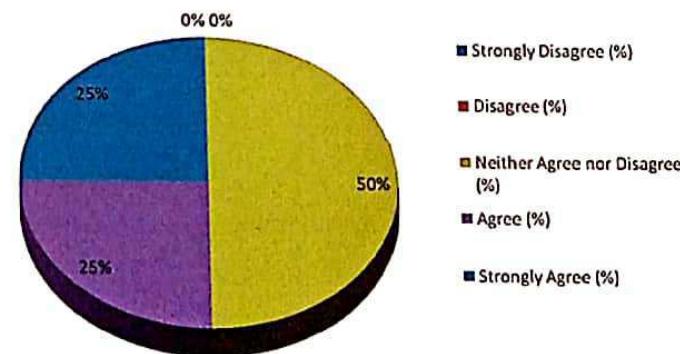
**Q.6 Curriculum caters the need of industry and helps in building efficiency and effectiveness of organization.**



**Q.7 Curriculum helps in building an entrepreneurial motive which helps to the students for starting their business enterprise.**

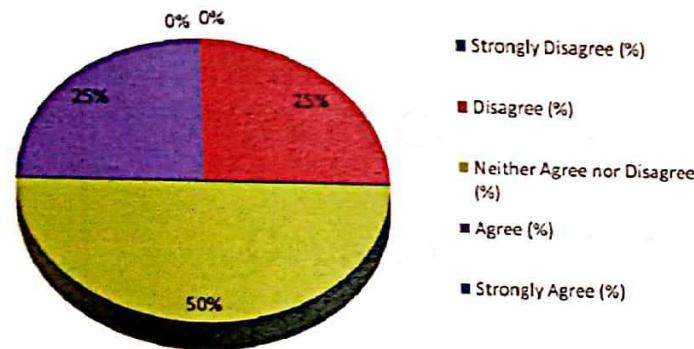


**Q.8 Curriculum helps in edifice ability and motivation to the students for involvement in social activities.**

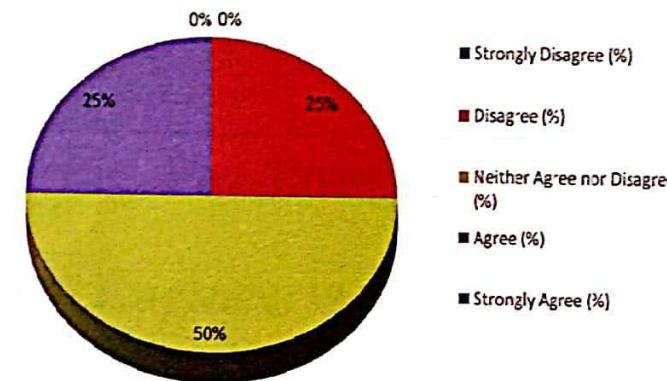


## Analysis of Stakeholders Feedback Report

**Q.9 Curriculum exhibits to the students in communication skills and ability to function effectively as an individual as well as part of a team.**



**Q.10 Curriculum show signs of independent thinking of students and appreciation of ethical values in their career.**



**SVERI's College of Engineering, Pandharpur**

**Department of Mechanical Engineering**

**Analysis of Stakeholders Feedback Report**

**Academic Year: 2018-2019**

# Analysis of Stakeholders Feedback Report

## A. Analysis of Students' Feedback Report:

### Department of Mechanical Engineering

Academic Year: 2018-2019

Total Responses =303

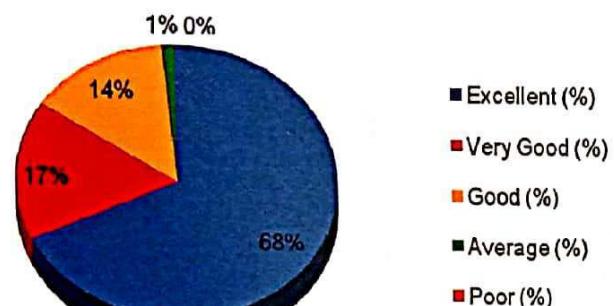
Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
1.	Rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course?	68.0	16.5	14.2	1.3	0.0
2.	How do you rate the relevance of the units in syllabus significant to the course?	41.9	43.9	12.9	1.3	0.0
3.	How do you rate the electives offered in relation to the technological advancements?	46.5	36.0	16.5	1.0	0.0
4.	Rate the courses in terms of extra learning or self learning considering the design of the courses?	44.6	38.3	16.2	1.0	0.0
5.	Rate the theoretical concepts of syllabus supported by Practical/Experiments?	41.3	38.9	18.2	1.3	0.3
6.	Rate the contents included in the syllabus with reference to professional and higher level learning skills?	40.3	43.9	14.9	0.7	0.3
7.	How do you rate the evaluation scheme designed for each of the course?	43.6	36.0	18.8	1.3	0.3
8.	How do you rate the sequence of the courses in the curriculum?	39.6	40.6	17.2	2.0	0.7
9.	Rate the satisfaction level of curriculum design as per the requirement of employability / higher learning?	47.2	30.0	19.8	3.0	0.0
10.	How do you rate the books listed as reference materials are relevant, updated and appropriate?	38.3	42.2	16.2	2.0	1.3



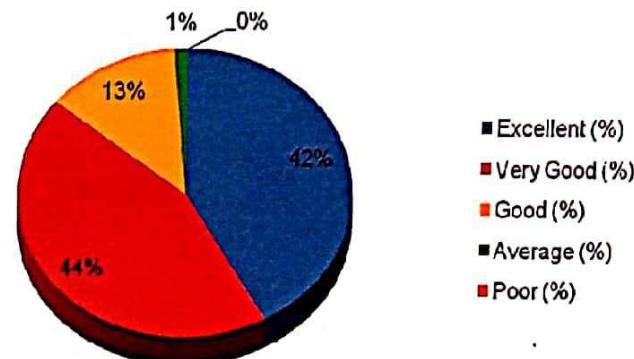
*B. Rose*  
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# Analysis of Stakeholders Feedback Report

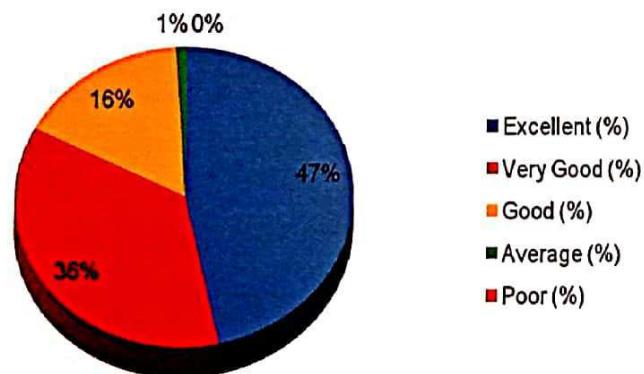
**Q.1 Rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course?**



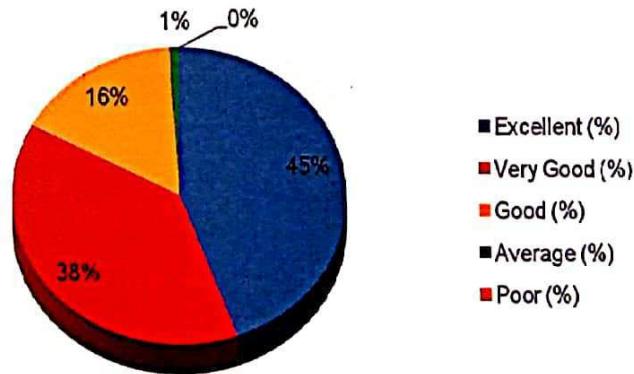
**Q.2 How do you rate the relevance of the units in syllabus significant to the course?**



**Q.3 How do you rate the electives offered in relation to the technological advancements?**

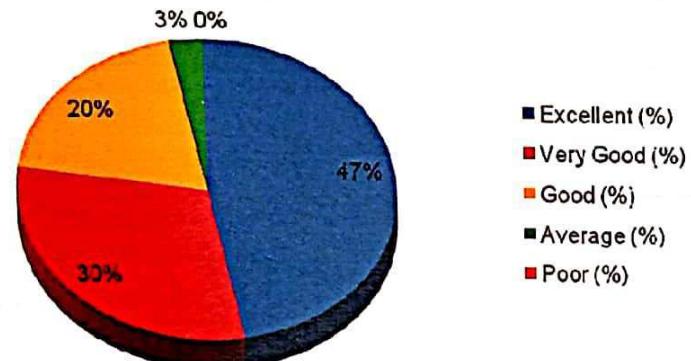


**Q.4 Rate the courses in terms of extra learning or self learning considering the design of the courses?**

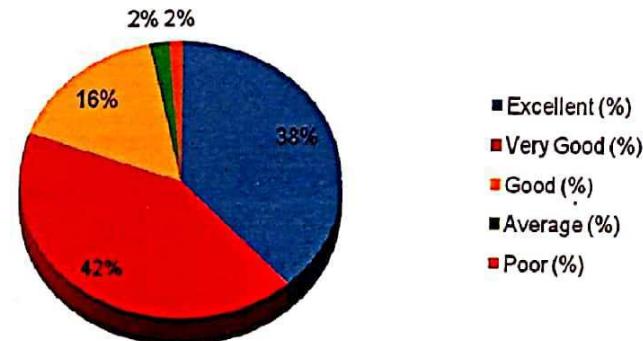


## Analysis of Stakeholders Feedback Report

**Q.9 Rate the satisfaction level of curriculum design as per the requirement of employability / higher learning?**



**Q.10 How do you rate the books listed as reference materials are relevant, updated and appropriate?**



## Analysis of Stakeholders Feedback Report

### B. Analysis of Teachers' Feedback on the Syllabus and its Transaction at the Institution

Department Name:- Mechanical Engineering

Academic Year: 2018-2019

Total Responses = 29

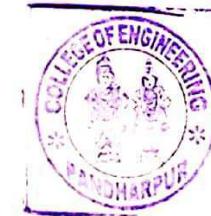
Sr. No.	Particular	Strongly Disagree (%)	Disagree (%)	Neither Agree nor Disagree (%)	Agree (%)	Strongly Agree (%)
1.	The course objectives and outcomes of the current syllabi are well defined and clear for delivery of course.	6.9	20.7	27.6	20.7	24.1
2.	The current content of syllabus is fulfilling the need of industry, sufficient to bridge the gap between industry and academics.	0.0	13.8	27.6	44.8	13.8
3.	The course is well organized (e.g. teaching hours, the sequence of the courses in the curriculum).	3.4	6.9	13.8	48.3	27.6
4.	Emphasis on fundamentals, coverage of modern/advanced topics, good balance between theory and application.	0.0	13.8	31.0	31.0	24.1
5.	Evaluation schemes designed for each of the course are sufficient for providing proper assessment.	3.4	6.9	31.0	34.5	24.1
6.	The course/ syllabus has good balance between theoretical concepts of syllabus and Practical/Experiments.	0.0	10.3	24.1	41.4	24.1
7.	The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.	0.0	17.2	17.2	44.8	20.7



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## Analysis of Stakeholders Feedback Report

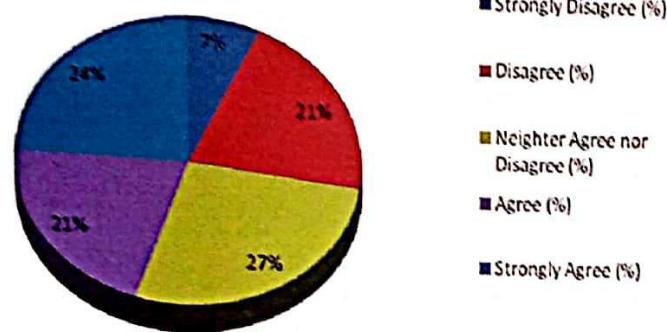
Sr. No.	Particular	Strongly Disagree (%)	Disagree (%)	Neither Agree nor Disagree (%)	Agree (%)	Strongly Agree (%)
8.	Current syllabus tries to build the opportunities in terms of employability and entrepreneurial attitude amongst the students.	3.4	3.4	31.0	44.8	17.2
9.	The books/ reference materials prescribed are relevant, updated and appropriate.	0.0	10.3	17.2	41.4	31.0
10.	The course/syllabus has enabled to update knowledge and perspective in the subject area.	3.4	3.4	27.6	34.5	31.0



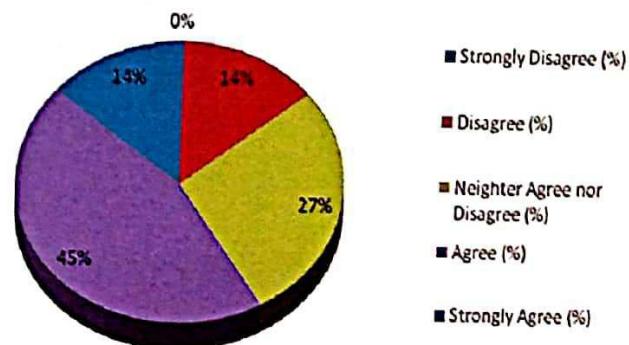
  
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## Analysis of Stakeholders Feedback Report

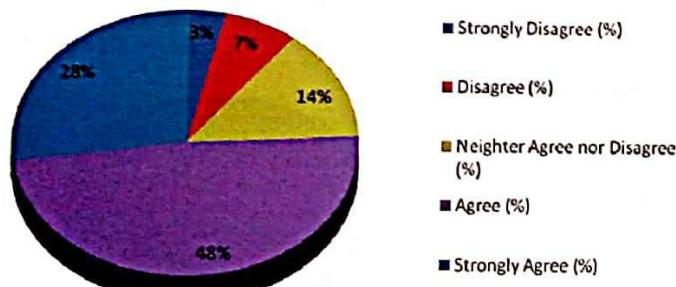
**Q.1 The course objectives and outcomes of the current syllabi are well defined and clear for delivery of course.**



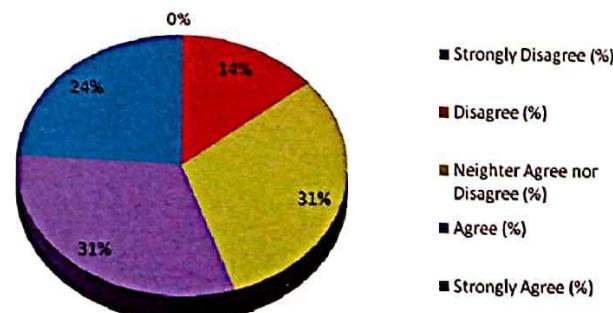
**Q.2 The current content of syllabus is fulfilling the need of industry, sufficient to bridge the gap between industry and academics.**



**Q.3 The course is well organized (e.g. teaching hours, the sequence of the courses in the curriculum).**

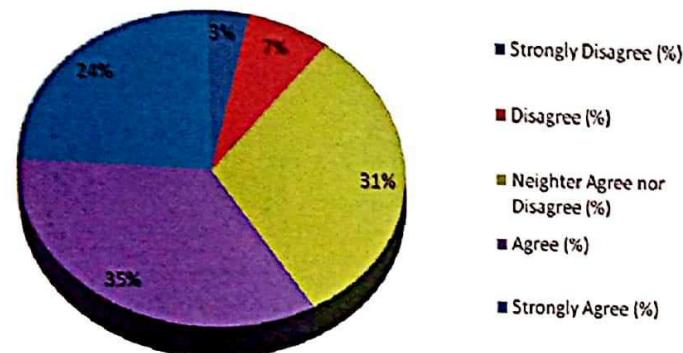


**Q.4 Emphasis on fundamentals, coverage of modern/advanced topics, good balance between theory and application.**

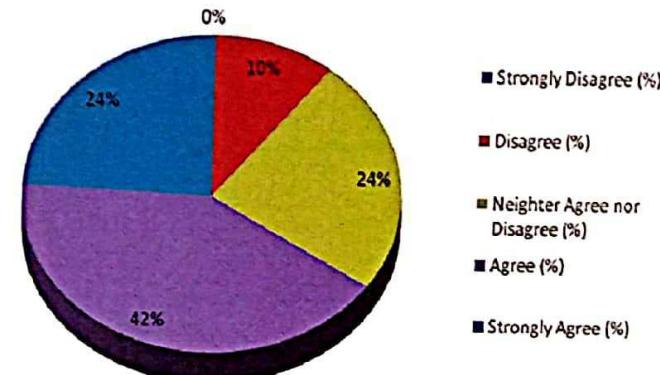


## Analysis of Stakeholders Feedback Report

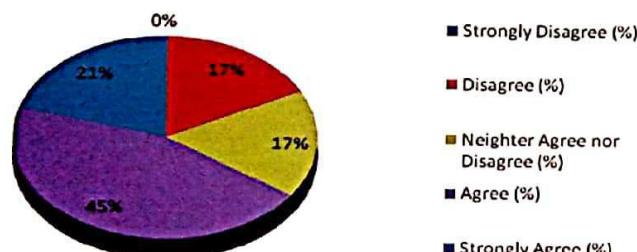
**Q.5 Evaluation schemes designed for each of the course are sufficient for providing proper assessment.**



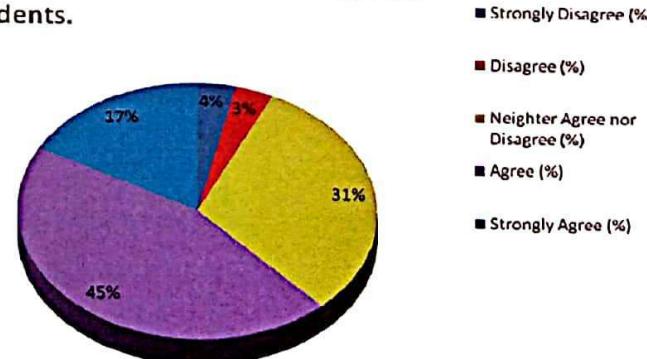
**Q.6 The course/ syllabus has good balance between theoretical concepts of syllabus and Practical/Experiments.**



**Q.7 The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.**

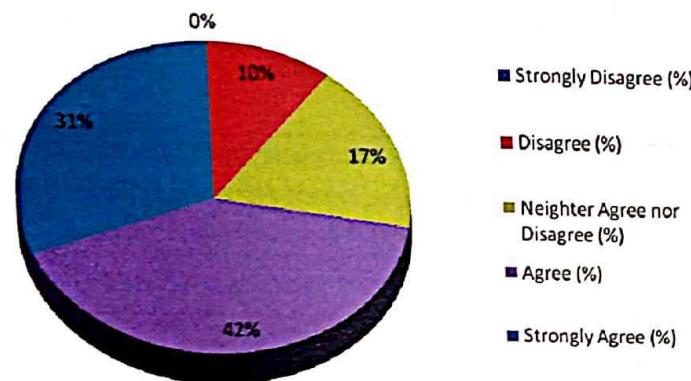


**Q.8 Current syllabus tries to build the opportunities in terms of employability and entrepreneurial attitude amongst the students.**

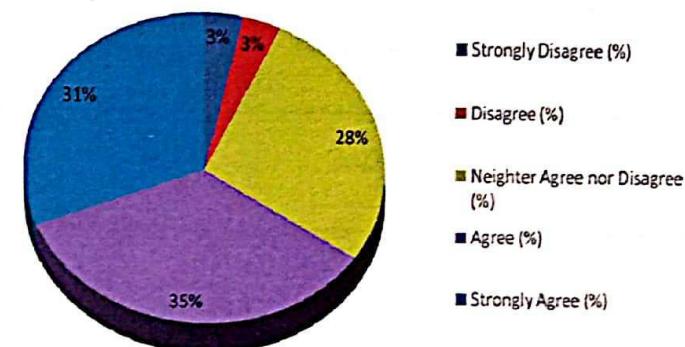


## Analysis of Stakeholders Feedback Report

**Q.9 The books/ reference materials prescribed are relevant, updated and appropriate.**



**Q.10 The course/syllabus has enabled to update knowledge and perspective in the subject area.**



## Analysis of Stakeholders Feedback Report

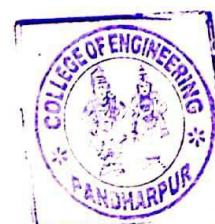
### C. Analysis of Alumni Feedback on the Syllabus and its Transaction at the Institution

Department Name:- Mechanical Engineering

Academic Year: 2018-2019

Total Responses = 35

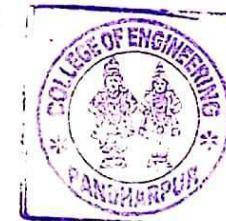
Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
1.	Course was well structured to achieve the learning outcomes (good balance of lectures, learning resources, tutorials, practical etc.)	60.0	17.1	20.0	2.9	0.0
2.	The syllabus was need based; Emphasis on fundamentals, coverage of modern/ advanced topics, good balance between theory and application.	57.1	5.7	20.0	14.3	2.9
3.	Current syllabus is adequately covers contemporary issues/emerging global and national trends in engineering.	42.9	28.6	11.4	17.1	0.0
4.	The syllabus meets the expectations in terms of learning values, skills, knowledge, attitude, analytical abilities, applicability, relevance and practical orientation to real life situations.	37.1	34.3	14.3	14.3	0.0
5.	Expectations about the course (Enhance by skill/knowledge base, better career opportunities etc) were achievable.	40.0	25.7	22.9	11.4	0.0
6.	The books prescribed/listed as reference materials are relevant, updated and appropriate.	37.1	37.1	17.1	8.6	0.0



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## Analysis of Stakeholders Feedback Report

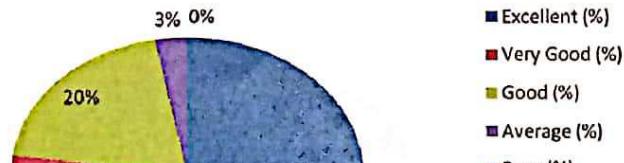
Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
7.	The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.	48.6	17.1	22.9	11.4	0.0
8.	The course enabled to build your future career.	45.7	28.6	2.9	22.9	0.0



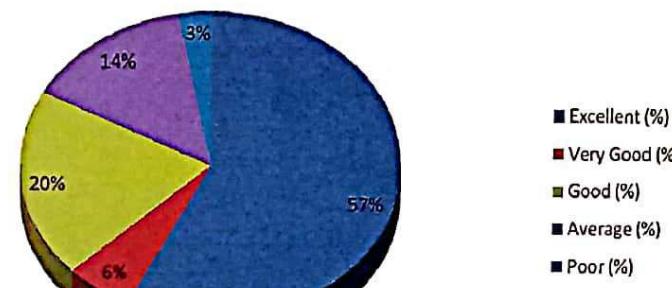
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## Analysis of Stakeholders Feedback Report

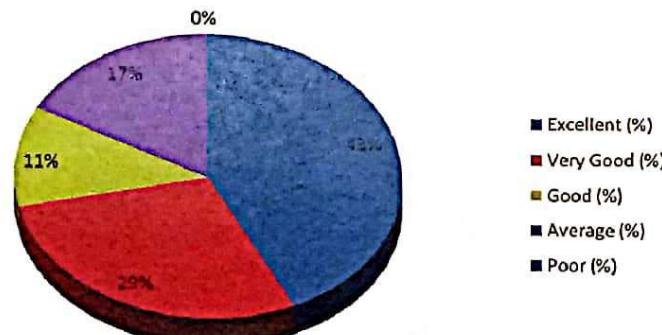
**Q.1 Course was well structured to achieve the learning outcomes (good balance of lectures, learning resources, tutorials, practical etc.)**



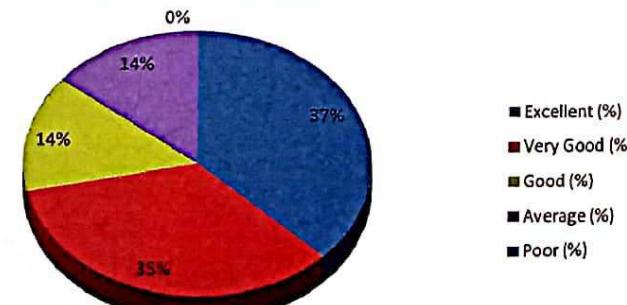
**Q.2 The syllabus was need based; Emphasis on fundamentals, coverage of modern/ advanced topics, good balance between theory and application.**



**Q.3 Current syllabus is adequately covers contemporary issues/emerging global and national trends in engineering.**

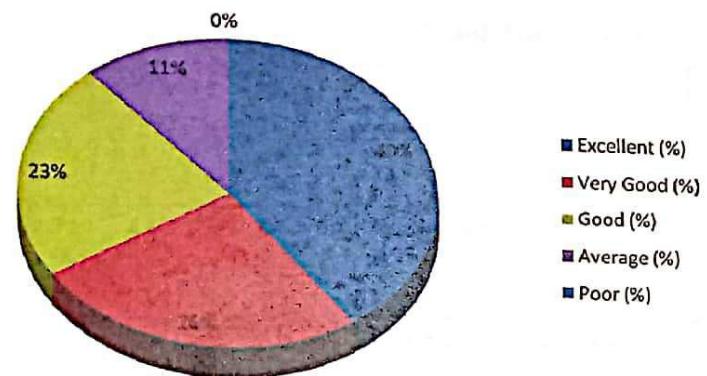


**Q.4 The syllabus meets the expectations in terms of learning values, skills, knowledge, attitude, analytical abilities, applicability, relevance and practical orientation to real life situations.**

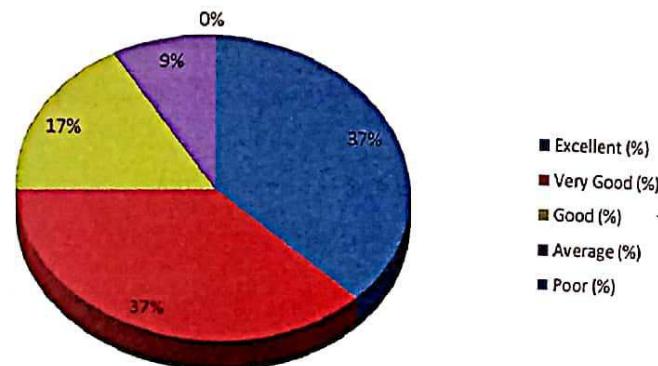


## Analysis of Stakeholders Feedback Report

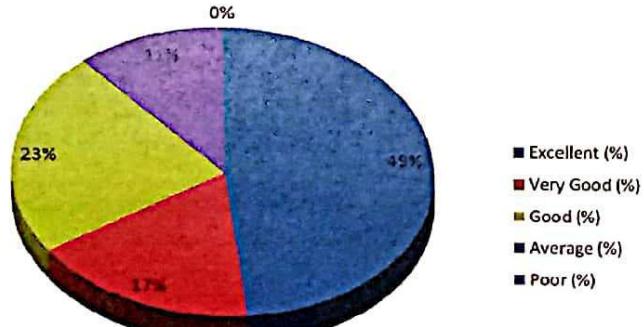
**Q.5 Expectations about the course  
(Enhance by skill/knowledge base, better career opportunities etc) were achievable.**



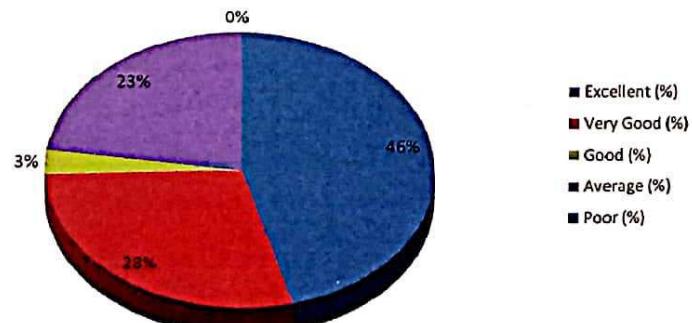
**Q.6 The books prescribed/listed as reference materials are relevant, updated and appropriate.**



**Q.7 The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.**



**Q.8 The course enabled to build your future career.**



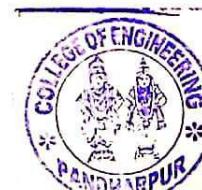
## Analysis of Stakeholders Feedback Report

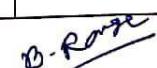
### D. Analysis of Employers Feedback on the Syllabus and its Transaction at the Institution

Academic Year: 2018-2019

Total Responses = 4

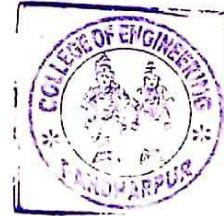
Sr. No.	Particular	Strongly Disagree (%)	Disagree (%)	Neither Agree nor Disagree (%)	Agree (%)	Strongly Agree (%)
1.	Current Curriculum of all Programmes is relevant for employability.	0.0	0.0	75.0	25.0	0.0
2.	Curriculum bridges the gap between Industry and Academic.	0.0	75.0	0.0	25.0	0.0
3.	Current curriculum offers need based and meets to the expectations of industry.	0.0	0.0	75.0	25.0	0.0
4.	Curriculum has enriched content which fulfils required orientation human resources.	0.0	25.0	50.0	25.0	0.0
5	Curriculum has application based courses which caters the needs of industry in terms of knowledge, skills, attitude and innovation.	0.0	50.0	50.0	0.0	0.0
6	Curriculum caters the need of industry and helps in building efficiency and effectiveness of organization.	0.0	0.0	50.0	50.0	0.0
7	Curriculum helps in building an entrepreneurial motive which helps to the students for starting their business enterprise.	0.0	0.0	50.0	50.0	0.0
8	Curriculum helps in edifice ability and motivation to the students for involvement in social activities.	0.0	75.0	0.0	25.0	0.0



  
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## Analysis of Stakeholders Feedback Report

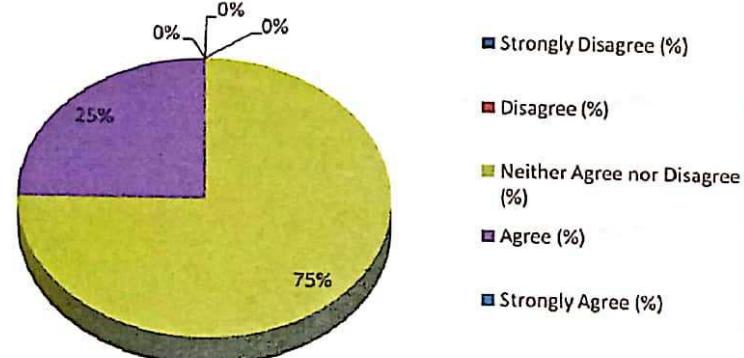
Sr. No.	Particular	Strongly Disagree (%)	Disagree (%)	Neither Agree nor Disagree (%)	Agree (%)	Strongly Agree (%)
9	Curriculum exhibits to the students communication skills and ability to function effectively as an individual as well as part of a team.	0.0	0.0	50.0	50.0	0.0
10	Curriculum shows signs of independent thinking of students and appreciation of ethical values in their career.	0.0	25.0	75.0	0.0	0.0



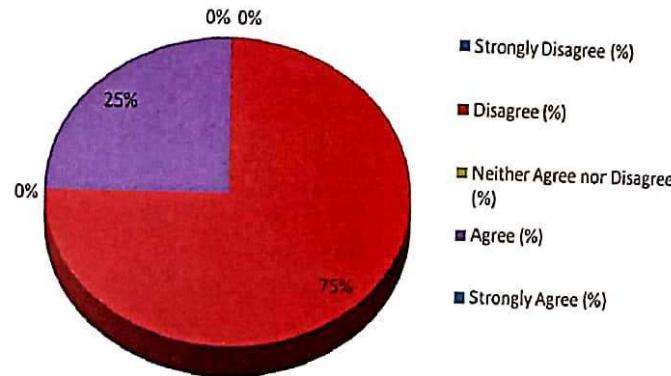
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# Analysis of Stakeholders Feedback Report

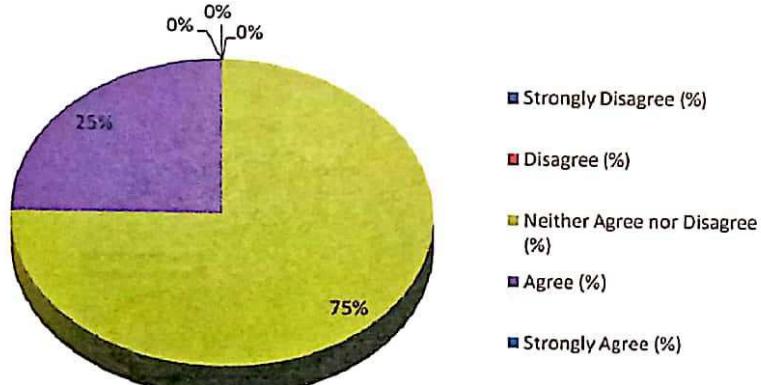
**Q.1 Current Curriculum of all Programmes is relevant for employability.**



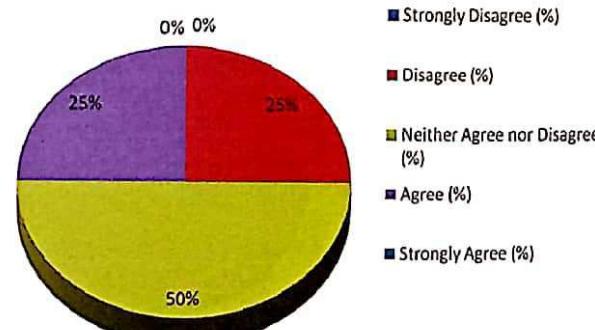
**Q.2 Curriculum bridges the gap between Industry and Academic.**



**Q.3 Current curriculum offers need based and meets to the expectations of industry.**

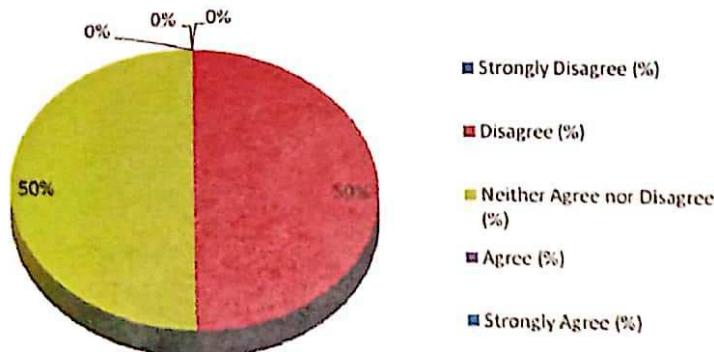


**Q.4 Curriculum has enriched content which fulfils required orientation human resources**

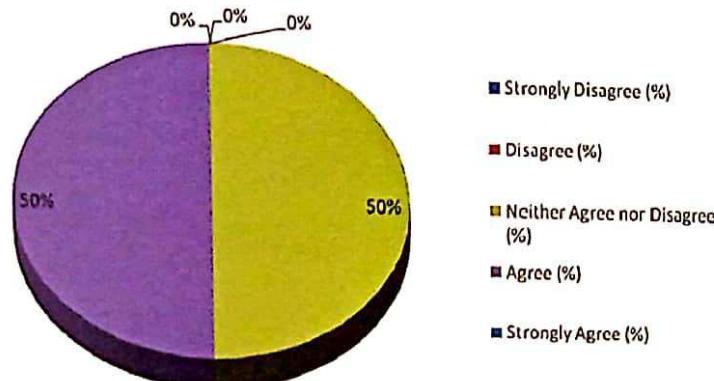


# Analysis of Stakeholders Feedback Report

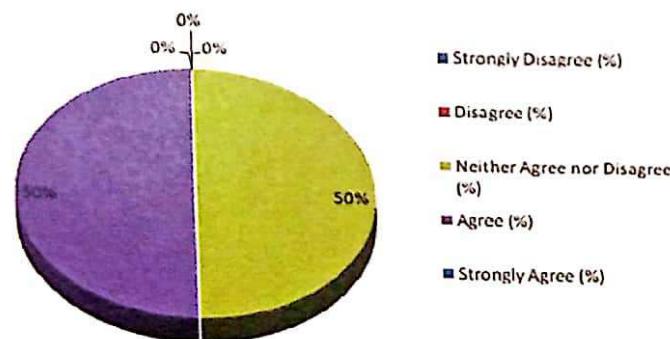
**Q.5 Curriculum has application based courses which caters the needs of industry in terms of knowledge, skills, attitude and innovation.**



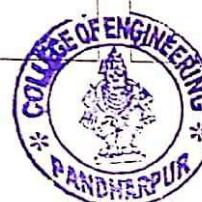
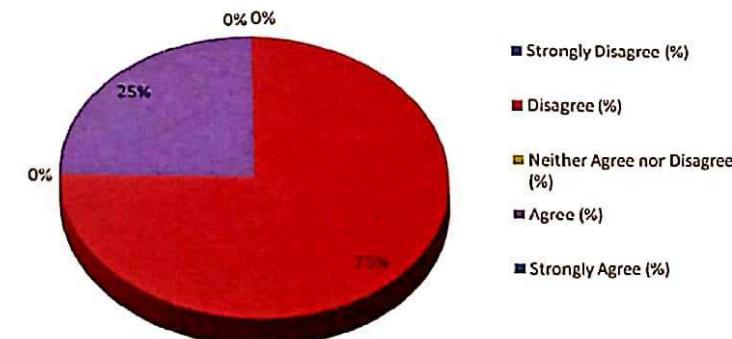
**Q.6 Curriculum caters the need of industry and helps in building efficiency and effectiveness of organization.**



**Q.7 Curriculum helps in building an entrepreneurial motive which helps to the students for starting their business enterprise.**

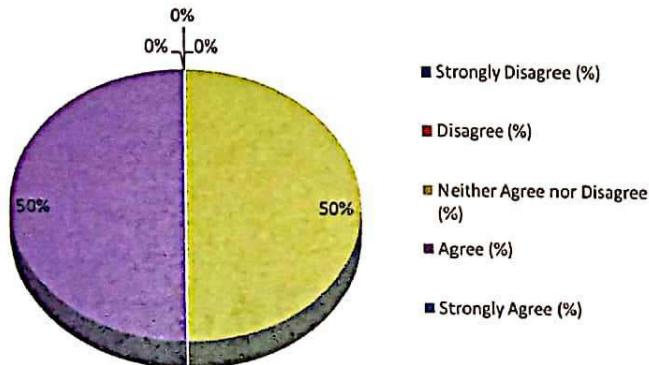


**Q.8 Curriculum helps in edifice ability and motivation to the students for involvement in social activities.**

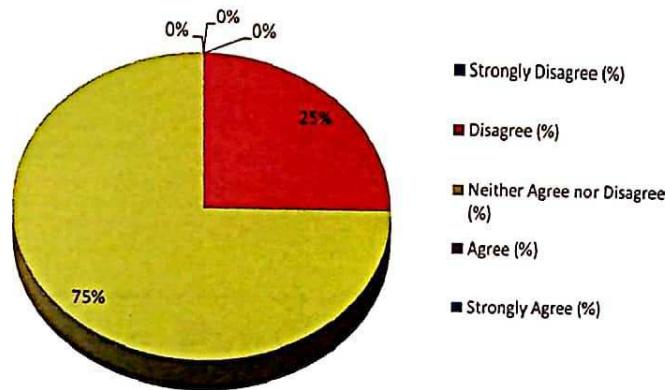


## Analysis of Stakeholders Feedback Report

**Q.9 Curriculum exhibits to the students in communication skills and ability to function effectively as an individual as well as part of a team.**



**Q.10 Curriculum show signs of independent thinking of students and appreciation of ethical values in their career.**



**SVERI's College of Engineering, Pandharpur**

**Department of Civil Engineering**

**Analysis of Feedback Report**

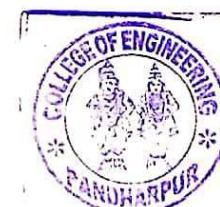
**Academic Year: 2019-2020**

## Analysis of Stakeholders Feedback Report

### A. Analysis of Students' Feedback Report:

**Total Responses =76**

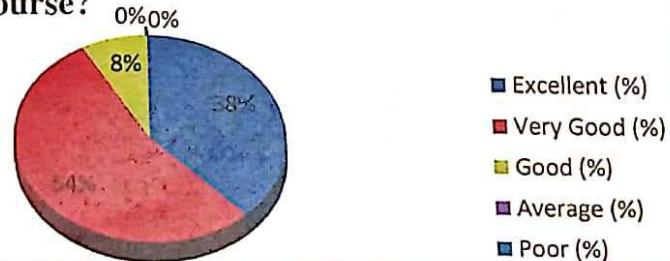
Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
1.	Rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course?	38	54	8	0	0
2.	How do you rate the relevance of the units in syllabus significant to the course?	29	51	21	0	0
3.	How do you rate the electives offered in relation to the technological advancements?	36	49	13	2	0
4.	Rate the courses in terms of extra learning or self learning considering the design of the courses?	33	45	21	2	0
5.	Rate the theoretical concepts of syllabus supported by Practical/Experiments?	30	43	21	5	1
6.	Rate the contents included in the syllabus with reference to professional and higher level learning skills?	33	23	23	21	0
7.	How do you rate the evaluation scheme designed for each of the course?	30	40	19	11	0
8.	How do you rate the sequence of the courses in the curriculum?	34	42	16	8	0
9.	Rate the satisfaction level of curriculum design as per the requirement of employability / higher learning?	27	31	15	27	0
10.	How do you rate the books listed as reference materials are relevant, updated and appropriate?	30	48	20	2	0



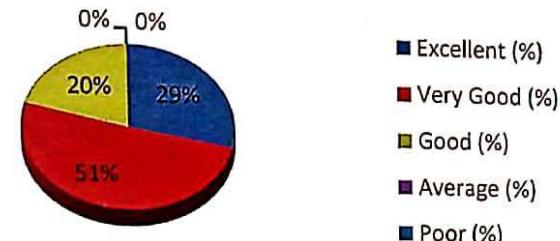
*B. George*  
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# Analysis of Stakeholders Feedback Report

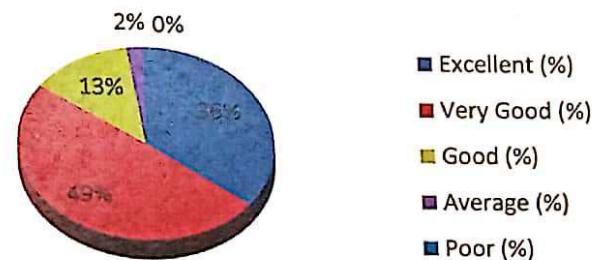
**Q.1 Rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course?**



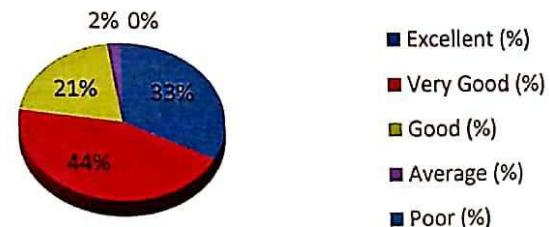
**Q.2 How do you rate the relevance of the units in syllabus significant to the course?**



**Q.3 How do you rate the electives offered in relation to the technological advancements?**

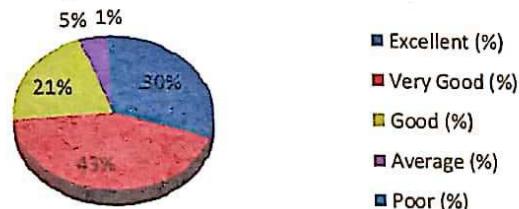


**Q.4 Rate the courses in terms of extra learning or self learning considering the design of the courses?**

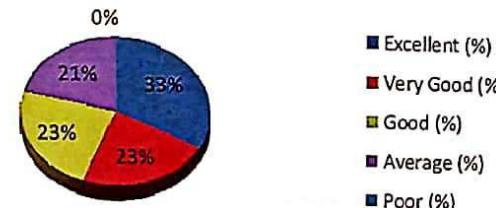


# Analysis of Stakeholders Feedback Report

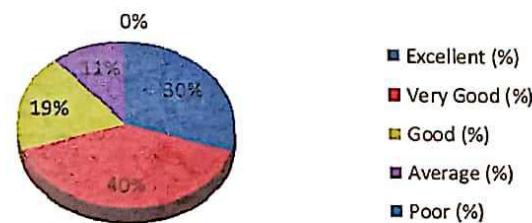
Q.5 Rate the theoretical concepts of syllabus supported by Practical/Experiments?



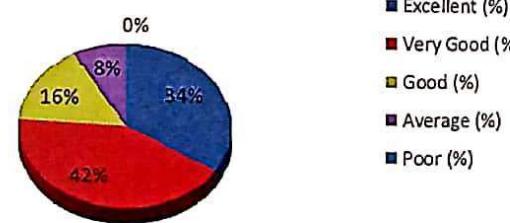
Q.6 Rate the contents included in the syllabus with reference to professional and higher level learning skills?



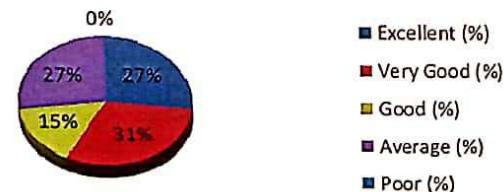
Q.7 How do you rate the evaluation scheme designed for each of the course?



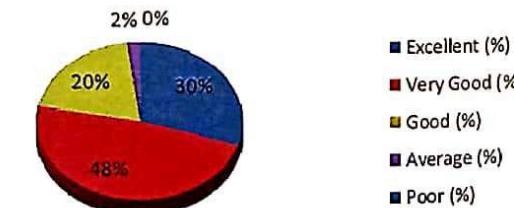
Q.8 How do you rate the sequence of the courses in the curriculum?



Q.9 Rate the satisfaction level of curriculum design as per the requirement of employability / higher learning?



Q.10 How do you rate the books listed as reference materials are relevant, updated and appropriate?

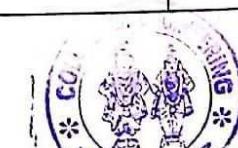


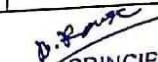
# Analysis of Stakeholders Feedback Report

## B. Analysis of Teachers' Feedback on the Syllabus and its Transaction at the Institution

Total Responses =16

Sr. No.	Particular	Strongly Disagree (%)	Disagree (%)	Neither Agree nor Disagree (%)	Agree (%)	Strongly Agree (%)
1.	The course objectives and outcomes of the current syllabi are well defined and clear for delivery of course.	0	6	31	38	25
2.	The current content of syllabus is fulfilling the need of industry, sufficient to bridge the gap between industry and academics.	0	19	56	19	6
3.	The course is well organized (e.g. teaching hours, the sequence of the courses in the curriculum).	0	6	13	38	44
4.	Emphasis on fundamentals, coverage of modern/advanced topics, good balance between theory and application.	0	6	19	69	6
5.	Evaluation schemes designed for each of the course are sufficient for providing proper assessment.	0	6	13	38	44
6.	The course/ syllabus has good balance between theoretical concepts of syllabus and Practical/Experiments.	6	6	13	44	31
7.	The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.	0	19	50	25	6
8.	Current syllabus tries to build the opportunities in terms of employability and entrepreneurial attitude amongst the students.	0	25	50	13	13

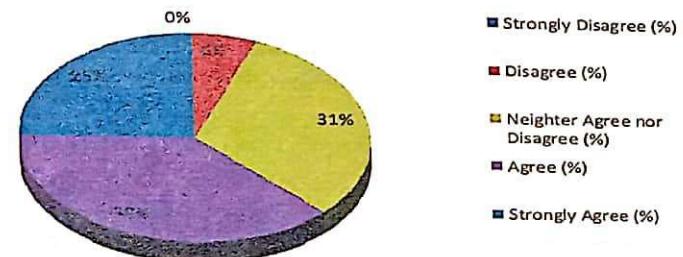


  
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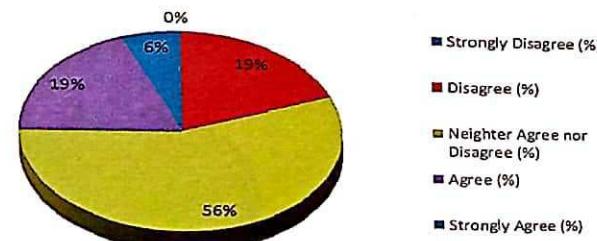
# Analysis of Stakeholders Feedback Report

Sr. No.	Particular	Strongly Disagree (%)	Disagree (%)	Neither Agree nor Disagree (%)	Agree (%)	Strongly Agree (%)
9.	The books/ reference materials prescribed are relevant, updated and appropriate.	6	6	6	31	50
10.	The course/syllabus has enabled to update knowledge and perspective in the subject area.	0	6	19	31	44

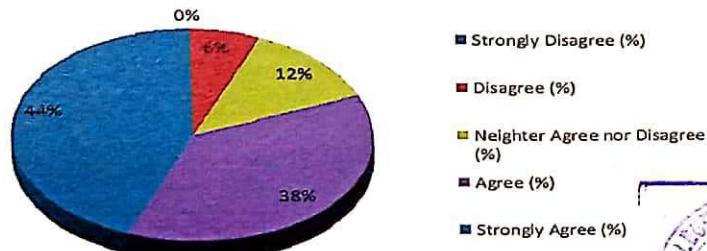
**Q.1 The course objectives and outcomes of the current syllabi are well defined and clear for delivery of course.**



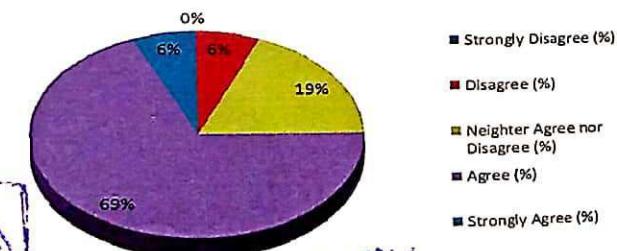
**Q.2 The current content of syllabus is fulfilling the need of industry, sufficient to bridge the gap between industry and academics.**



**Q.3 The course is well organized (e.g. teaching hours, the sequence of the courses in the curriculum).**



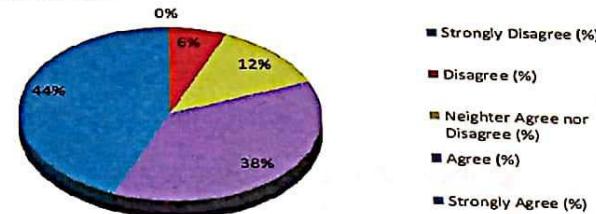
**Q.4 Emphasis on fundamentals, coverage of modern/advanced topics, good balance between theory and application.**



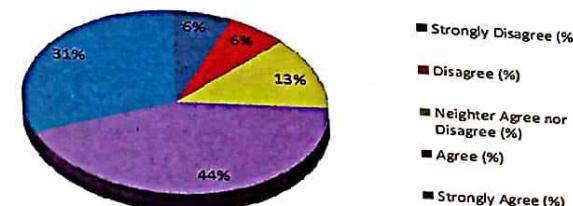
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# Analysis of Stakeholders Feedback Report

**Q.5 Evaluation schemes designed for each of the course are sufficient for providing proper assessment.**



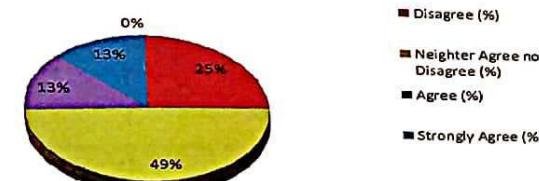
**Q.6 The course/ syllabus has good balance between theoretical concepts of syllabus and Practical/Experiments.**



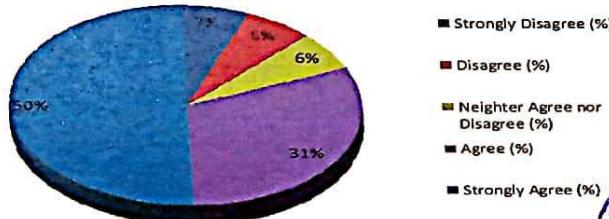
**Q.7 The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.**



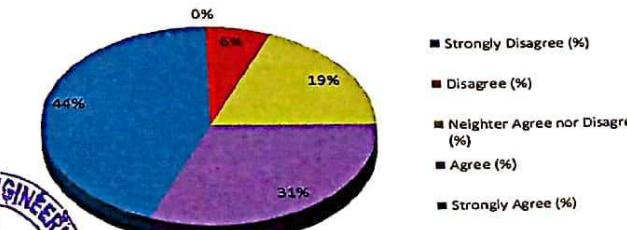
**Q.8 Current syllabus tries to build the opportunities in terms of employability and entrepreneurial attitude amongst the students.**



**Q.9 The books/ reference materials prescribed are relevant, updated and appropriate.**



**Q.10 The course/syllabus has enabled to update knowledge and perspective in the subject area.**

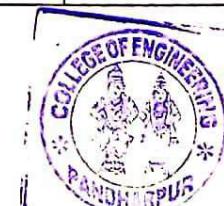


## Analysis of Stakeholders Feedback Report

### C. Analysis of Alumni Feedback on the Syllabus and its Transaction at the Institution

Total Responses =11

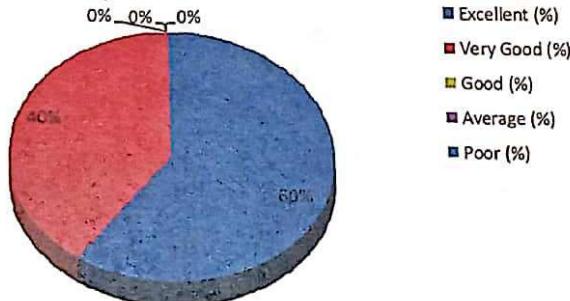
Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
1.	Course was well structured to achieve the learning outcomes (good balance of lectures, learning resources, tutorials, practical etc.)	60	40	0	0	0
2.	The syllabus was need based; Emphasis on fundamentals, coverage of modern/ advanced topics, good balance between theory and application.	40	40	10	10	0
3.	Current syllabus is adequately covers contemporary issues/emerging global and national trends in engineering.	30	30	10	20	10
4.	The syllabus meets the expectations in terms of learning values, skills, knowledge, attitude, analytical abilities, applicability, relevance and practical orientation to real life situations.	30	30	20	20	0
5.	Expectations about the course (Enhance by skill/knowledge base, better career opportunities etc) were achievable.	30	30	20	20	0
6.	The books prescribed/listed as reference materials are relevant, updated and appropriate.	40	50	10	0	0
7.	The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.	20	30	30	20	0
8.	The course enabled to build your future career.	40	40	10	10	0



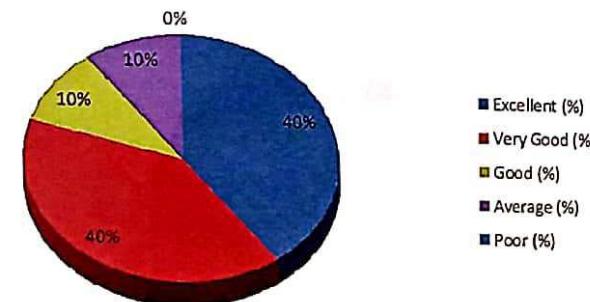
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# Analysis of Stakeholders Feedback Report

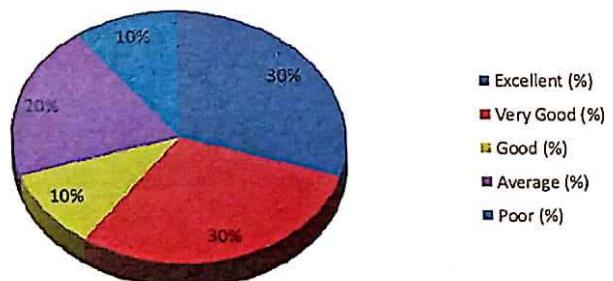
Q.1 Course was well structured to achieve the learning outcomes (good balance of lectures, learning resources, tutorials, practical etc.)



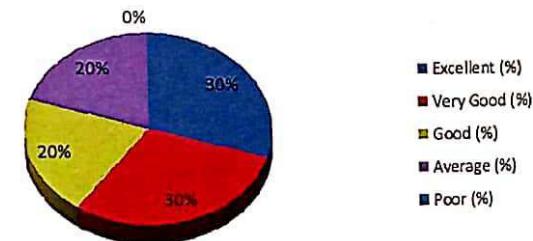
Q.2 The syllabus was need based; Emphasis on fundamentals, coverage of modern/ advanced topics, good balance between theory and application.



Q.3 Current syllabus is adequately covers contemporary issues/emerging global and national trends in engineering.

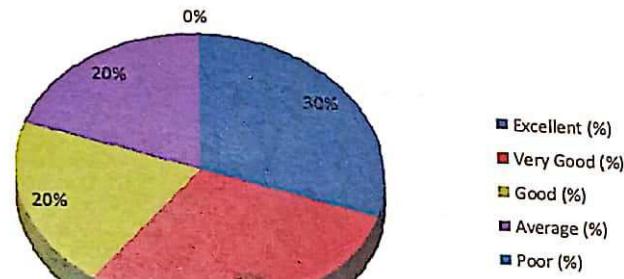


Q.4 The syllabus meets the expectations in terms of learning values, skills, knowledge, attitude, analytical abilities, applicability, relevance and practical orientation to real life situations.

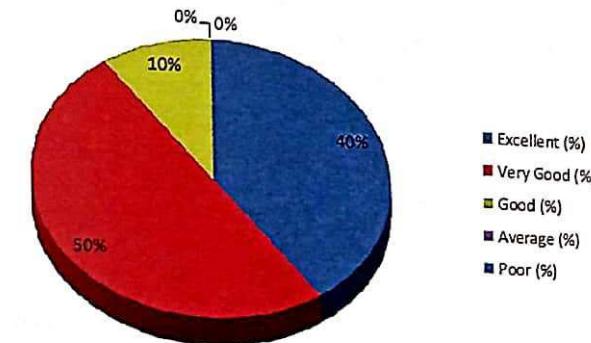


## Analysis of Stakeholders Feedback Report

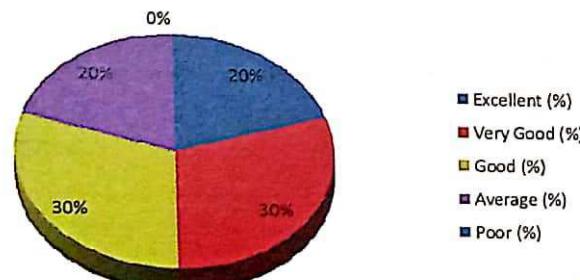
Q.5 Expectations about the course (Enhance by skill/knowledge base, better career opportunities etc) were achievable.



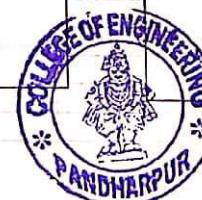
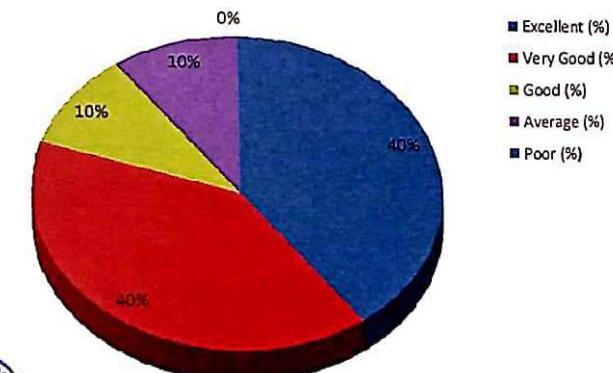
Q.6 The books prescribed/listed as reference materials are relevant, updated and appropriate.



Q.7 The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.



Q.8 The course enabled to build your future career.



# Analysis of Stakeholders Feedback Report

## D. Analysis of Employers Feedback on the Syllabus and its Transaction at the Institution

Total Responses =05

Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
1.	Current Curriculum of all Programmes is relevant for employability.	0.0	0.0	0.0	100.0	0.0
2.	Curriculum bridges the gap between Industry and Academic.	0.0	0.0	0.0	100.0	0.0
3.	Current curriculum offers need based and meets to the expectations of industry.	0.0	0.0	20.0	60.0	20.0
4.	Curriculum has enriched content which fulfils required orientation human resources.	0.0	0.0	0.0	60.0	40.0
5.	Curriculum has application based courses which caters the needs of industry in terms of knowledge, skills, attitude and innovation.	0.0	0.0	0.0	100.0	0.0
6.	Curriculum caters the need of industry and helps in building efficiency and effectiveness of organization.	0.0	0.0	0.0	80.0	20.0
7.	Curriculum helps in building an entrepreneurial motive which helps to the students for starting their business enterprise.	0.0	0.0	0.0	100.0	0.0



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## Analysis of Stakeholders Feedback Report

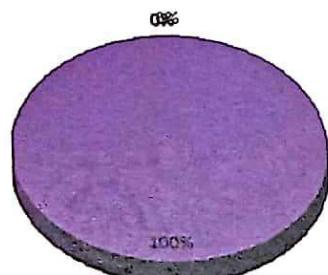
Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
8.	Curriculum helps in edifice ability and motivation to the students for involvement in social activities.	0.0	0.0	40.0	60.0	0.0
9	Curriculum exhibits to the students in communication skills and ability to function effectively as an individual as well as part of a team.	0.0	0.0	20.0	80.0	0.0
10	Curriculum show signs of independent thinking of students and appreciation of ethical values in their career.	0.0	0.0	40.0	60.0	0.0



*B. Paranjape*  
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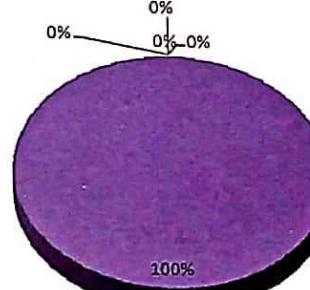
# Analysis of Stakeholders Feedback Report

Q.1 Current Curriculum of all Programmes is relevant for employability.



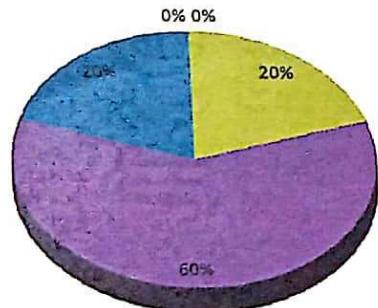
- Strongly Disagree (%)
- Disagree (%)
- Neither Agree nor Disagree (%)
- Agree (%)
- Strongly Agree (%)

Q.2 Curriculum bridges the gap between Industry and Academic.



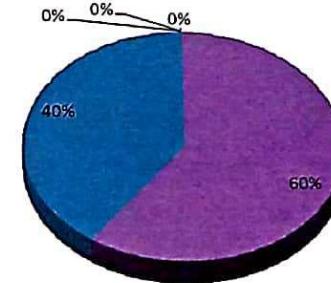
- Strongly Disagree (%)
- Disagree (%)
- Neither Agree nor Disagree (%)
- Agree (%)
- Strongly Agree (%)

Q.3 Current curriculum offers need based and meets to the expectations of industry.



- Strongly Disagree (%)
- Disagree (%)
- Neither Agree nor Disagree (%)
- Agree (%)
- Strongly Agree (%)

Q.4 Curriculum has enriched content which fulfils required orientation human resources.

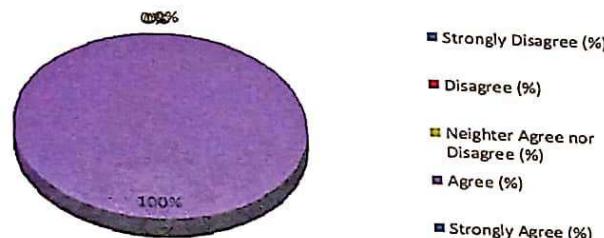


- Strongly Disagree (%)
- Disagree (%)
- Neither Agree nor Disagree (%)
- Agree (%)
- Strongly Agree (%)

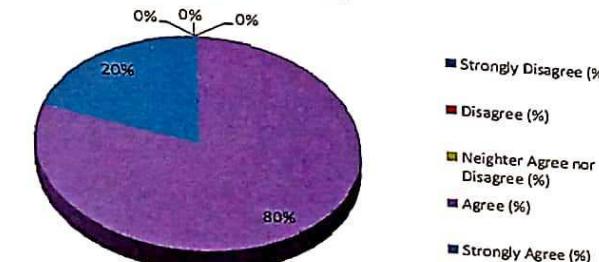


## Analysis of Stakeholders Feedback Report

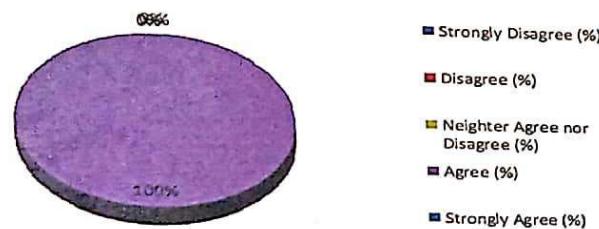
**Q.5 Curriculum has application based courses which caters the needs of industry in terms of knowledge, skills, attitude and innovation.**



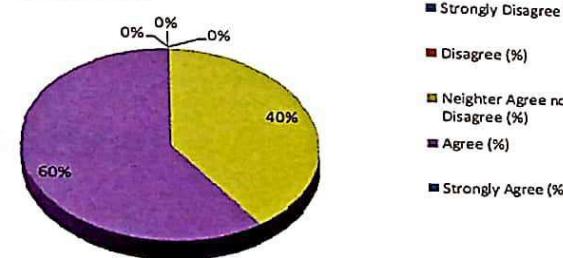
**Q.6 Curriculum caters the need of industry and helps in building efficiency and effectiveness of organization..**



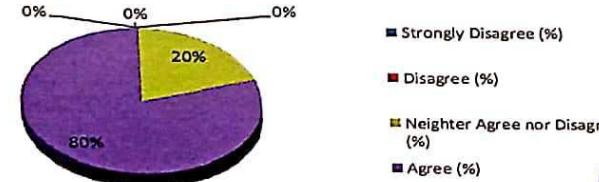
**Q.7 Curriculum helps in building an entrepreneurial motive which helps to the students for starting their business enterprise.**



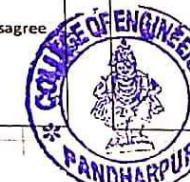
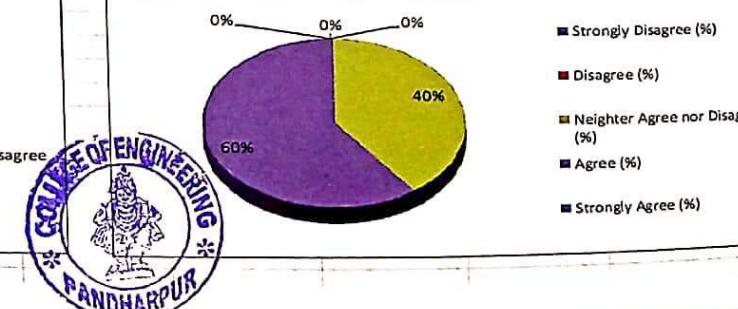
**Q.8 Curriculum helps in edifice ability and motivation to the students for involvement in social activities.**



**Q.9 Curriculum exhibits to the students in communication skills and ability to function effectively as an individual as well as part of a team.**



**Q.10 Curriculum show signs of independent thinking of students and appreciation of ethical values in their career.**



**SVERI's College of Engineering, Pandharpur**

**Department of Civil Engineering**

**Analysis of Feedback Report**

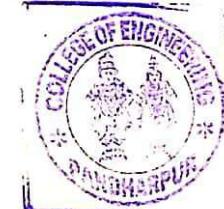
**Academic Year: 2018-2019**

# Analysis of Stakeholders Feedback Report

## A. Analysis of Students' Feedback Report:

Total Responses =146

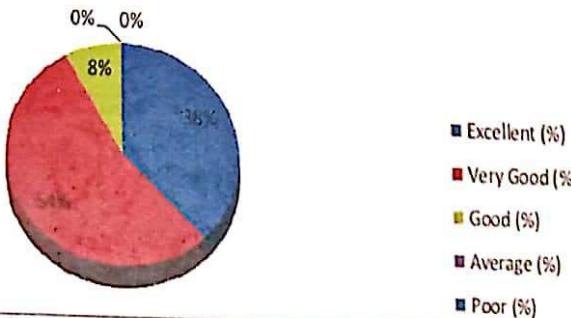
Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
1.	Rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course?	38	54	8	0	0
2.	How do you rate the relevance of the units in syllabus significant to the course?	29	51	21	0	0
3.	How do you rate the electives offered in relation to the technological advancements?	36	39	13	12	0
4.	Rate the courses in terms of extra learning or self learning considering the design of the courses?	33	35	16	16	0
5.	Rate the theoretical concepts of syllabus supported by Practical/Experiments?	30	40	21	8	1
6.	Rate the contents included in the syllabus with reference to professional and higher level learning skills?	33	23	24	20	0
7.	How do you rate the evaluation scheme designed for each of the course?	30	40	18	12	0
8.	How do you rate the sequence of the courses in the curriculum?	34	42	16	8	0
9.	Rate the satisfaction level of curriculum design as per the requirement of employability / higher learning?	27	31	19	23	0
10.	How do you rate the books listed as reference materials are relevant, updated and appropriate?	30	48	20	2	0



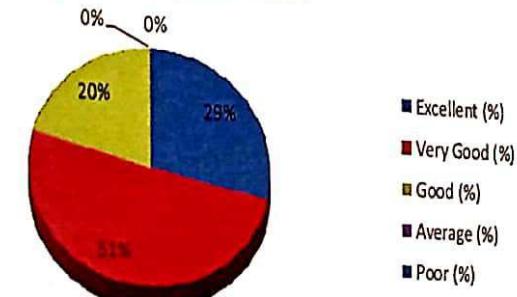
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## Analysis of Stakeholders Feedback Report

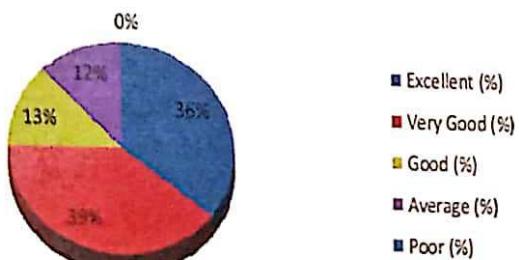
Q.1 Rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course?



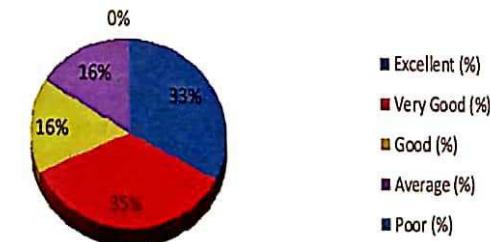
Q.2 How do you rate the relevance of the units in syllabus significant to the course?



Q.3 How do you rate the electives offered in relation to the technological advancements?



Q.4 Rate the courses in terms of extra learning or self learning considering the design of the courses?

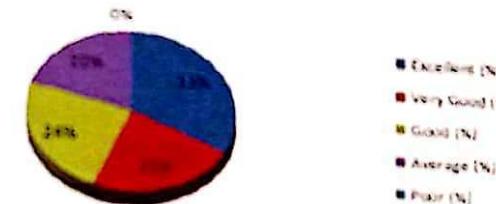


## Analysis of Stakeholders Feedback Report

Q.5 Rate the theoretical concepts of syllabus supported by Practical experiments?



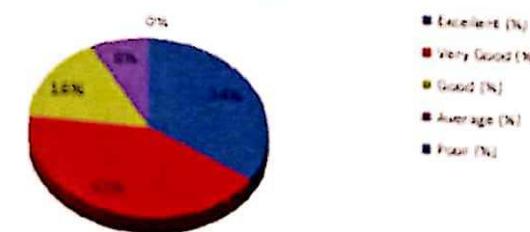
Q.6 Rate the contents included in the syllabus with reference to professional and higher level learning skills?



Q.7 How do you rate the evaluation scheme designed for each of the course?



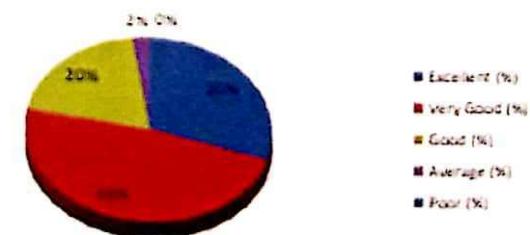
Q.8 How do you rate the sequence of the courses in the curriculum?



Q.9 Rate the satisfaction level of curriculum design as per the requirement of employability / higher learning?



Q.10 How do you rate the books listed as reference materials are relevant, updated and appropriate?



## Analysis of Stakeholders Feedback Report

### B. Analysis of Teachers' Feedback on the Syllabus and its Transaction at the Institution

**Total Responses =20**

Sr. No.	Particular	Strongly Disagree (%)	Disagree (%)	Neither Agree nor Disagree (%)	Agree (%)	Strongly Agree (%)
1.	The course objectives and outcomes of the current syllabi are well defined and clear for delivery of course.	0	5	10	35	50
2.	The current content of syllabus is fulfilling the need of industry, sufficient to bridge the gap between industry and academics.	0	20	30	30	20
3.	The course is well organized (e.g. teaching hours, the sequence of the courses in the curriculum).	0	10	15	20	55
4.	Emphasis on fundamentals, coverage of modern/advanced topics, good balance between theory and application.	0	0	15	65	20
5.	Evaluation schemes designed for each of the course are sufficient for providing proper assessment.	0	5	15	25	55
6.	The course/ syllabus has good balance between theoretical concepts of syllabus and Practical/Experiments.	0	15	10	60	15
7.	The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.	0	20	20	40	20
8.	Current syllabus tries to build the opportunities in terms of employability and entrepreneurial attitude amongst the students.	0	25	20	40	15

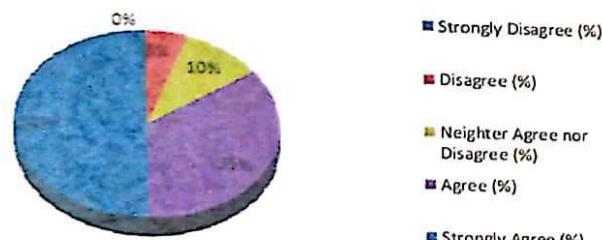


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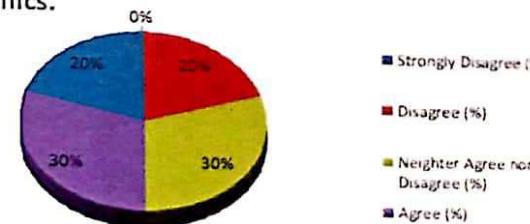
## Analysis of Stakeholders Feedback Report

Sr. No.	Particular	Strongly Disagree (%)	Disagree (%)	Neither Agree nor Disagree (%)	Agree (%)	Strongly Agree (%)
9.	The books/ reference materials prescribed are relevant, updated and appropriate.	0	0	10	50	40
10.	The course/syllabus has enabled to update knowledge and perspective in the subject area.	0	10	25	35	30

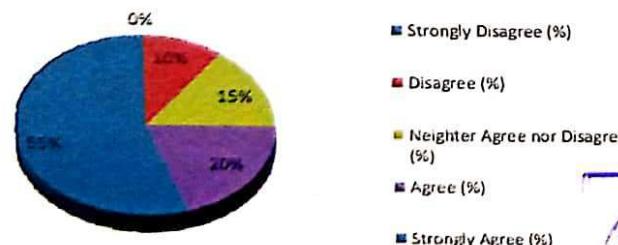
**Q.1** The course objectives and outcomes of the current syllabi are well defined and clear for delivery of course.



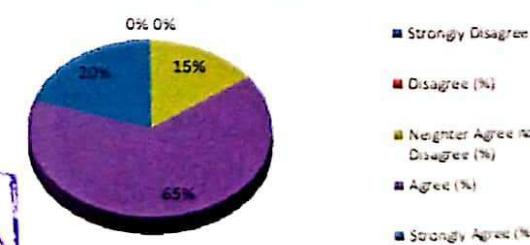
**Q.2** The current content of syllabus is fulfilling the need of industry, sufficient to bridge the gap between industry and academics.



**Q.3** The course is well organized (e.g. teaching hours, the sequence of the courses in the curriculum).



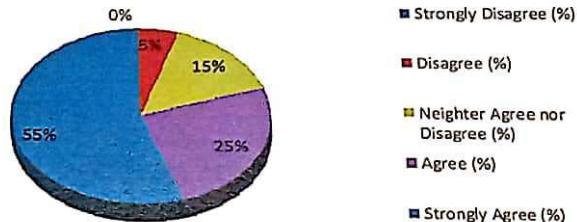
**Q.4** Emphasis on fundamentals, coverage of modern/advanced topics, good balance between theory and application.



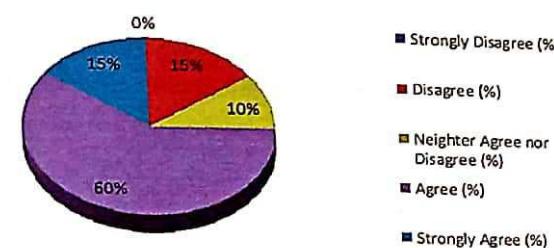
*D. Patel*  
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College of Engineering  
PANJHARPUR

## Analysis of Stakeholders Feedback Report

**Q.5 Evaluation schemes designed for each of the course are sufficient for providing proper assessment.**



**Q.6 The course/ syllabus has good balance between theoretical concepts of syllabus and Practical/Experiments.**



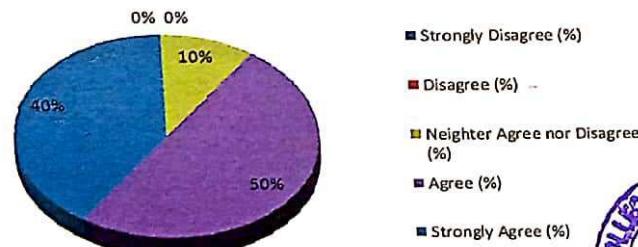
**Q.7 The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.**



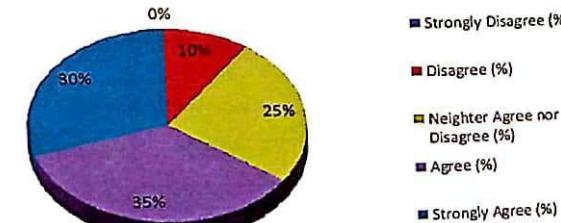
**Q.8 Current syllabus tries to build the opportunities in terms of employability and entrepreneurial attitude amongst the students.**



**Q.9 The books/ reference materials prescribed are relevant, updated and appropriate.**



**Q.10 The course/syllabus has enabled to update knowledge and perspective in the subject area.**



## Analysis of Stakeholders Feedback Report

### C. Analysis of Alumni Feedback on the Syllabus and its Transaction at the Institution

Total Responses =10

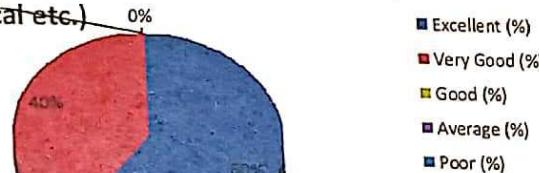
Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
1.	Course was well structured to achieve the learning outcomes (good balance of lectures, learning resources, tutorials, practical etc.)	60	40	0	0	0
2.	The syllabus was need based; Emphasis on fundamentals, coverage of modern/ advanced topics, good balance between theory and application.	40	50	10	0	0
3.	Current syllabus is adequately covers contemporary issues/emerging global and national trends in engineering.	30	30	10	20	10
4.	The syllabus meets the expectations in terms of learning values, skills, knowledge, attitude, analytical abilities, applicability, relevance and practical orientation to real life situations.	40	30	20	10	0
5.	Expectations about the course (Enhance by skill/knowledge base, better career opportunities etc) were achievable.	30	40	20	10	0
6.	The books prescribed/listed as reference materials are relevant, updated and appropriate.	50	50	0	0	0
7.	The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.	20	40	30	10	0
8.	The course enabled to build your future career.	40	40	10	10	0



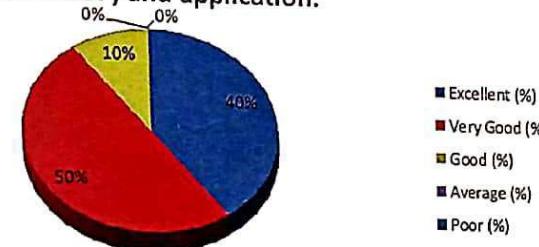
*B. Gangje*  
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 College of Engineering  
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## Analysis of Stakeholders Feedback Report

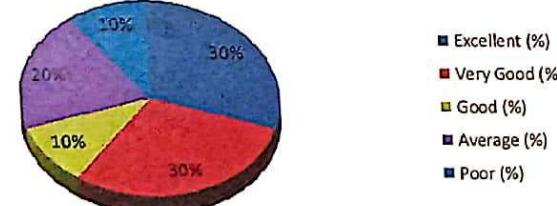
Q.1 Course was well structured to achieve the learning outcomes (good balance of lectures, learning resources, tutorials, practical etc.)



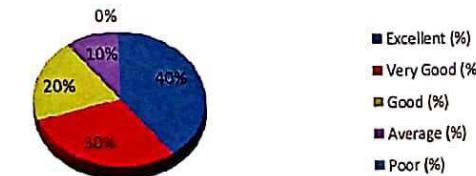
Q.2 The syllabus was need based; Emphasis on fundamentals, coverage of modern/ advanced topics, good balance between theory and application.



Q.3 Current syllabus is adequately covers contemporary issues/emerging global and national trends in engineering.

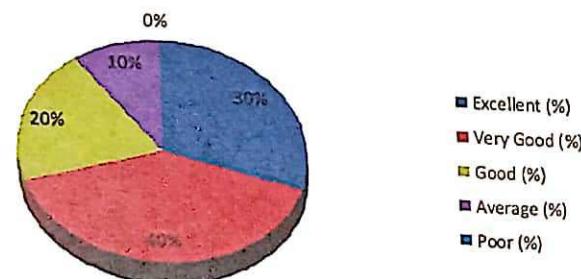


Q.4 The syllabus meets the expectations in terms of learning values, skills, knowledge, attitude, analytical abilities, applicability, relevance and practical orientation to real life situations.

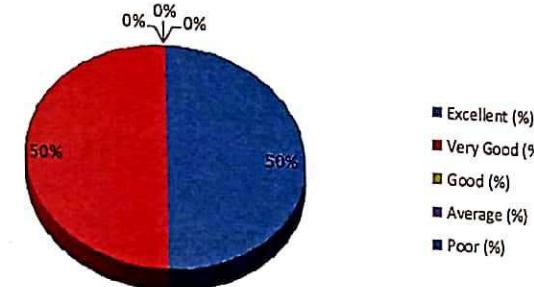


# Analysis of Stakeholders Feedback Report

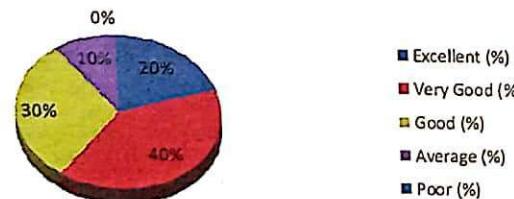
Q.5 Expectations about the course (Enhance by skill/knowledge base, better career opportunities etc) were achievable.



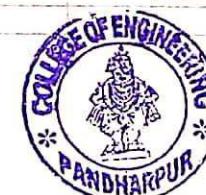
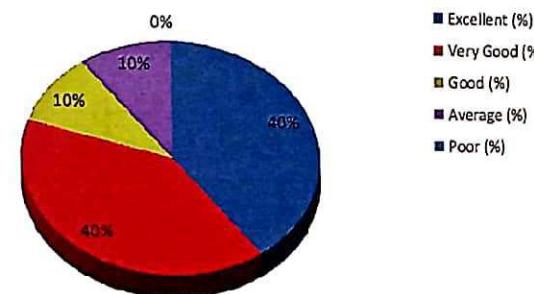
Q.6 The books prescribed/listed as reference materials are relevant, updated and appropriate.



Q.7 The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.



Q.8 The course enabled to build your future career.

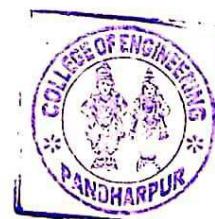


## Analysis of Stakeholders Feedback Report

### D. Analysis of Employers Feedback on the Syllabus and its Transaction at the Institution

Total Responses =05

Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
1.	Current Curriculum of all Programmes is relevant for employability.	0.0	0.0	0.0	100.0	0.0
2.	Curriculum bridges the gap between Industry and Academic.	0.0	0.0	20.0	80.0	0.0
3.	Current curriculum offers need based and meets to the expectations of industry.	0.0	0.0	0.0	100.0	0.0
4.	Curriculum has enriched content which fulfils required orientation human resources.	0.0	0.0	40.0	60.0	0.0
5.	Curriculum has application based courses which caters the needs of industry in terms of knowledge, skills, attitude and innovation.	0.0	0.0	80.0	20.0	0.0
6.	Curriculum caters the need of industry and helps in building efficiency and effectiveness of organization.	0.0	0.0	80.0	20.0	0.0
7.	Curriculum helps in building an entrepreneurial motive which helps to the students for starting their business enterprise.	0.0	20.0	40.0	20.0	0.0



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 PRINCIPAL,  
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 PANDHARPUR

## Analysis of Stakeholders Feedback Report

Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
8.	Curriculum helps in edifice ability and motivation to the students for involvement in social activities.	0.0	20.0	80.0	0.0	0.0
9	Curriculum exhibits to the students in communication skills and ability to function effectively as an individual as well as part of a team.	0.0	40.0	60.0	0.0	0.0
10	Curriculum show signs of independent thinking of students and appreciation of ethical values in their career.	0.0	0.0	100.0	0.0	0.0



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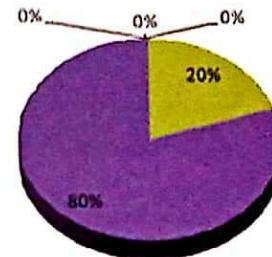
# Analysis of Stakeholders Feedback Report

Q.1 Current Curriculum of all Programmes is relevant for employability.



- Strongly Disagree (%)
- Disagree (%)
- Neither Agree nor Disagree (%)
- Agree (%)
- Strongly Agree (%)

Q.2 Curriculum bridges the gap between Industry and Academic.



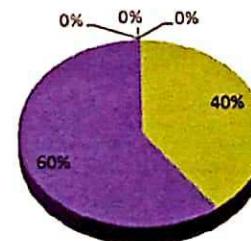
- Strongly Disagree (%)
- Disagree (%)
- Neither Agree nor Disagree (%)
- Agree (%)
- Strongly Agree (%)

Q.3 Current curriculum offers need based and meets to the expectations of industry.



- Strongly Disagree (%)
- Disagree (%)
- Neither Agree nor Disagree (%)
- Agree (%)
- Strongly Agree (%)

Q.4 Curriculum has enriched content which fulfills required orientation human resources.

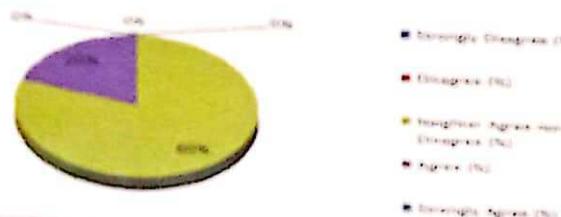


- Strongly Disagree (%)
- Disagree (%)
- Neither Agree nor Disagree (%)
- Agree (%)
- Strongly Agree (%)

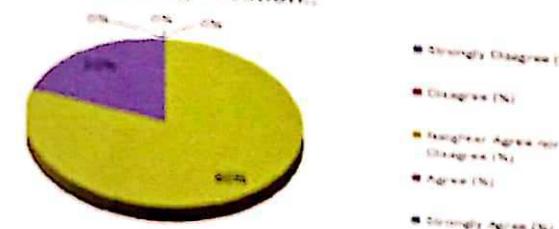


# Analysis of Stakeholders Feedback Report

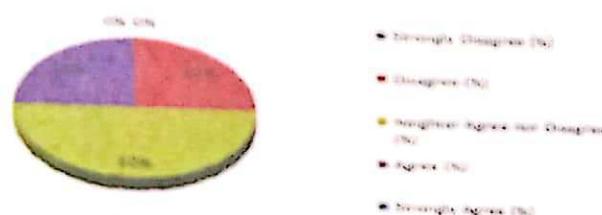
**Q. 5 Curriculum has application based courses which caters the needs of industry in terms of knowledge, skills, attitude and innovation.**



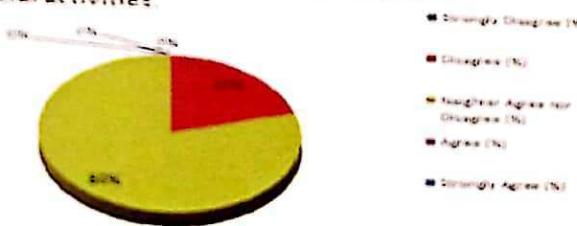
**Q. 6 Curriculum caters the need of industry and helps in building efficiency and effectiveness of organization.**



**Q. 7 Curriculum helps in building an entrepreneurial motive which helps to the students for starting their business enterprise.**



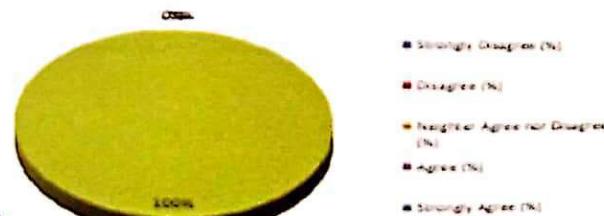
**Q. 8 Curriculum helps in edifice ability and motivation to the students for involvement in social activities.**



**Q. 9 Curriculum exhibits to the students in communication skills and ability to function effectively as an individual as well as part of a team.**



**Q. 10 Curriculum show signs of independent thinking of students and appreciation of ethical values in their career.**



**SVERI's College of Engineering, Pandharpur**  
**Department of Electronics & Tele-Communication**  
**Engineering**

**Analysis of Feedback Report**

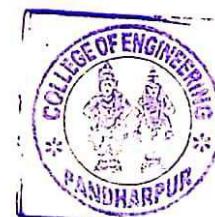
Academic Year: 2019-2020

# Analysis of Stakeholders Feedback Report

## A. Analysis of Students' Feedback Report:

**Total Responses =119**

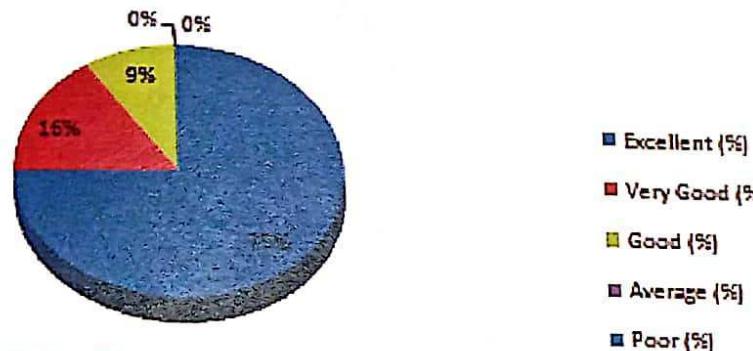
Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
1.	Rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course?	74.8	16.0	9.2	0.0	0.0
2.	How do you rate the relevance of the units in syllabus significant to the course?	50.4	40.3	6.7	2.5	0.0
3.	How do you rate the electives offered in relation to the technological advancements?	44.5	37.8	10.1	4.2	3.4
4.	Rate the courses in terms of extra learning or self learning considering the design of the courses?	43.7	33.6	15.1	2.5	5.0
5.	Rate the theoretical concepts of syllabus supported by Practical/Experiments?	50.4	31.1	15.1	3.4	0.0
6.	Rate the contents included in the syllabus with reference to professional and higher level learning skills?	48.7	40.3	10.9	0.0	0.0
7.	How do you rate the evaluation scheme designed for each of the course?	53.8	29.4	16.8	0.0	0.0
8.	How do you rate the sequence of the courses in the curriculum?	40.3	35.3	10.9	7.6	5.9
9.	Rate the satisfaction level of curriculum design as per the requirement of employability / higher learning?	40.3	31.1	16.0	2.5	10.1
10.	How do you rate the books listed as reference materials are relevant, updated and appropriate?	52.9	37.8	9.2	0.0	0.0



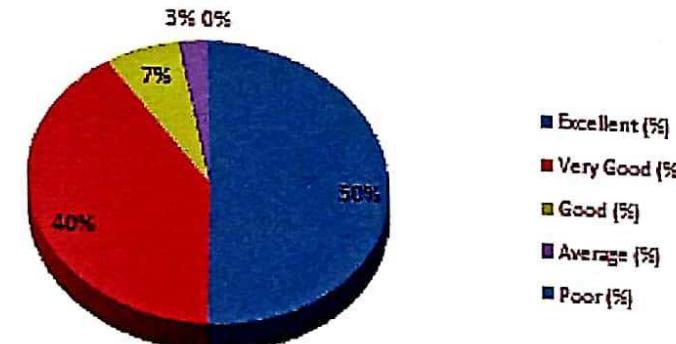
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PRINCIPAL,  
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# Analysis of Stakeholders Feedback Report

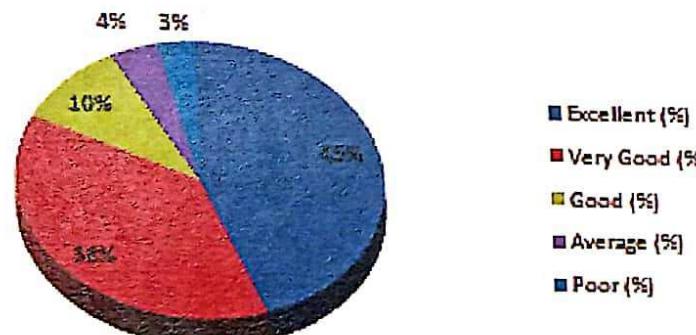
Q.1 Rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course?



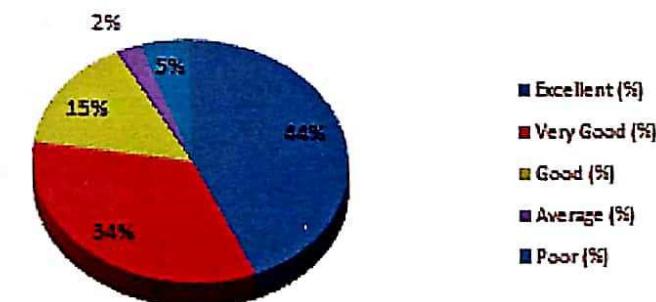
Q.2 How do you rate the relevance of the units in syllabus significant to the course?



Q.3 How do you rate the electives offered in relation to the technological advancements?

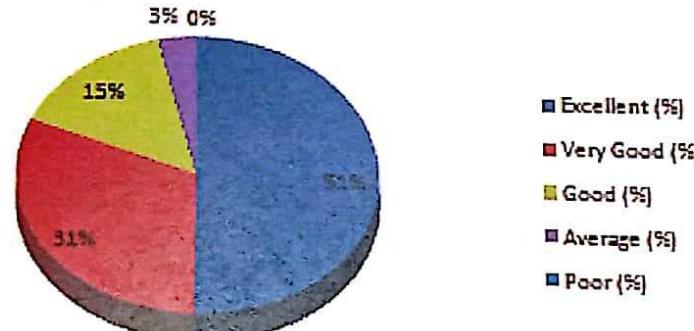


Q.4 Rate the courses in terms of extra learning or self learning considering the design of the courses?

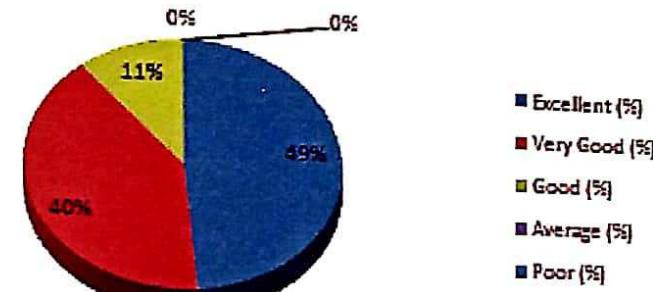


## Analysis of Stakeholders Feedback Report

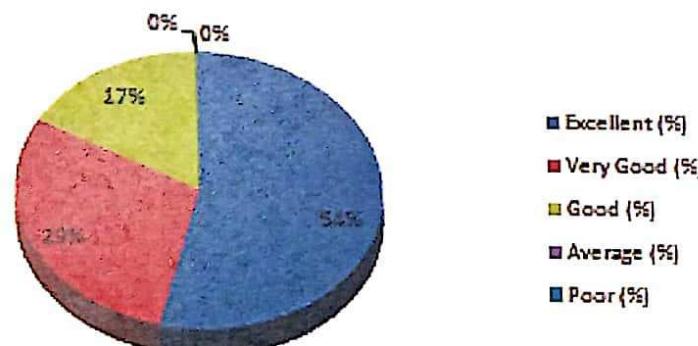
Q.5 Rate the theoretical concepts of syllabus supported by Practical/Experiments?



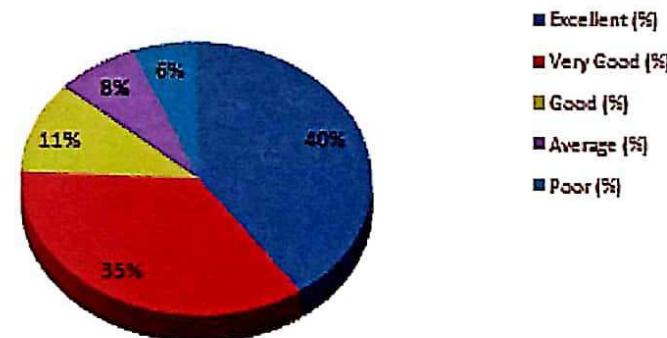
Q.6 Rate the contents included in the syllabus with reference to professional and higher level learning skills?



Q.7 How do you rate the evaluation scheme designed for each of the course?

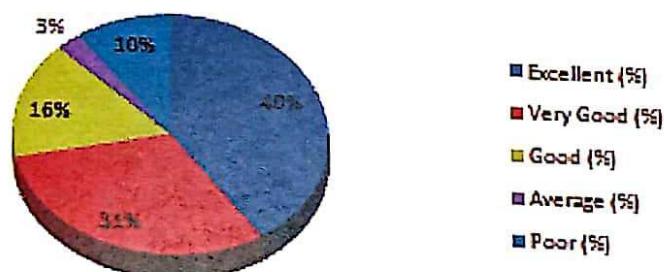


Q.8 How do you rate the sequence of the courses in the curriculum?

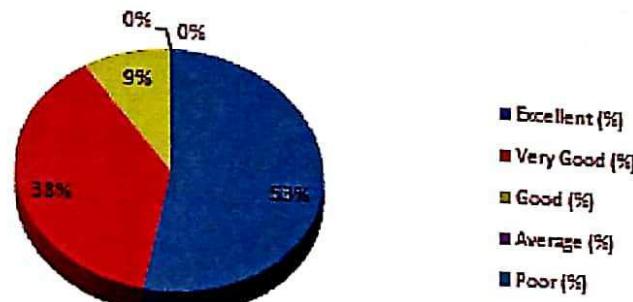


## Analysis of Stakeholders Feedback Report

**Q.9 Rate the satisfaction level of curriculum design as per the requirement of employability /higher learning?**



**Q.10 How do you rate the books listed as reference materials are relevant, updated and appropriate?**



## Analysis of Stakeholders Feedback Report

### B. Analysis of Teachers' Feedback on the Syllabus and its Transaction at the Institution

Sr. No.	Particular	Total Responses =24				
		Strongly Disagree (%)	Disagree (%)	Neither Agree nor Disagree (%)	Agree (%)	Strongly Agree (%)
1.	The course objectives and outcomes of the current syllabi are well defined and clear for delivery of course.	8.3	0.0	16.7	29.2	45.8
2.	The current content of syllabus is fulfilling the need of industry, sufficient to bridge the gap between industry and academics.	0.0	8.3	4.2	33.3	54.2
3.	The course is well organized (e.g. teaching hours, the sequence of the courses in the curriculum).	0.0	8.3	4.2	33.3	54.2
4.	Emphasis on fundamentals, coverage of modern/advanced topics, good balance between theory and application.	0.0	12.5	4.2	41.7	41.7
5.	Evaluation schemes designed for each of the course are sufficient for providing proper assessment.	0.0	4.2	4.2	50.0	41.7
6.	The course/ syllabus has good balance between theoretical concepts of syllabus and Practical/Experiments.	20.8	8.3	8.3	45.8	16.7
7.	The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.	12.5	8.3	12.5	50.0	16.7
8.	Current syllabus tries to build the opportunities in terms of employability and entrepreneurial attitude amongst the students.	0.0	8.3	4.2	33.3	54.2



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## Analysis of Stakeholders Feedback Report

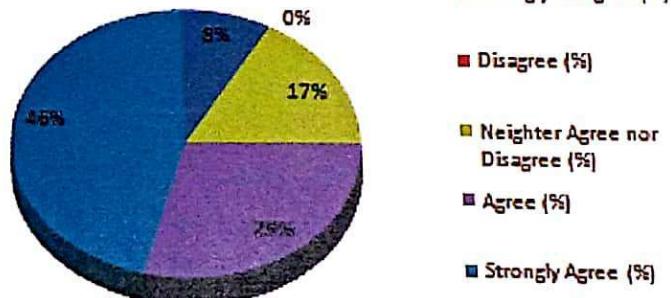
Sr. No.	Particular	Strongly Disagree (%)	Disagree (%)	Neither Agree nor Disagree (%)	Agree (%)	Strongly Agree (%)
9.	The books/ reference materials prescribed are relevant, updated and appropriate.	4.2	0.0	4.2	45.8	45.8
10.	The course/syllabus has enabled to update knowledge and perspective in the subject area.	4.2	0.0	8.3	41.7	45.8



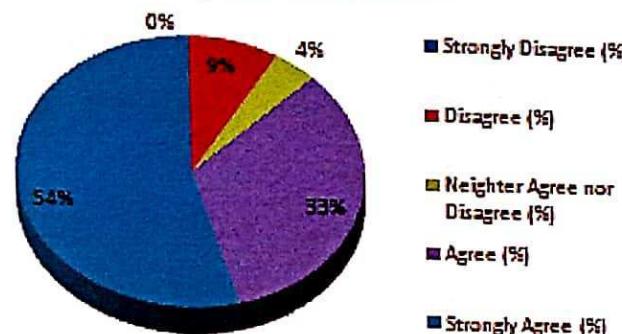
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## Analysis of Stakeholders Feedback Report

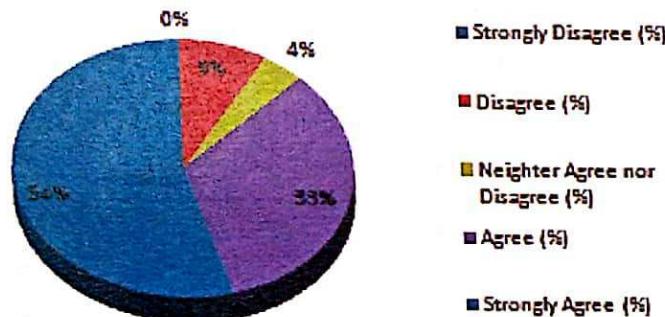
**Q.1 The course objectives and outcomes of the current syllabi are well defined and clear for delivery of course.**



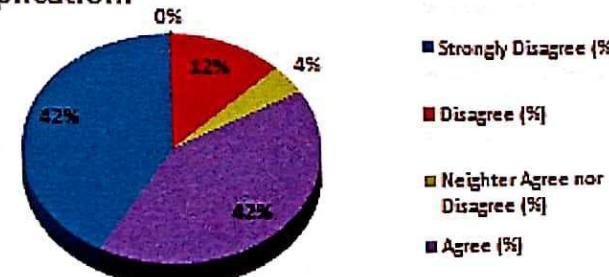
**Q.2 The current content of syllabus is fulfilling the need of industry, sufficient to bridge the gap between industry and academics.**



**Q.3 The course is well organized (e.g. teaching hours, the sequence of the courses in the curriculum).**

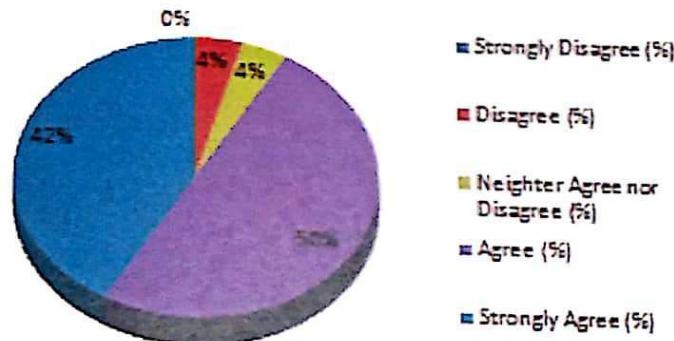


**Q.4 Emphasis on fundamentals, coverage of modern/advanced topics, good balance between theory and application.**

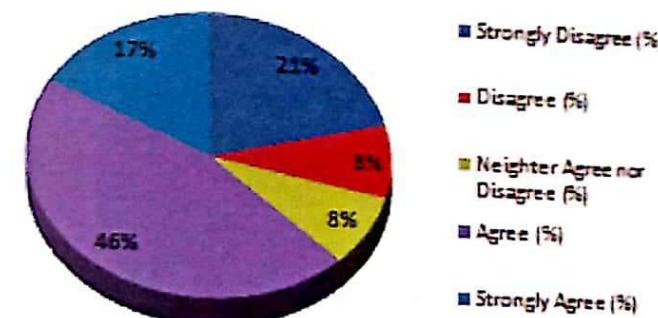


## Analysis of Stakeholders Feedback Report

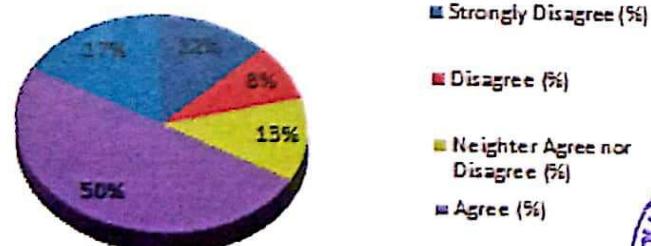
Q.5 Evaluation schemes designed for each of the course are sufficient for providing proper assessment.



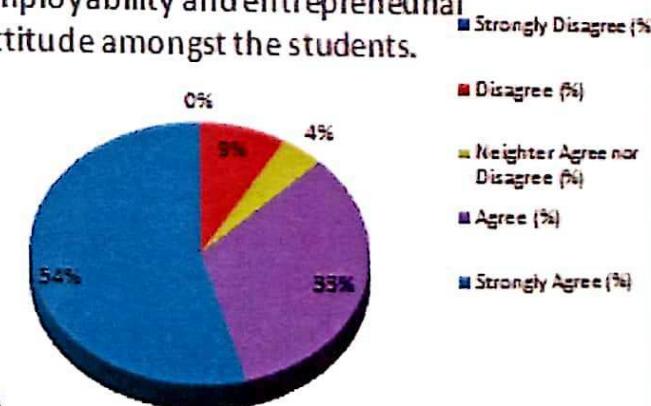
Q.6 The course/ syllabus has good balance between theoretical concepts of syllabus and Practical/Experiments.



Q.7 The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.

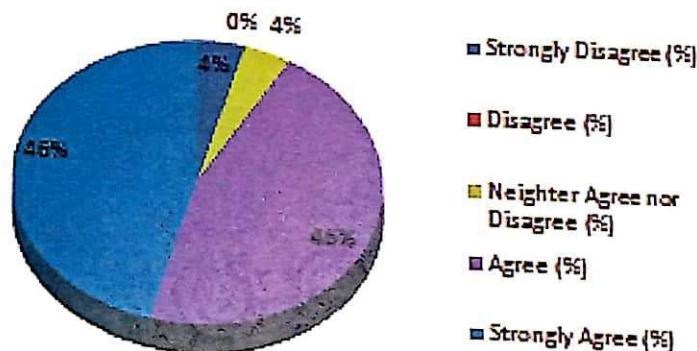


Q.8 Current syllabus tries to build the opportunities in terms of employability and entrepreneurial attitude amongst the students.

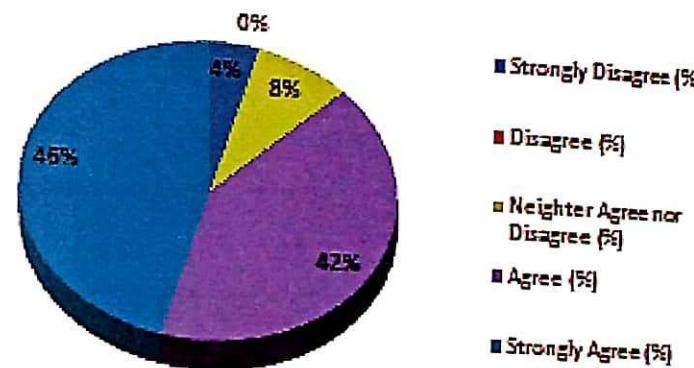


## Analysis of Stakeholders Feedback Report

**Q.9 The books/reference materials prescribed are relevant, updated and appropriate.**



**Q.10 The course/syllabus has enabled to update knowledge and perspective in the subject area.**

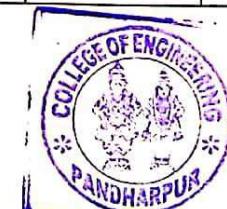


## Analysis of Stakeholders Feedback Report

### C. Analysis of Alumni Feedback on the Syllabus and its Transaction at the Institution

Total Responses =11

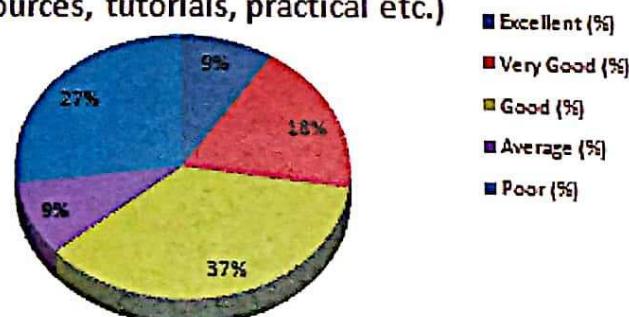
Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
1.	Course was well structured to achieve the learning outcomes (good balance of lectures, learning resources, tutorials, practical etc.)	9.1	18.2	36.4	9.1	27.3
2.	The syllabus was need based; Emphasis on fundamentals, coverage of modern/ advanced topics, good balance between theory and application.	0.0	9.1	27.3	45.5	18.2
3.	Current syllabus is adequately covers contemporary issues/emerging global and national trends in engineering.	0.0	9.1	9.1	27.3	54.5
4.	The syllabus meets the expectations in terms of learning values, skills, knowledge, attitude, analytical abilities, applicability, relevance and practical orientation to real life situations.	0.0	9.1	45.5	27.3	18.2
5.	Expectations about the course (Enhance by skill/knowledge base, better career opportunities etc) were achievable.	0.0	9.1	9.1	54.5	27.3
6.	The books prescribed/listed as reference materials are relevant, updated and appropriate.	27.3	9.1	9.1	36.4	18.2
7.	The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.	9.1	18.2	36.4	9.1	27.3
8.	The course enabled to build your future career.	9.1	18.2	36.4	9.1	27.3



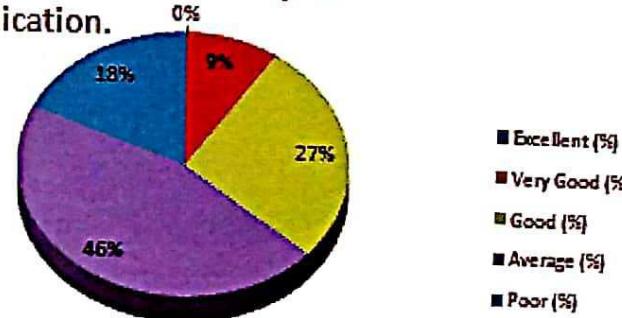
*W. George*  
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# Analysis of Stakeholders Feedback Report

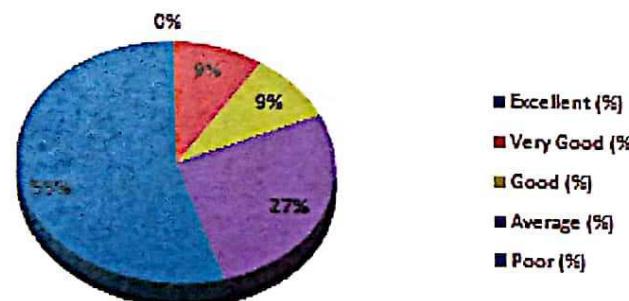
**Q.1 Course was well structured to achieve the learning outcomes (good balance of lectures, learning resources, tutorials, practical etc.)**



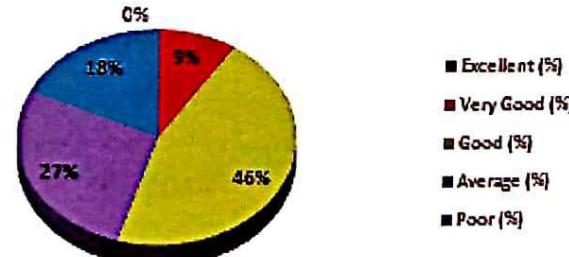
**Q.2 The syllabus was need based; Emphasis on fundamentals, coverage of modern/ advanced topics, good balance between theory and application.**



**Q.3 Current syllabus is adequately covers contemporary issues/emerging global and national trends in engineering.**

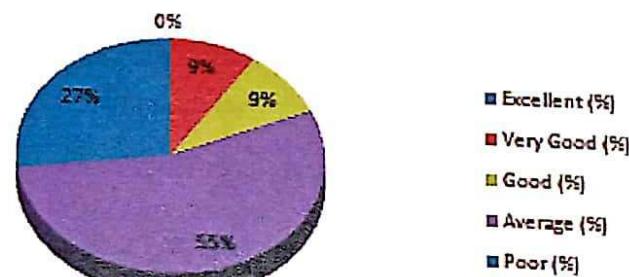


**Q.4 The syllabus meets the expectations in terms of learning values, skills, knowledge, attitude, analytical abilities, applicability, relevance and practical orientation to real life...**

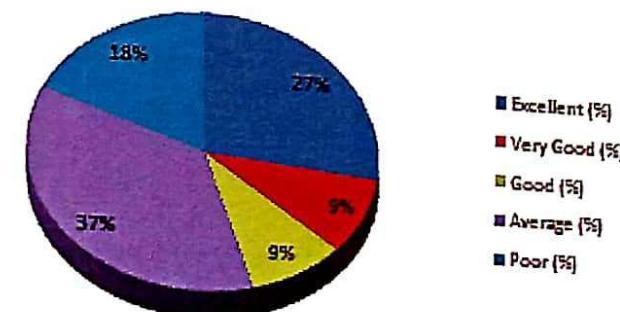


## Analysis of Stakeholders Feedback Report

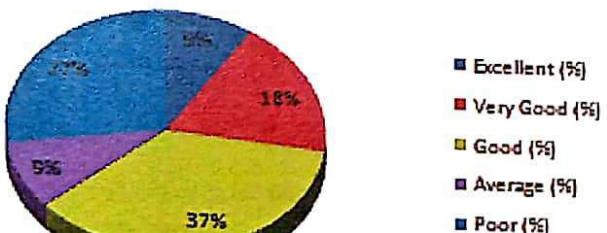
**Q.5 Expectations about the course (Enhance by skill/knowledge base, better career opportunities etc) were achievable.**



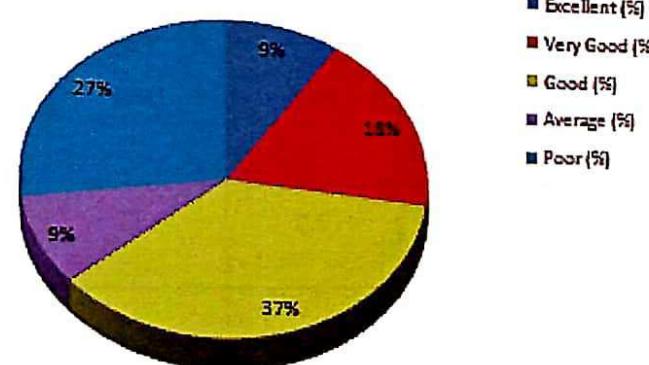
**Q.6 The books prescribed/listed as reference materials are relevant, updated and appropriate.**



**Q.7 The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.**



**Q.8 The course enabled to build your future career.**

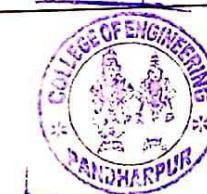


## Analysis of Stakeholders Feedback Report

### D. Analysis of Employers Feedback on the Syllabus and its Transaction at the Institution

Total Responses =05

Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
1.	Current Curriculum of all Programmes is relevant for employability.	0.0	25.0	75.0	0.0	0.0
2.	Curriculum bridges the gap between Industry and Academic.	0.0	25.0	25.0	50.0	0.0
3.	Current curriculum offers need based and meets to the expectations of industry.	0.0	50.0	25.0	25.0	0.0
4.	Curriculum has enriched content which fulfils required orientation human resources.	0.0	0.0	75.0	25.0	0.0
5.	Curriculum has application based courses which caters the needs of industry in terms of knowledge, skills, attitude and innovation.	0.0	0.0	25.0	50.0	25.0
6.	Curriculum caters the need of industry and helps in building efficiency and effectiveness of organization.	0.0	25.0	75.0	0.0	0.0
7.	Curriculum helps in building an entrepreneurial motive which helps to the students for starting their business enterprise.	0.0	50.0	25.0	25.0	0.0



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## Analysis of Stakeholders Feedback Report

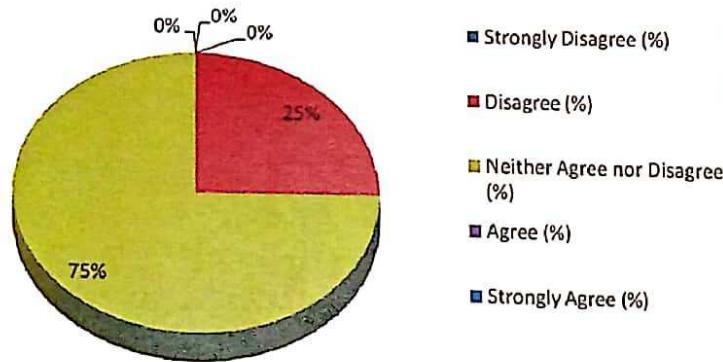
Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
8.	Curriculum helps in edifice ability and motivation to the students for involvement in social activities.	0.0	0.0	50.0	25.0	25.0
9	Curriculum exhibits to the students in communication skills and ability to function effectively as an individual as well as part of a team.	0.0	25.0	50.0	25.0	0.0
10	Curriculum show signs of independent thinking of students and appreciation of ethical values in their career.	0.0	25.0	50.0	25.0	0.0



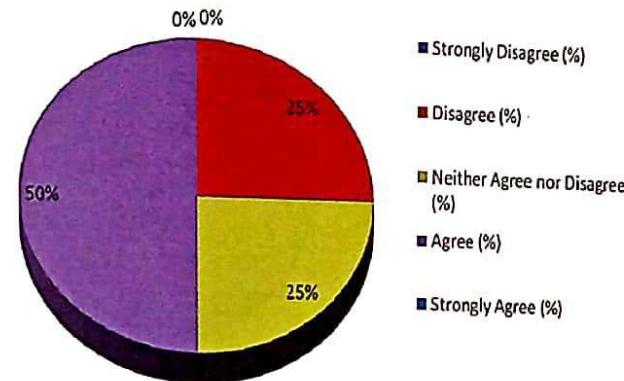
*B. Rahe*  
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## Analysis of Stakeholders Feedback Report

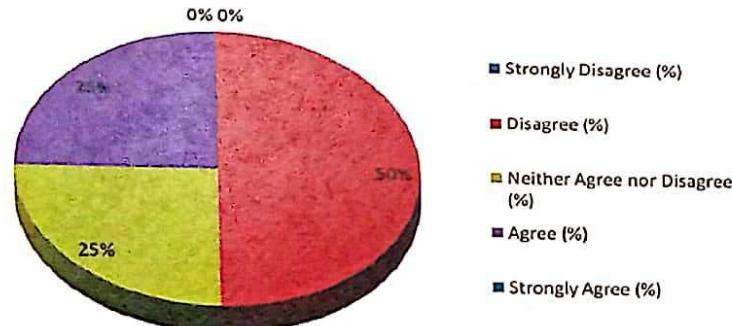
**Q.1 Current Curriculum of all Programmes is relevant for employability.**



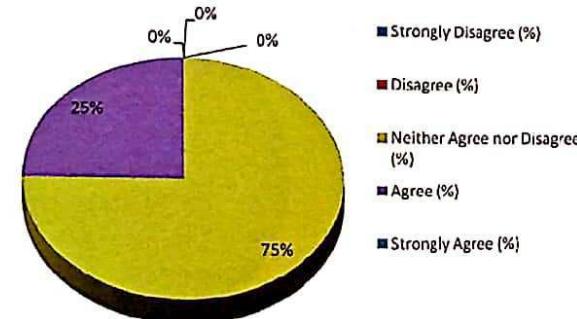
**Q.2 Curriculum bridges the gap between Industry and Academic.**



**Q.3 Current curriculum offers need based and meets to the expectations of industry.**

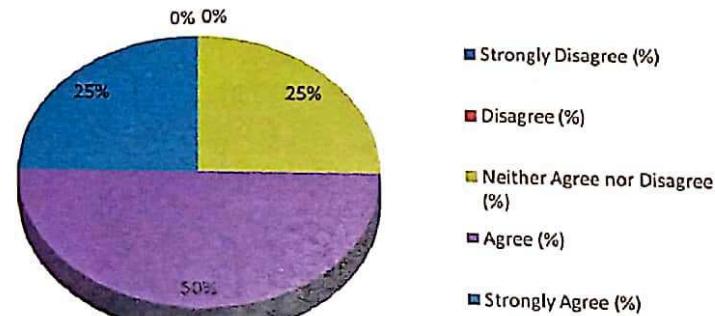


**Q.4 Curriculum has enriched content which fulfils required orientation human resources**

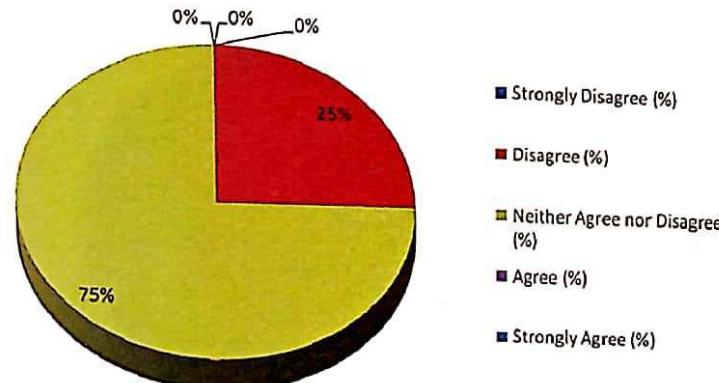


## Analysis of Stakeholders Feedback Report

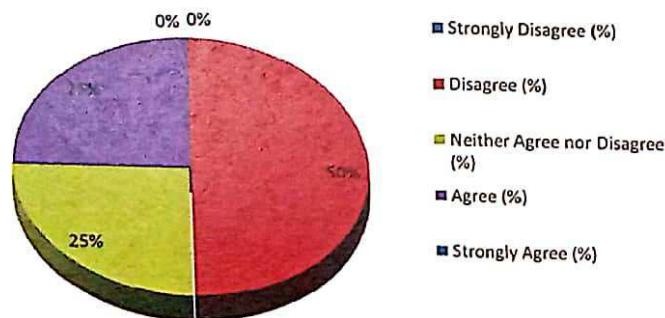
**Q.5 Curriculum has application based courses which caters the needs of industry in terms of knowledge, skills, attitude and innovation.**



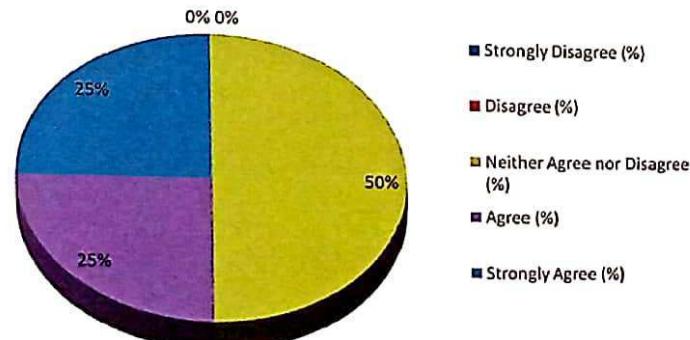
**Q.6 Curriculum caters the need of industry and helps in building efficiency and effectiveness of organization.**



**Q.7 Curriculum helps in building an entrepreneurial motive which helps to the students for starting their business enterprise.**

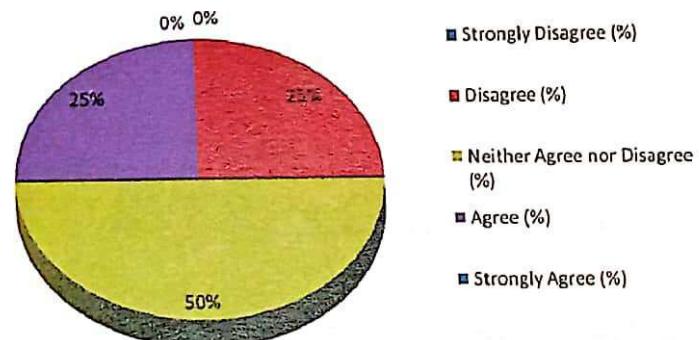


**Q.8 Curriculum helps in edifice ability and motivation to the students for involvement in social activities.**

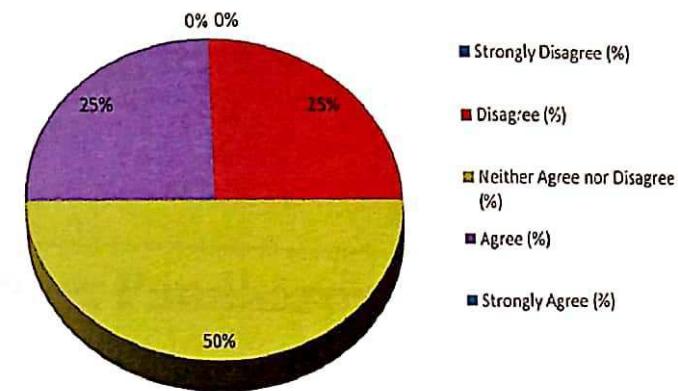


## Analysis of Stakeholders Feedback Report

Q.9 Curriculum exhibits to the students in communication skills and ability to function effectively as an individual as well as part of a team.



Q.10 Curriculum show signs of independent thinking of students and appreciation of ethical values in their career.



**SVERI's College of Engineering, Pandharpur**  
**Department of Electronics & Tele-Communication**  
**Engineering**

**Analysis of Feedback Report**

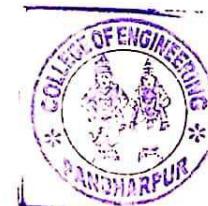
**Academic Year: 2018-2019**

## Analysis of Stakeholders Feedback Report

### A. Analysis of Students' Feedback Report:

**Total Responses =228**

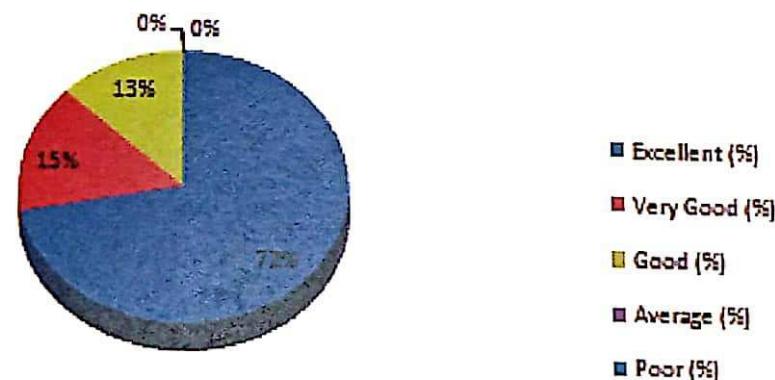
Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
1.	Rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course?	71.9	15.4	12.7	0.0	0.0
2.	How do you rate the relevance of the units in syllabus significant to the course?	38.6	48.2	9.6	3.5	0.0
3.	How do you rate the electives offered in relation to the technological advancements?	33.3	42.1	14.5	5.3	4.8
4.	Rate the courses in terms of extra learning or self learning considering the design of the courses?	32.5	32.9	21.5	6.1	7.0
5.	Rate the theoretical concepts of syllabus supported by Practical/Experiments?	42.5	32.0	21.5	3.9	0.0
6.	Rate the contents included in the syllabus with reference to professional and higher level learning skills?	35.5	47.8	13.6	3.1	0.0
7.	How do you rate the evaluation scheme designed for each of the course?	42.1	33.8	24.1	0.0	0.0
8.	How do you rate the sequence of the courses in the curriculum?	32.5	38.2	14.5	8.8	6.1
9.	Rate the satisfaction level of curriculum design as per the requirement of employability / higher learning?	32.9	33.3	18.0	5.3	10.5
10.	How do you rate the books listed as reference materials are relevant, updated and appropriate?	42.1	45.2	12.7	0.0	0.0



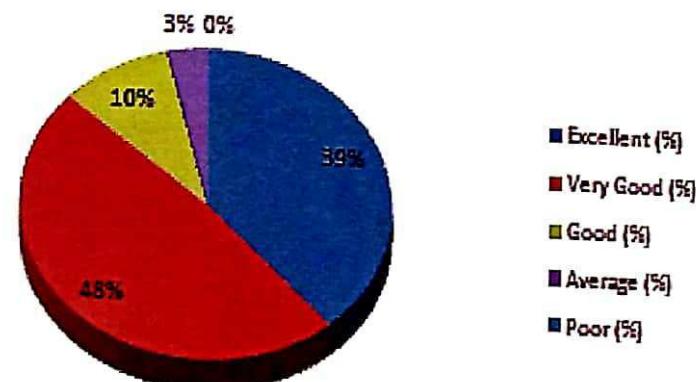
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# Analysis of Stakeholders Feedback Report

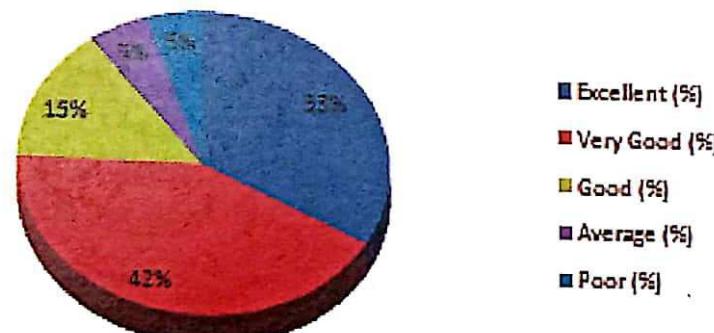
**Q.1 Rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course?**



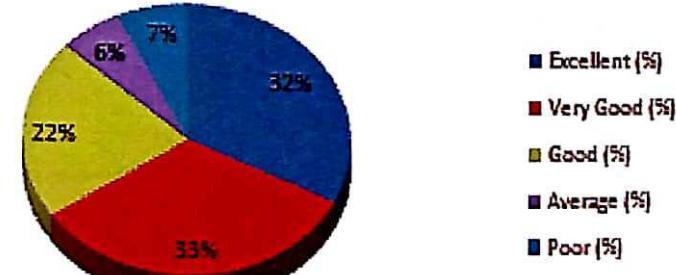
**Q.2 How do you rate the relevance of the units in syllabus significant to the course?**



**Q.3 How do you rate the electives offered in relation to the technological advancements?**

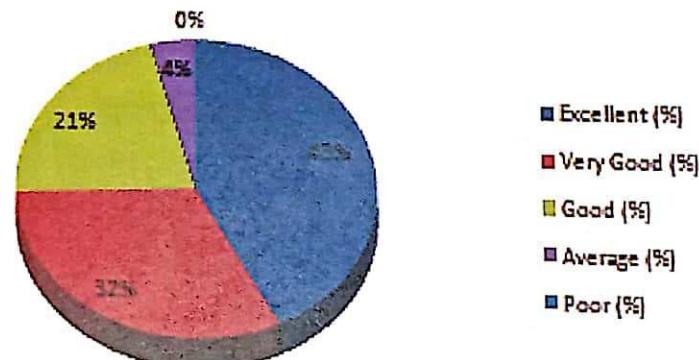


**Q.4 Rate the courses in terms of extra learning or self learning considering the design of the courses?**

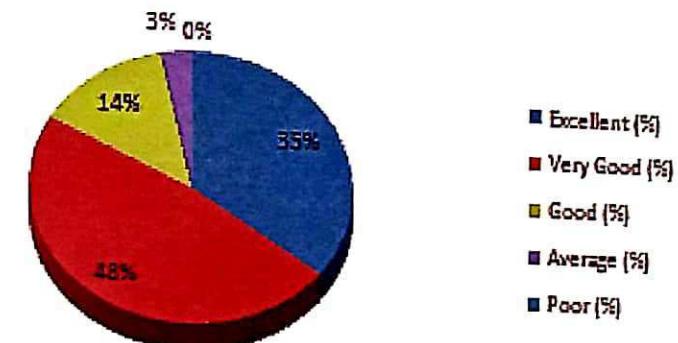


## Analysis of Stakeholders Feedback Report

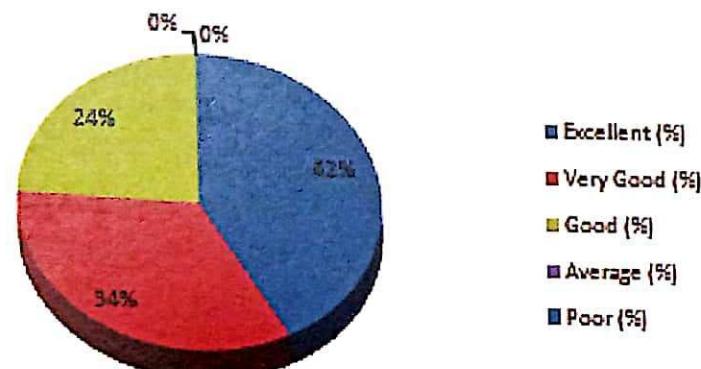
Q.5 Rate the theoretical concepts of syllabus supported by Practical/Experiments?



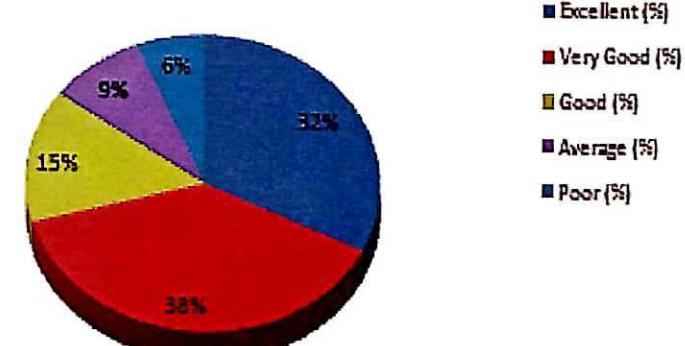
Q.6 Rate the contents included in the syllabus with reference to professional and higher level learning skills?



Q.7 How do you rate the evaluation scheme designed for each of the course?

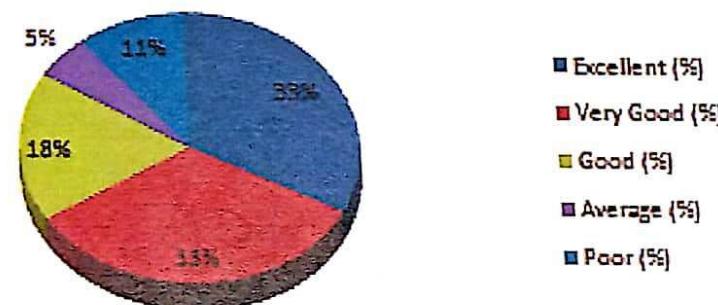


Q.8 How do you rate the sequence of the courses in the curriculum?

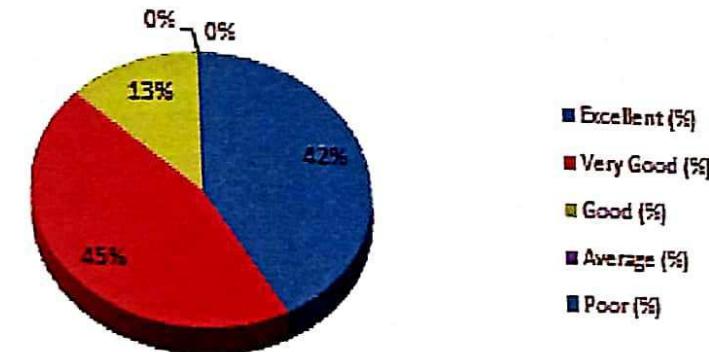


# Analysis of Stakeholders Feedback Report

Q.9 Rate the satisfaction level of curriculum design as per the requirement of employability /higher learning?



Q.10 How do you rate the books listed as referencematerials are relevant, updated and appropriate?

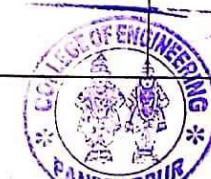


## Analysis of Stakeholders Feedback Report

### B. Analysis of Teachers' Feedback on the Syllabus and its Transaction at the Institution

**Total Responses =28**

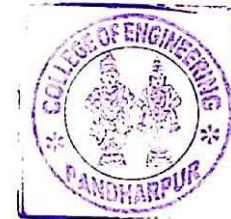
Sr. No.	Particular	Strongly Disagree (%)	Disagree (%)	Neither Agree nor Disagree (%)	Agree (%)	Strongly Agree (%)
1.	The course objectives and outcomes of the current syllabi are well defined and clear for delivery of course.	7.1	0.0	14.3	28.6	50.0
2.	The current content of syllabus is fulfilling the need of industry, sufficient to bridge the gap between industry and academics.	0.0	3.6	3.6	35.7	57.1
3.	The course is well organized (e.g. teaching hours, the sequence of the courses in the curriculum).	0.0	3.6	7.1	39.3	50.0
4.	Emphasis on fundamentals, coverage of modern/advanced topics, good balance between theory and application.	0.0	14.3	7.1	42.9	35.7
5.	Evaluation schemes designed for each of the course are sufficient for providing proper assessment.	0.0	3.6	3.6	50.0	42.9
6.	The course/ syllabus has good balance between theoretical concepts of syllabus and Practical/Experiments.	17.9	7.1	14.3	42.9	17.9
7.	The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.	7.1	7.1	10.7	50.0	25.0
8.	Current syllabus tries to build the opportunities in terms of employability and entrepreneurial attitude amongst the students.	0.0	7.1	3.6	35.7	53.6



*D. George*  
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## Analysis of Stakeholders Feedback Report

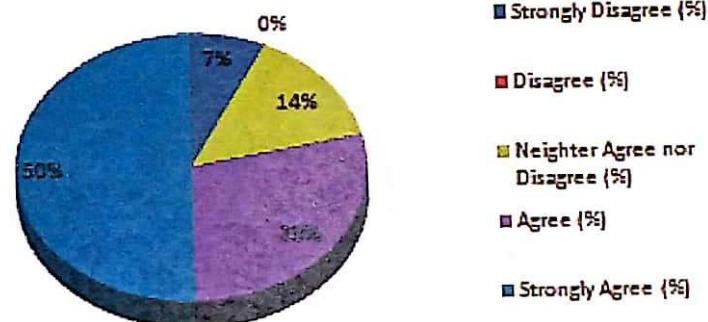
Sr. No.	Particular	Strongly Disagree (%)	Disagree (%)	Neither Agree nor Disagree (%)	Agree (%)	Strongly Agree (%)
9.	The books/ reference materials prescribed are relevant, updated and appropriate.	7.1	0.0	3.6	42.9	46.4
10.	The course/syllabus has enabled to update knowledge and perspective in the subject area.	3.6	0.0	7.1	46.4	42.9



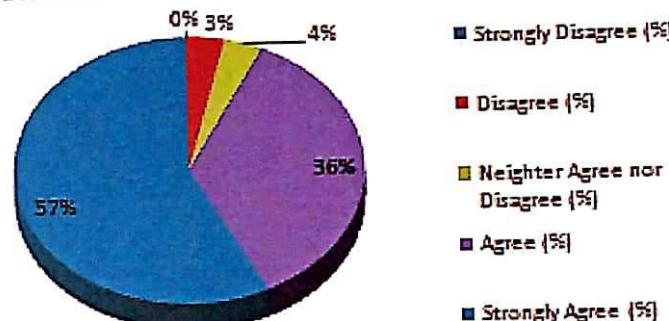
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## Analysis of Stakeholders Feedback Report

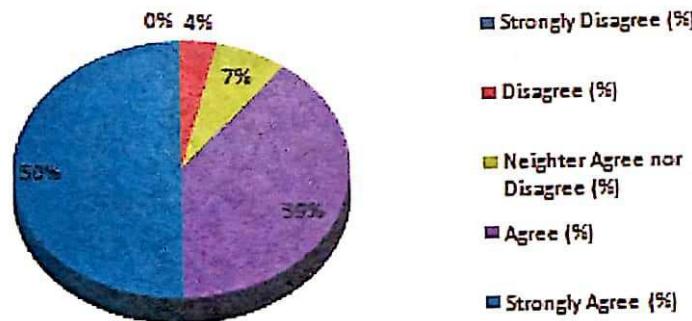
**Q.1 The course objectives and outcomes of the current syllabi are well defined and clear for delivery of course.**



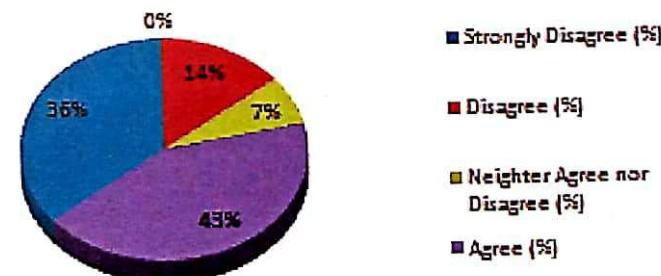
**Q.2 The current content of syllabus is fulfilling the need of industry, sufficient to bridge the gap between industry and academics.**



**Q.3 The course is well organized (e.g. teaching hours, the sequence of the courses in the curriculum).**

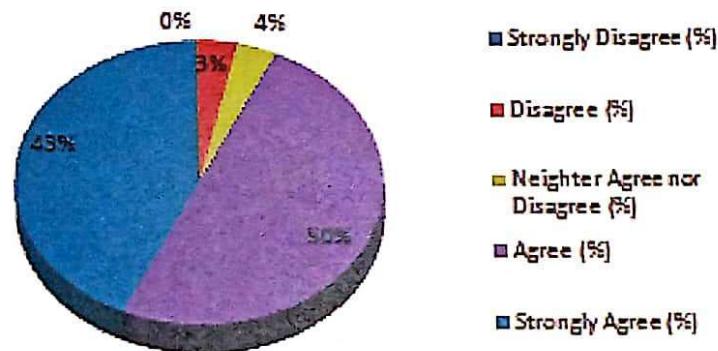


**Q.4 Emphasis on fundamentals, coverage of modern/advanced topics, good balance between theory and application.**

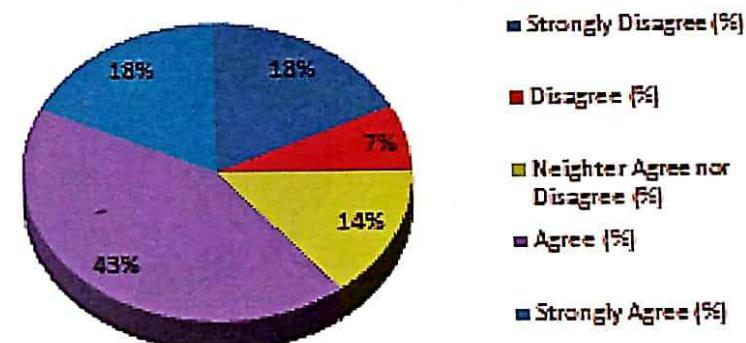


## Analysis of Stakeholders Feedback Report

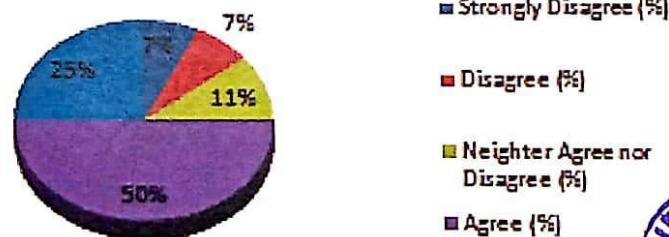
**Q.5 Evaluation schemes designed for each of the course are sufficient for providing proper assessment.**



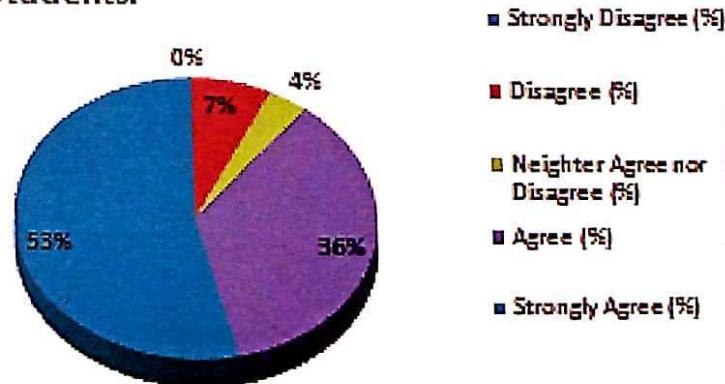
**Q.6 The course/ syllabus has good balance between theoretical concepts of syllabus and Practical/Experiments.**



**Q.7 The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.**

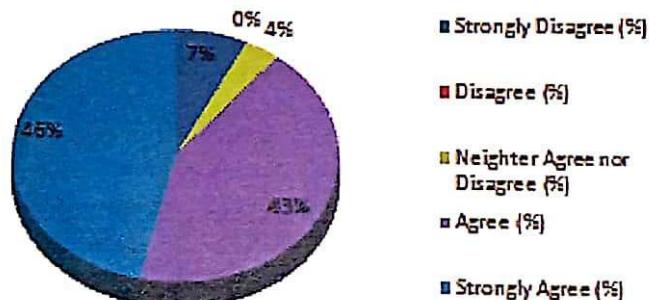


**Q.8 Current syllabus tries to build the opportunities in terms of employability and entrepreneurial attitude amongst the students.**

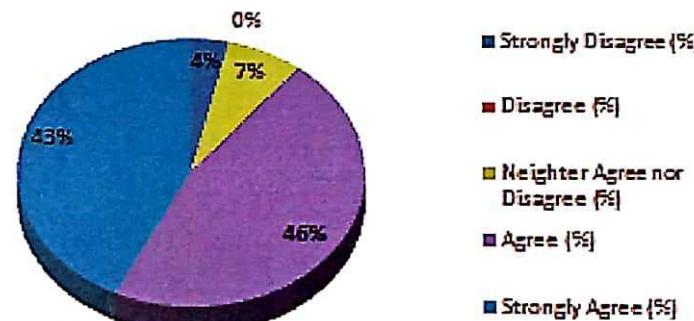


## Analysis of Stakeholders Feedback Report

Q.9 The books/ reference materials prescribed are relevant, updated and appropriate.



Q.10 The course/syllabus has enabled to update knowledge and perspective in the subject area.

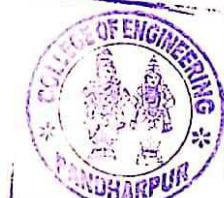


## Analysis of Stakeholders Feedback Report

### C. Analysis of Alumni Feedback on the Syllabus and its Transaction at the Institution

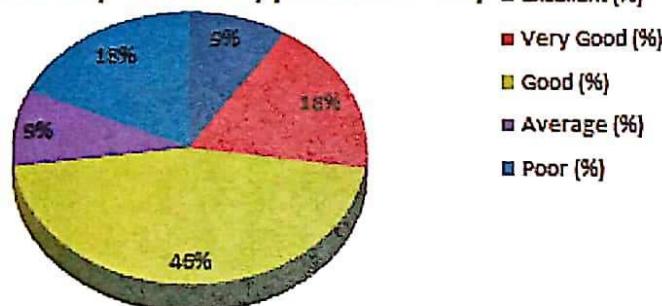
Total Responses =11

Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
1.	Course was well structured to achieve the learning outcomes (good balance of lectures, learning resources, tutorials, practical etc.)	9.1	18.2	45.5	9.1	18.2
2.	The syllabus was need based; Emphasis on fundamentals, coverage of modern/ advanced topics, good balance between theory and application.	0.0	27.3	27.3	27.3	18.2
3.	Current syllabus is adequately covers contemporary issues/emerging global and national trends in engineering.	0.0	9.1	9.1	27.3	54.5
4.	The syllabus meets the expectations in terms of learning values, skills, knowledge, attitude, analytical abilities, applicability, relevance and practical orientation to real life situations.	0.0	18.2	36.4	27.3	18.2
5.	Expectations about the course (Enhance by skill/knowledge base, better career opportunities etc) were achievable.	0.0	0.0	18.2	54.5	27.3
6.	The books prescribed/listed as reference materials are relevant, updated and appropriate.	27.3	9.1	9.1	36.4	18.2
7.	The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.	18.2	18.2	27.3	9.1	27.3
8.	The course enabled to build your future career.	9.1	18.2	36.4	9.1	27.3

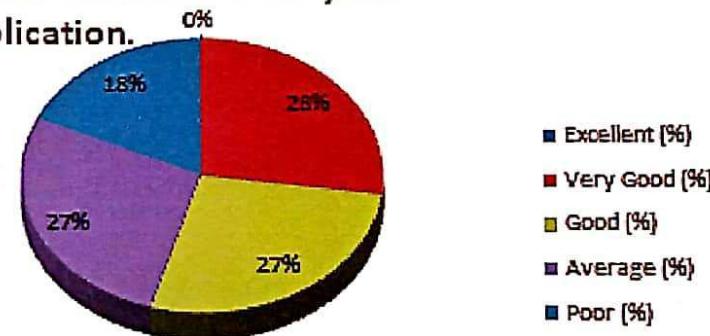


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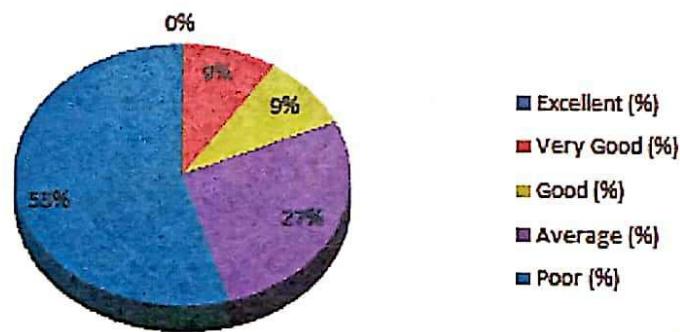
**Q.1 Course was well structured to achieve the learning outcomes (good balance of lectures, learning resources, tutorials, practical etc.)**



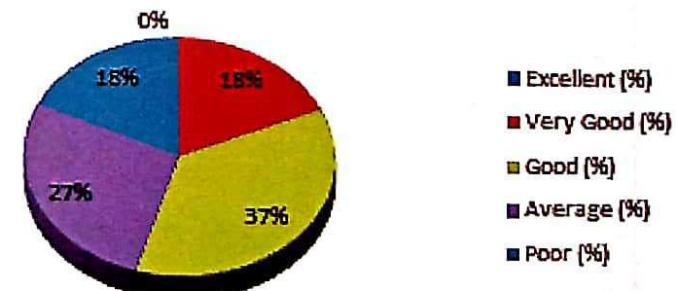
**Q.2 The syllabus was need based; Emphasis on fundamentals, coverage of modern/ advanced topics, good balance between theory and application.**



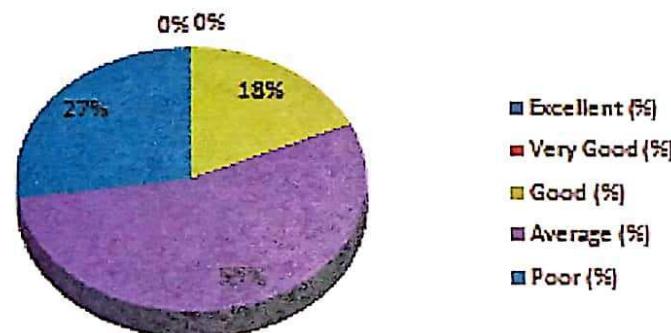
**Q.3 Current syllabus is adequately covers contemporary issues/emerging global and national trends in engineering.**



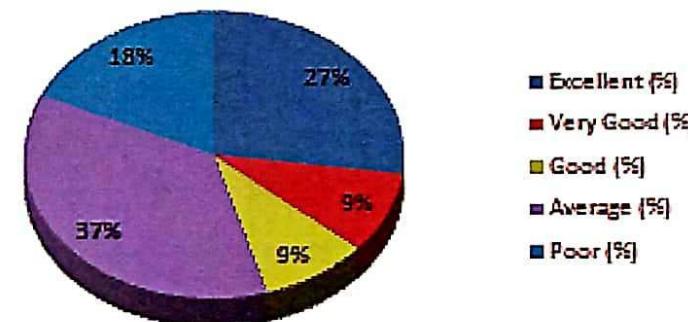
**Q.4 The syllabus meets the expectations in terms of learning values, skills, knowledge, attitude, analytical abilities, applicability, relevance and practical orientation to real life..**



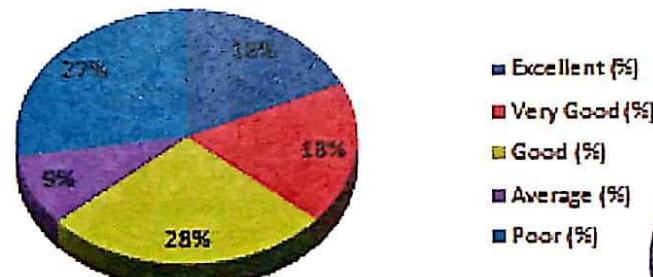
**Q.5 Expectations about the course (Enhance by skill/knowledge base, better career opportunities etc) were achievable.**



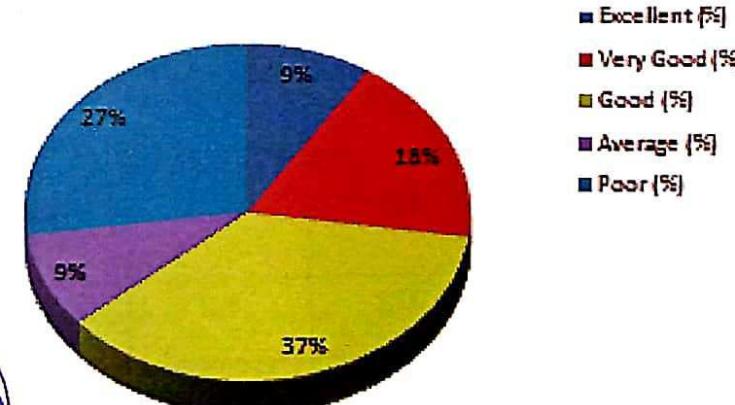
**Q.6 The books prescribed/listed as reference materials are relevant, updated and appropriate.**



**Q.7 The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.**



**Q.8 The course enabled to build your future career.**



**D. Analysis of Employers Feedback on the Syllabus and its Transaction at the Institution**

Academic Year: 2018-2019

Total Responses = 4

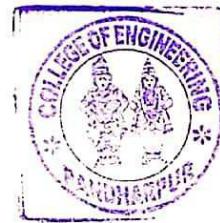
Sr. No.	Particular	Strongly Disagree (%)	Disagree (%)	Neither Agree nor Disagree (%)	Agree (%)	Strongly Agree (%)
1.	Current Curriculum of all Programmes is relevant for employability.	0.0	0.0	75.0	25.0	0.0
2.	Curriculum bridges the gap between Industry and Academic.	0.0	75.0	0.0	25.0	0.0
3.	Current curriculum offers need based and meets to the expectations of industry.	0.0	0.0	75.0	25.0	0.0
4.	Curriculum has enriched content which fulfils required orientation human resources.	0.0	25.0	50.0	25.0	0.0
5	Curriculum has application based courses which caters the needs of industry in terms of knowledge, skills, attitude and innovation.	0.0	50.0	50.0	0.0	0.0
6	Curriculum caters the need of industry and helps in building efficiency and effectiveness of organization.	0.0	0.0	50.0	50.0	0.0
7	Curriculum helps in building an entrepreneurial motive which helps to the students for starting their business enterprise.	0.0	0.0	50.0	50.0	0.0
8	Curriculum helps in edifice ability and motivation to the students for involvement in social activities.	0.0	75.0	0.0	25.0	0.0



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## Analysis of Stakeholders Feedback Report

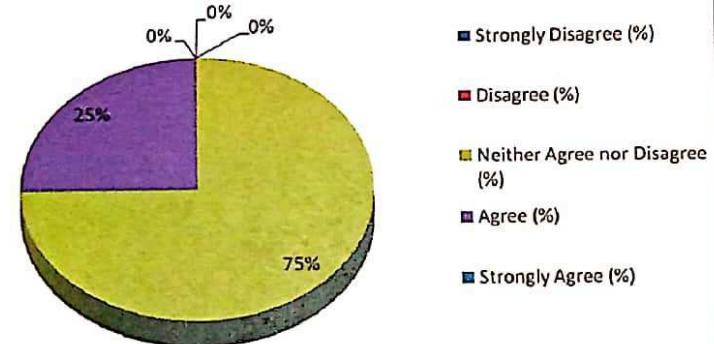
Sr. No.	Particular	Strongly Disagree (%)	Disagree (%)	Neither Agree nor Disagree (%)	Agree (%)	Strongly Agree (%)
9	Curriculum exhibits to the students in communication skills and ability to function effectively as an individual as well as part of a team.	0.0	0.0	50.0	50.0	0.0
10	Curriculum show signs of independent thinking of students and appreciation of ethical values in their career.	0.0	25.0	75.0	0.0	0.0



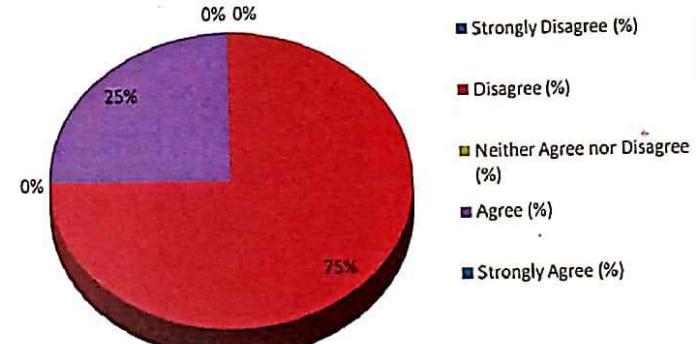
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## Analysis of Stakeholders Feedback Report

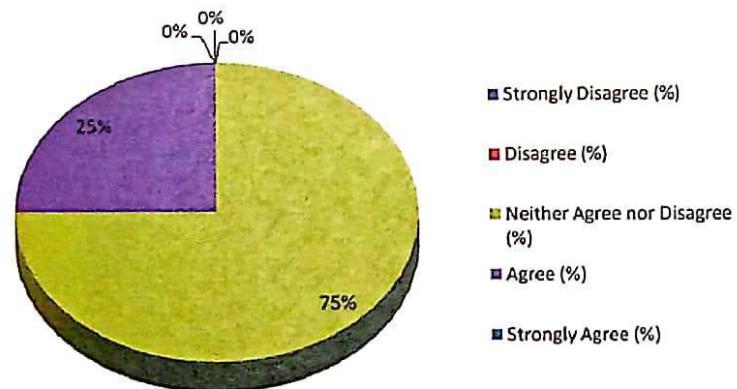
**Q.1 Current Curriculum of all Programmes is relevant for employability.**



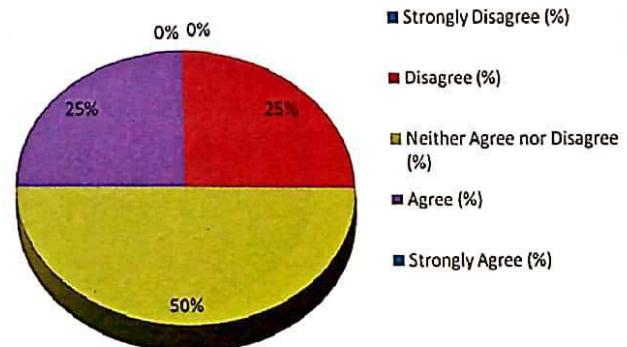
**Q.2 Curriculum bridges the gap between Industry and Academic.**



**Q.3 Current curriculum offers need based and meets to the expectations of industry.**

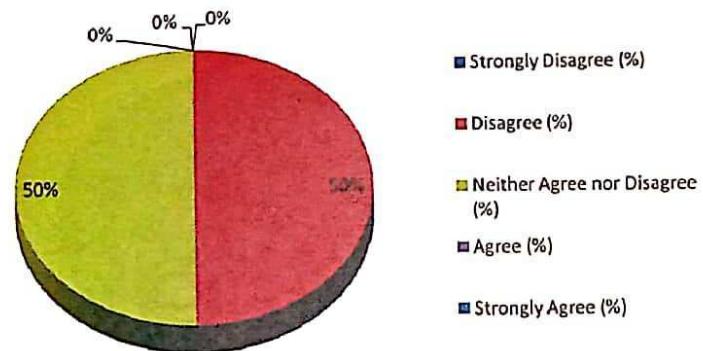


**Q.4 Curriculum has enriched content which fulfils required orientation human resources**

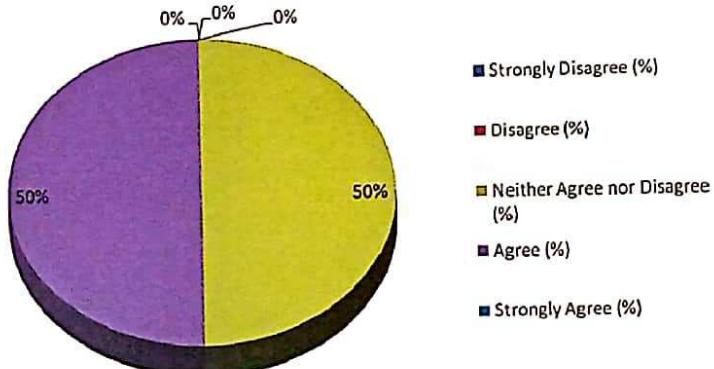


## Analysis of Stakeholders Feedback Report

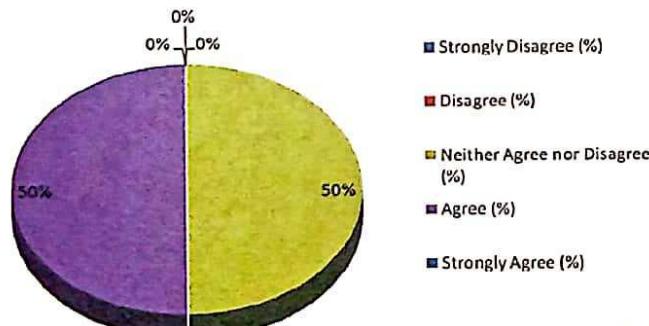
**Q.5 Curriculum has application based courses which caters the needs of industry in terms of knowledge, skills, attitude and innovation.**



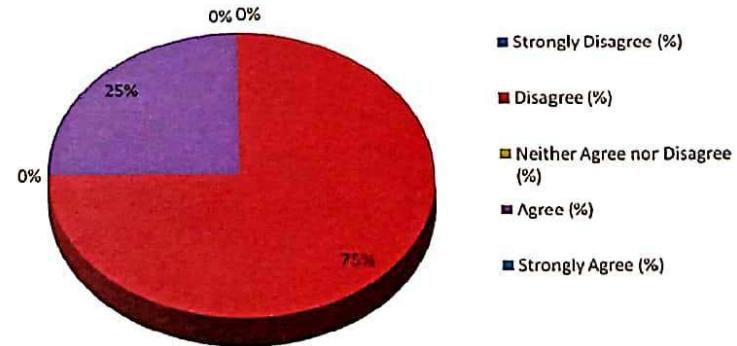
**Q.6 Curriculum caters the need of industry and helps in building efficiency and effectiveness of organization.**



**Q.7 Curriculum helps in building an entrepreneurial motive which helps to the students for starting their business enterprise.**

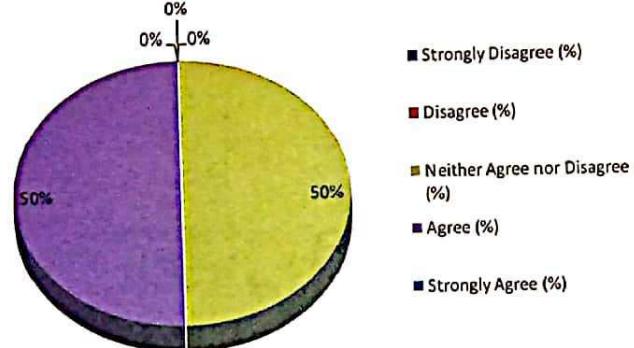


**Q.8 Curriculum helps in edifice ability and motivation to the students for involvement in social activities.**

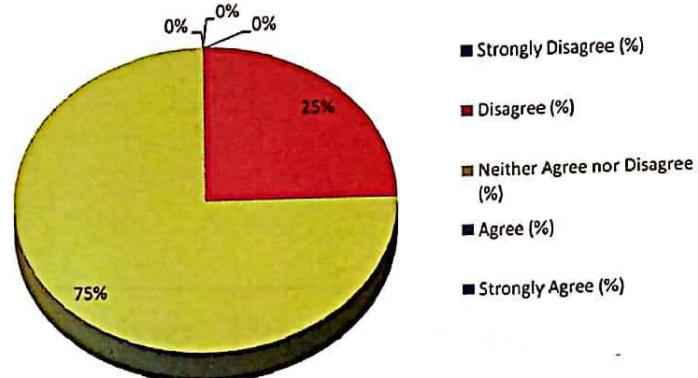


## Analysis of Stakeholders Feedback Report

**Q.9 Curriculum exhibits to the students in communication skills and ability to function effectively as an individual as well as part of a team.**



**Q.10 Curriculum show signs of independent thinking of students and appreciation of ethical values in their career.**



**SVERI's College of Engineering, Pandharpur**

**Department of Computer Science & Engineering**

**Analysis of Feedback Report**

**Academic Year: 2019-2020**

# Analysis of Stakeholders Feedback Report

## A. Analysis of Students' Feedback Report:

Total Responses =146

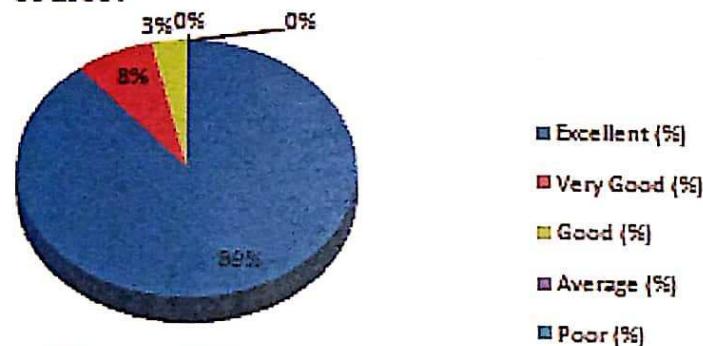
Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
1.	Rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course?	89.0	7.5	3.4	0.0	0.0
2.	How do you rate the relevance of the units in syllabus significant to the course?	78.1	17.8	4.1	0.0	0.0
3.	How do you rate the electives offered in relation to the technological advancements?	78.8	16.4	2.7	2.1	0.0
4.	Rate the courses in terms of extra learning or self learning considering the design of the courses?	56.2	34.9	4.1	3.4	1.4
5.	Rate the theoretical concepts of syllabus supported by Practical/Experiments?	78.8	18.5	2.7	0.0	0.0
6.	Rate the contents included in the syllabus with reference to professional and higher level learning skills?	66.4	19.2	3.4	11.0	0.0
7.	How do you rate the evaluation scheme designed for each of the course?	75.3	17.1	7.5	0.0	0.0
8.	How do you rate the sequence of the courses in the curriculum?	57.5	15.1	0.0	27.4	0.0
9.	Rate the satisfaction level of curriculum design as per the requirement of employability / higher learning?	66.4	17.8	0.0	15.8	0.0
10.	How do you rate the books listed as reference materials are relevant, updated and appropriate?	68.5	21.2	10.3	0.0	0.0



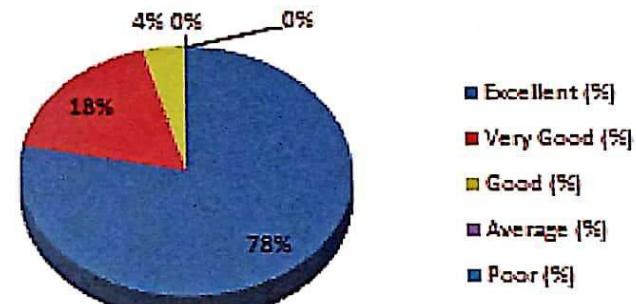
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 PANDHARPUR

## Analysis of Stakeholders Feedback Report

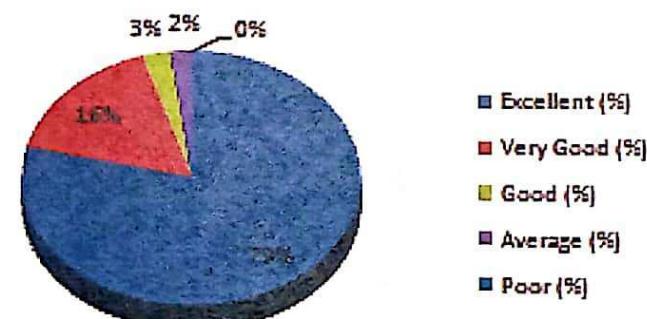
**Q.1 Rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course?**



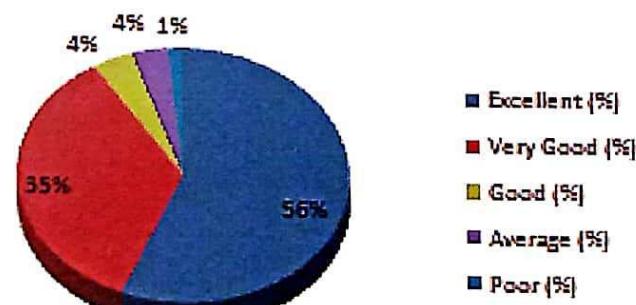
**Q.2 How do you rate the relevance of the units in syllabus significant to the course?**



**Q.3 How do you rate the electives offered in relation to the technological advancements?**

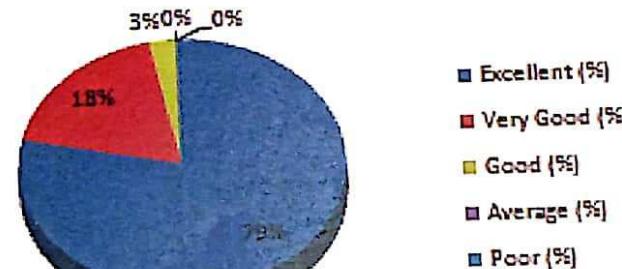


**Q.4 Rate the courses in terms of extra learning or self learning considering the design of the courses?**

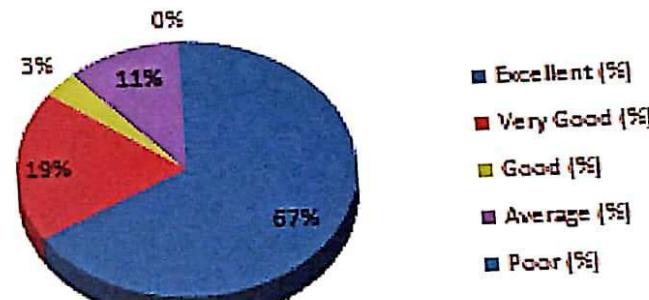


## Analysis of Stakeholders Feedback Report

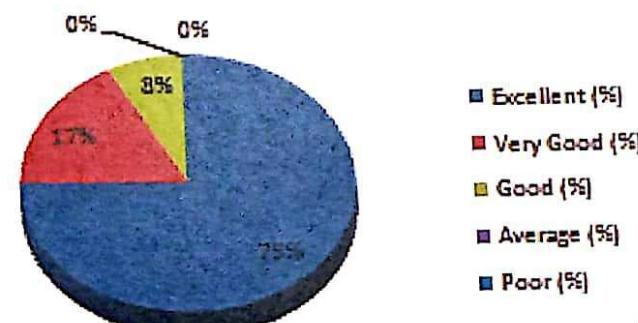
Q.5 Rate the theoretical concepts of syllabus supported by Practical/Experiments?



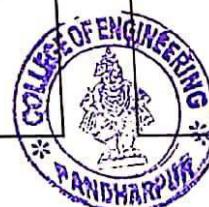
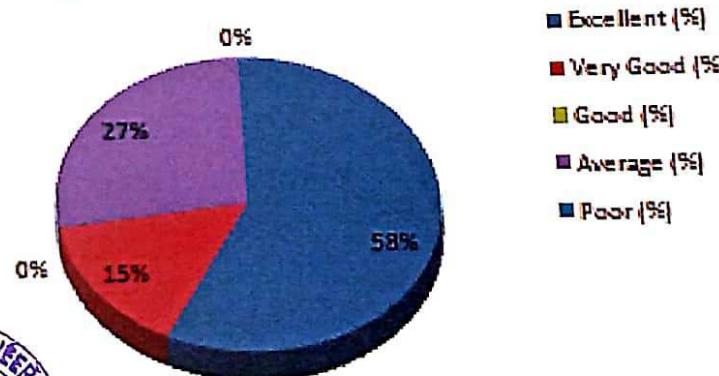
Q.6 Rate the contents included in the syllabus with reference to professional and higher level learning skills?



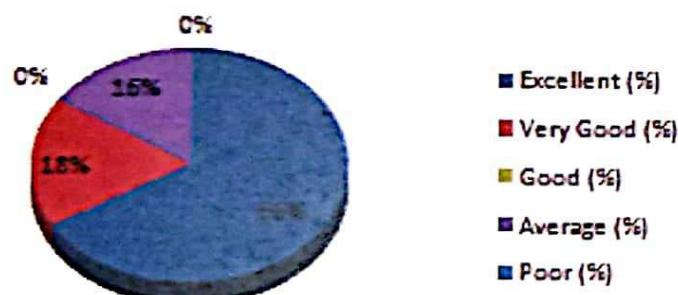
Q.7 How do you rate the evaluation scheme designed for each of the course?



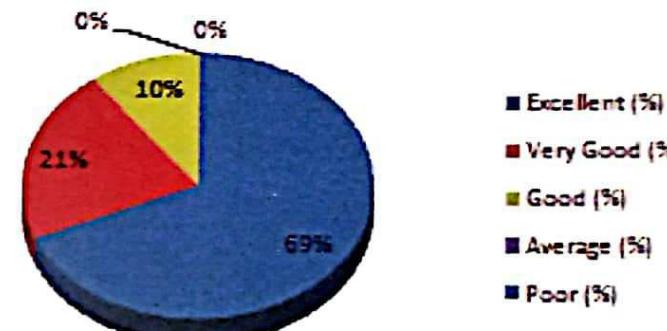
Q.8 How do you rate the sequence of the courses in the curriculum?



**Q.9 Rate the satisfaction level of curriculum design as per the requirement of employability / higher learning?**



**Q.10 How do you rate the books listed as referencematerials are relevant, updated and appropriate?**

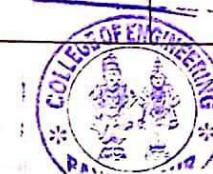


## Analysis of Stakeholders Feedback Report

### B. Analysis of Teachers' Feedback on the Syllabus and its Transaction at the Institution

**Total Responses =26**

Sr. No.	Particular	Strongly Disagree (%)	Disagree (%)	Neither Agree nor Disagree (%)	Agree (%)	Strongly Agree (%)
1.	The course objectives and outcomes of the current syllabi are well defined and clear for delivery of course.	0.0	0.0	23.1	42.3	34.6
2.	The current content of syllabus is fulfilling the need of industry, sufficient to bridge the gap between industry and academics.	0.0	0.0	23.1	26.9	50.0
3.	The course is well organized (e.g. teaching hours, the sequence of the courses in the curriculum).	0.0	34.6	3.8	34.6	26.9
4.	Emphasis on fundamentals, coverage of modern/advanced topics, good balance between theory and application.	0.0	15.4	7.7	50.0	26.9
5.	Evaluation schemes designed for each of the course are sufficient for providing proper assessment.	0.0	11.5	23.1	42.3	23.1
6.	The course/ syllabus has good balance between theoretical concepts of syllabus and Practical/Experiments.	0.0	23.1	7.7	30.8	38.5
7.	The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.	0.0	0.0	15.4	46.2	38.5
8.	Current syllabus tries to build the opportunities in terms of employability and entrepreneurial attitude amongst the students.	0.0	23.1	0.0	15.4	61.5



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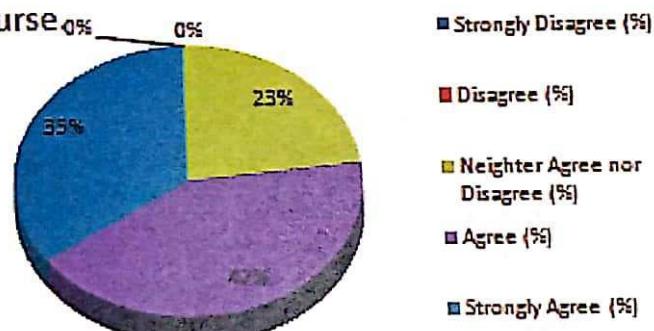
## Analysis of Stakeholders Feedback Report

Sr. No.	Particular	Strongly Disagree (%)	Disagree (%)	Neither Agree nor Disagree (%)	Agree (%)	Strongly Agree (%)
9.	The books/ reference materials prescribed are relevant, updated and appropriate.	0.0	0.0	11.5	42.3	46.2
10.	The course/syllabus has enabled to update knowledge and perspective in the subject area.	0.0	15.4	3.8	42.3	38.5

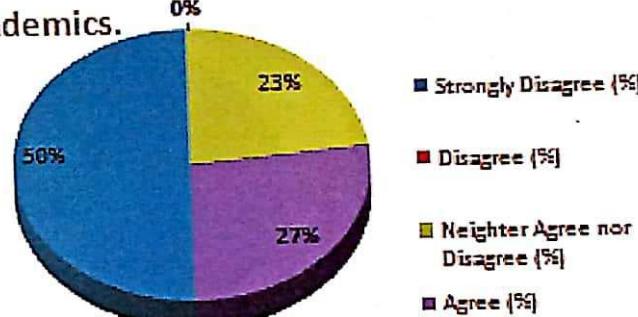


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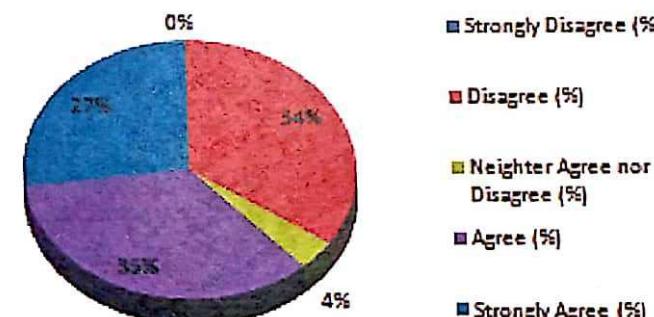
**Q.1 The course objectives and outcomes of the current syllabi are well defined and clear for delivery of course**



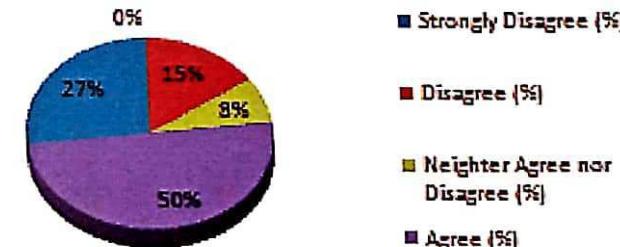
**Q.2 The current content of syllabus is fulfilling the need of industry, sufficient to bridge the gap between industry and academics.**



**Q.3 The course is well organized (e.g. teaching hours, the sequence of the courses in the curriculum).**

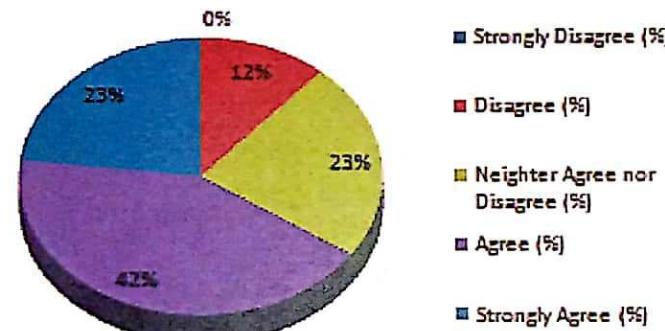


**Q.4 Emphasis on fundamentals, coverage of modern/advanced topics, good balance between theory and application.**

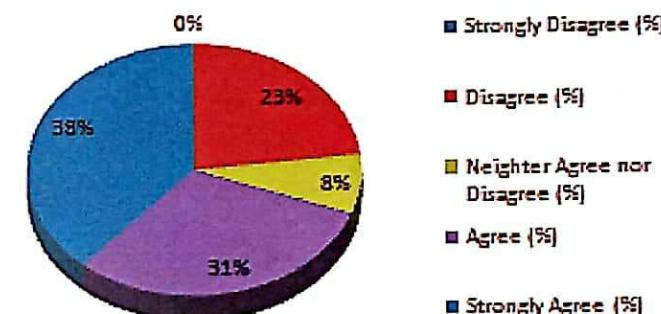


## Analysis of Stakeholders Feedback Report

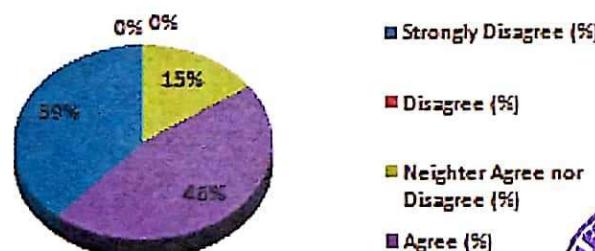
**Q.5 Evaluation schemes designed for each of the course are sufficient for providing proper assessment.**



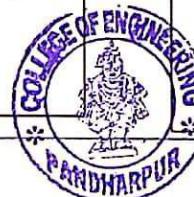
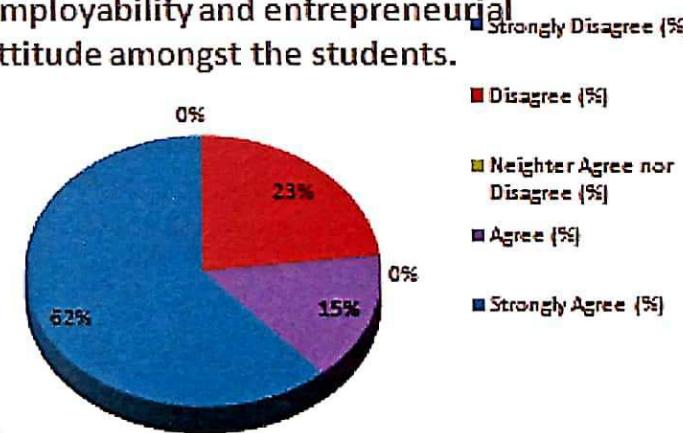
**Q.6 The course/ syllabus has good balance between theoretical concepts of syllabus and Practical/Experiments.**



**Q.7 The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and...**

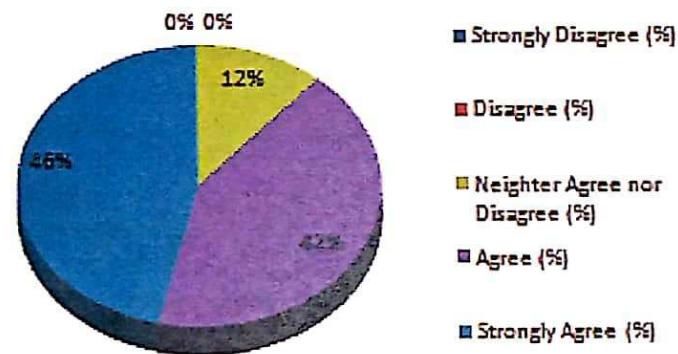


**Q.8 Current syllabus tries to build the opportunities in terms of employability and entrepreneurial attitude amongst the students.**

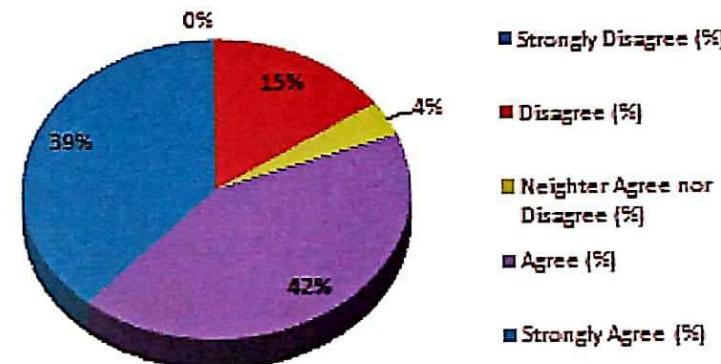


## Analysis of Stakeholders Feedback Report

**Q.9 The books/ reference materials prescribed are relevant, updated and appropriate.**



**Q.10 The course/syllabus has enabled to update knowledge and perspective in the subject area.**



## Analysis of Stakeholders Feedback Report

### C. Analysis of Alumni Feedback on the Syllabus and its Transaction at the Institution

Total Responses =16

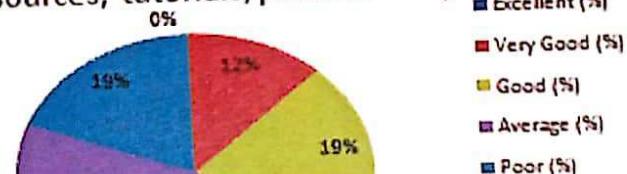
Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
1.	Course was well structured to achieve the learning outcomes (good balance of lectures, learning resources, tutorials, practical etc.)	0.0	12.5	18.8	50.0	18.8
2.	The syllabus was need based; Emphasis on fundamentals, coverage of modern/ advanced topics, good balance between theory and application.	0.0	12.5	18.8	31.3	37.5
3.	Current syllabus is adequately covers contemporary issues/emerging global and national trends in engineering.	0.0	6.3	18.8	31.3	43.8
4.	The syllabus meets the expectations in terms of learning values, skills, knowledge, attitude, analytical abilities, applicability, relevance and practical orientation to real life situations.	0.0	12.5	18.8	31.3	37.5
5.	Expectations about the course (Enhance by skill/knowledge base, better career opportunities etc) were achievable.	0.0	12.5	12.5	37.5	37.5
6.	The books prescribed/listed as reference materials are relevant, updated and appropriate.	12.5	18.8	25.0	31.3	12.5
7.	The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.	6.3	18.8	31.3	31.3	12.5
8.	The course enabled to build your future career.	0.0	6.3	18.8	31.3	43.8



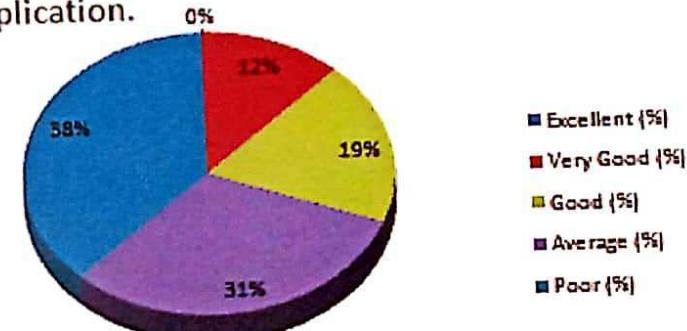
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## Analysis of Stakeholders Feedback Report

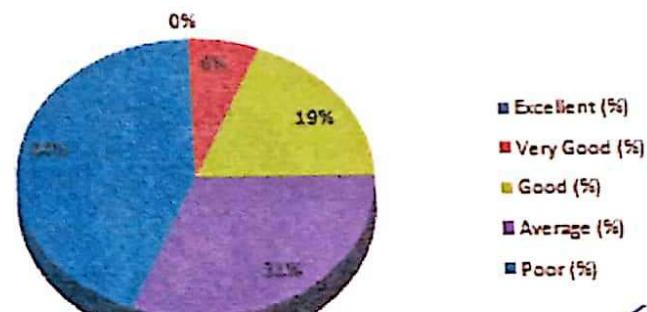
Q.1 Course was well structured to achieve the learning outcomes (good balance of lectures, learning resources, tutorials, practical etc.)



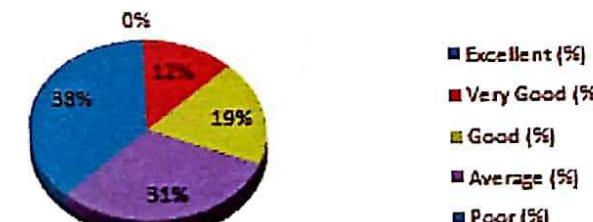
Q.2 The syllabus was need based; Emphasis on fundamentals, coverage of modern/ advanced topics, good balance between theory and application.



Q.3 Current syllabus is adequately covers contemporary issues/emerging global and national trends in engineering.

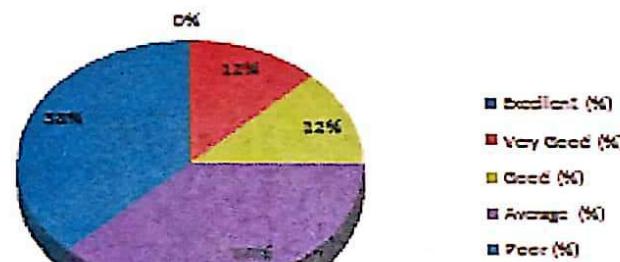


Q.4 The syllabus meets the expectations in terms of learning values, skills, knowledge, attitude, analytical abilities, applicability, relevance and practical orientation to real life situations.

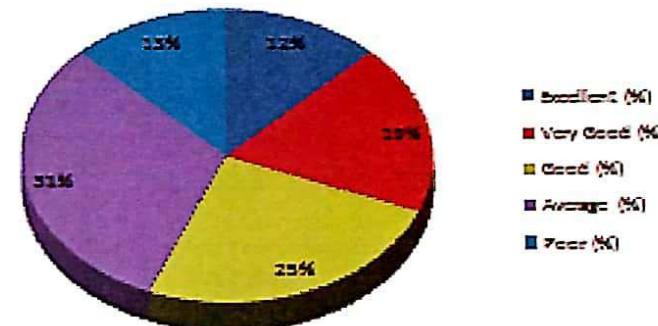


## Analysis of Stakeholders Feedback Report

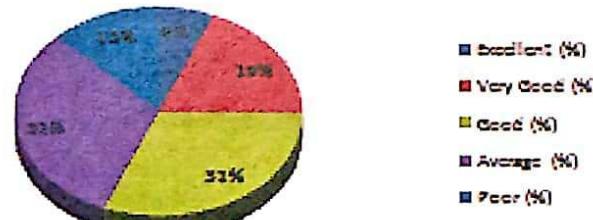
**Q.5 Expectations about the course**  
(Enhance by skill/knowledge base, better career opportunities etc) were achievable.



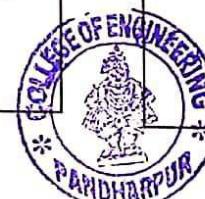
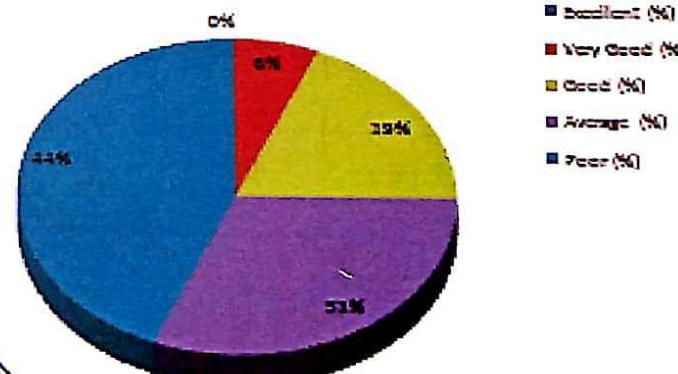
**Q.6 The books prescribed/listed as reference materials are relevant, updated and appropriate.**



**Q.7 The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.**



**Q.8 The course enabled to build your future career.**

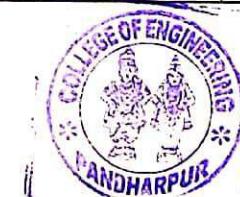


## Analysis of Stakeholders Feedback Report

### D. Analysis of Employers Feedback on the Syllabus and its Transaction at the Institution

Total Responses =06

Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
1.	Current Curriculum of all Programmes is relevant for employability.	0.0	16.7	33.3	16.7	33.3
2.	Curriculum bridges the gap between Industry and Academic.	0.0	33.3	16.7	33.3	16.7
3.	Current curriculum offers need based and meets to the expectations of industry.	0.0	16.7	50.0	16.7	16.7
4.	Curriculum has enriched content which fulfils required orientation human resources.	0.0	16.7	33.3	16.7	33.3
5.	Curriculum has application based courses which caters the needs of industry in terms of knowledge, skills, attitude and innovation.	0.0	33.3	33.3	16.7	16.7
6.	Curriculum caters the need of industry and helps in building efficiency and effectiveness of organization.	16.7	16.7	33.3	33.3	0.0
7.	Curriculum helps in building an entrepreneurial motive which helps to the students for starting their business enterprise.	0.0	33.3	33.3	33.3	0.0



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## Analysis of Stakeholders Feedback Report

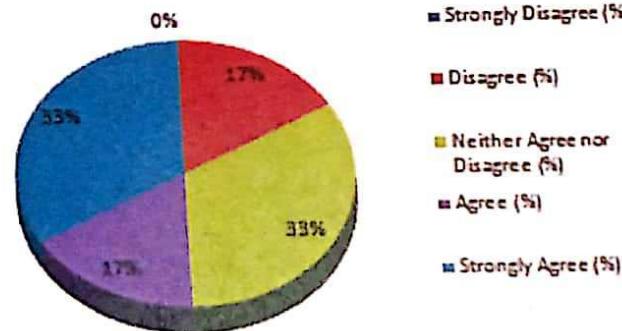
Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
8.	Curriculum helps in edifice ability and motivation to the students for involvement in social activities.	0.0	16.7	16.7	50.0	16.7
9	Curriculum exhibits to the students in communication skills and ability to function effectively as an individual as well as part of a team.	0.0	0.0	50.0	50.0	0.0
10	Curriculum show signs of independent thinking of students and appreciation of ethical values in their career.	0.0	25.0	75.0	0.0	0.0



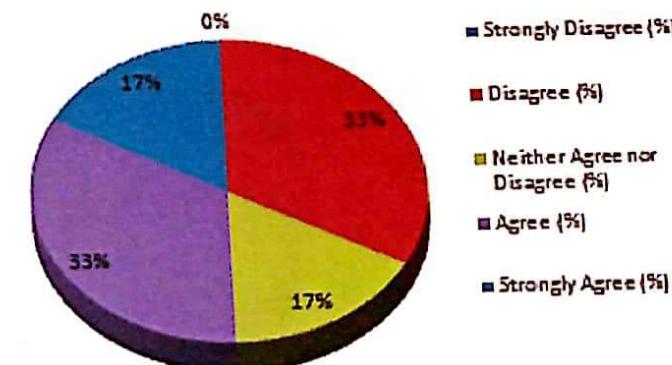
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# Analysis of Stakeholders Feedback Report

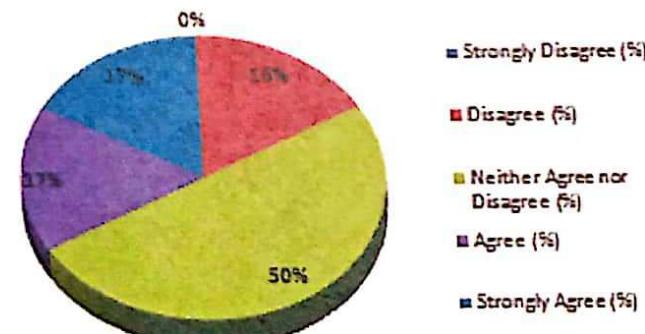
Q.1 Current Curriculum of all Programmes is relevant for employability.



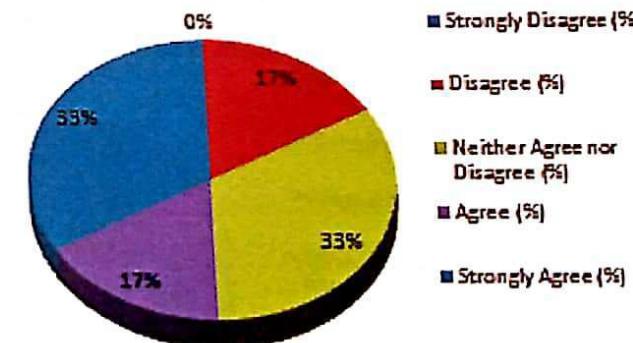
Q.2 Curriculum bridges the gap between Industry and Academic.



Q.3 Current curriculum offers need based and meets to the expectations of industry.

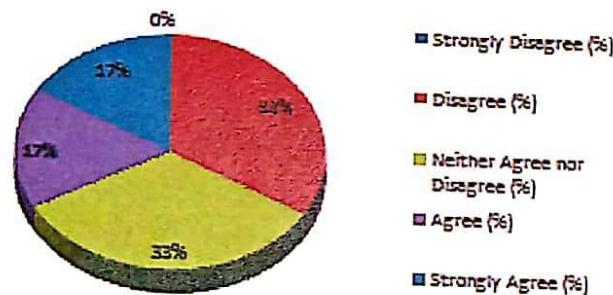


Q.4 Curriculum has enriched content which fulfils required orientation human resources

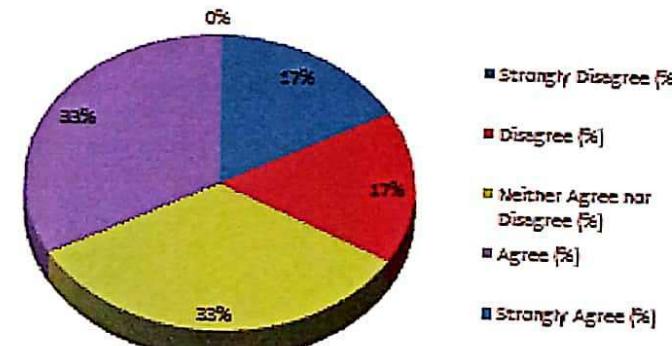


## Analysis of Stakeholders Feedback Report

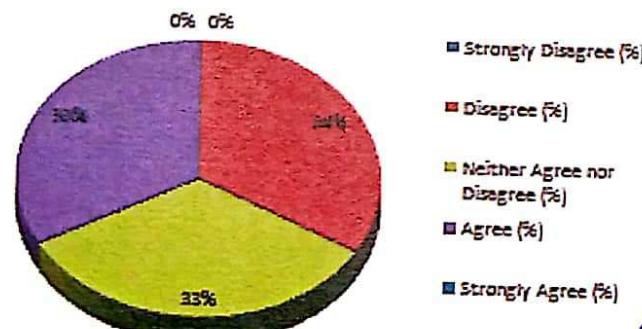
Q.5 Curriculum has application based courses which caters the needs of industry in terms of knowledge, skills, attitude and innovation.



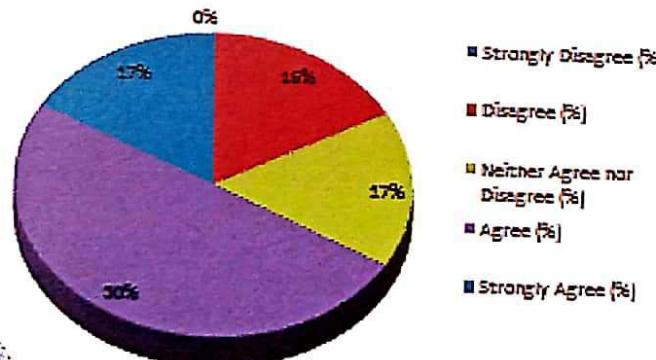
Q.6 Curriculum caters the need of industry and helps in building efficiency and effectiveness of organization.



Q.7 Curriculum helps in building an entrepreneurial motive which helps to the students for starting their business enterprise.

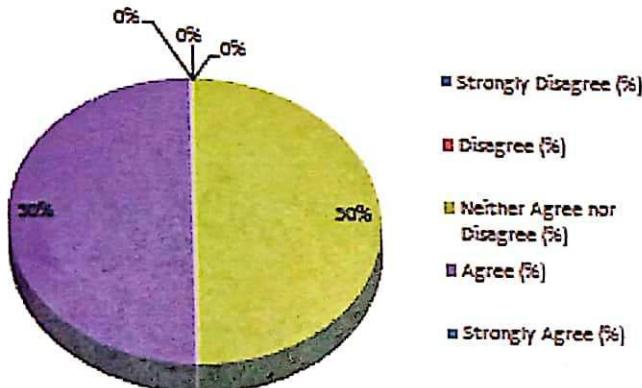


Q.8 Curriculum helps in edifice ability and motivation to the students for involvement in social activities.

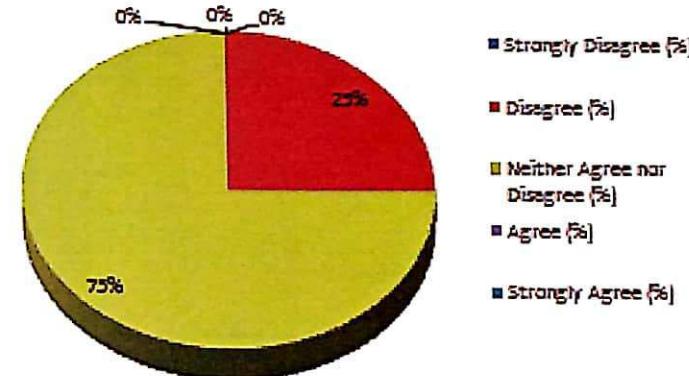


## Analysis of Stakeholders Feedback Report

Q.9 Curriculum exhibits to the students in communication skills and ability to function effectively as an individual as well as part of a team.



Q.10 Curriculum show signs of independent thinking of students and appreciation of ethical values in their career.



**SVERI's College of Engineering, Pandharpur**

**Department of Computer Science & Engineering**

**Analysis of Feedback Report**

**Academic Year: 2018-2019**

## Analysis of Stakeholders Feedback Report

### E. Analysis of Students' Feedback Report:

Total Responses =295

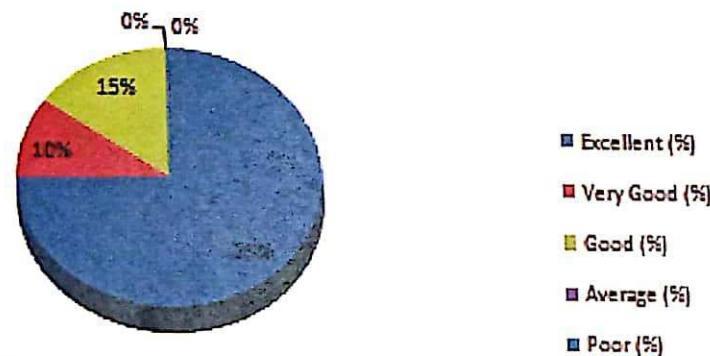
Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
1.	Rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course?	74.9	10.2	14.9	0.0	0.0
2.	How do you rate the relevance of the units in syllabus significant to the course?	66.4	28.5	5.1	0.0	0.0
3.	How do you rate the electives offered in relation to the technological advancements?	62.4	30.8	6.8	0.0	0.0
4.	Rate the courses in terms of extra learning or self learning considering the design of the courses?	46.4	41.0	12.5	0.0	0.0
5.	Rate the theoretical concepts of syllabus supported by Practical/Experiments?	72.9	19.7	7.5	0.0	0.0
6.	Rate the contents included in the syllabus with reference to professional and higher level learning skills?	52.5	30.5	8.5	8.5	0.0
7.	How do you rate the evaluation scheme designed for each of the course?	52.2	28.5	7.5	11.9	0.0
8.	How do you rate the sequence of the courses in the curriculum?	69.2	25.1	5.8	0.0	0.0
9.	Rate the satisfaction level of curriculum design as per the requirement of employability / higher learning?	58.0	30.5	11.5	0.0	0.0
10.	How do you rate the books listed as reference materials are relevant, updated and appropriate?	69.2	23.1	7.8	0.0	0.0



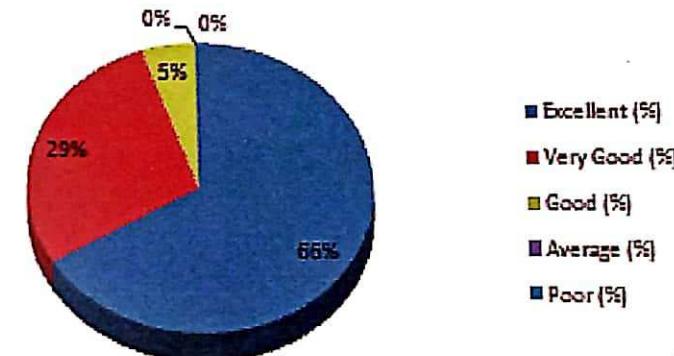
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 PRINCIPAL,  
 College of Engineering  
 PANDHAPPUR

## Analysis of Stakeholders Feedback Report

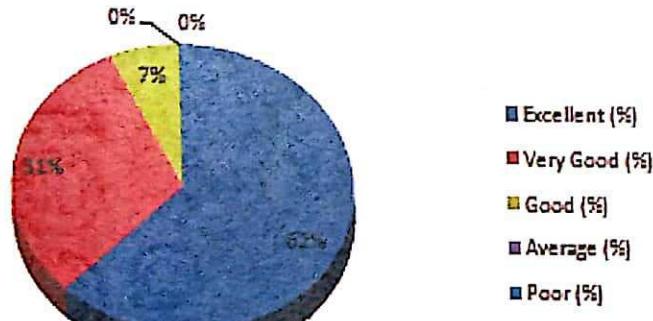
**Q.1 Rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course?**



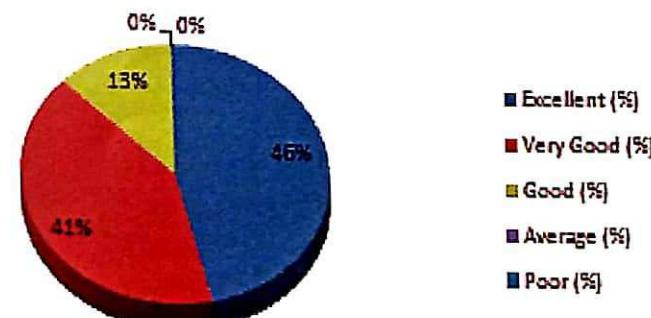
**Q.2 How do you rate the relevance of the units in syllabus significant to the course?**



**Q.3 How do you rate the electives offered in relation to the technological advancements?**

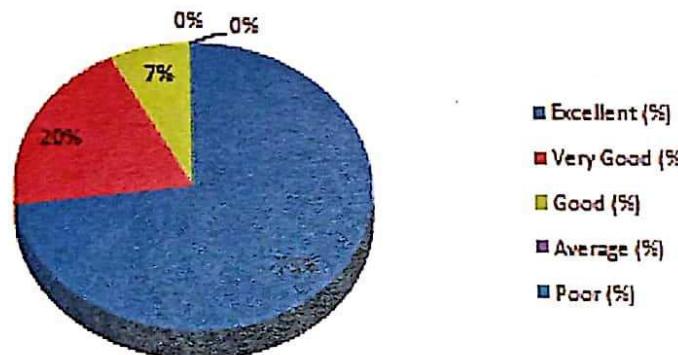


**Q.4 Rate the courses in terms of extra learning or self learning considering the design of the courses?**

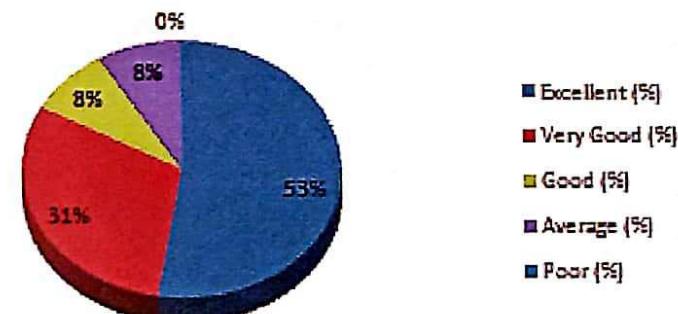


## Analysis of Stakeholders Feedback Report

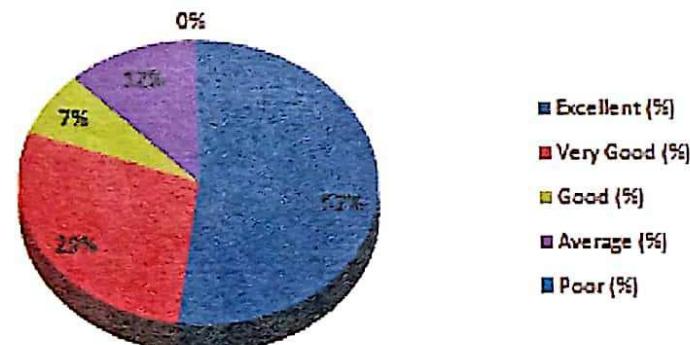
Q.5 Rate the theoretical concepts of syllabus supported by Practical/Experiments?



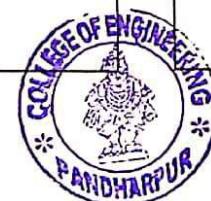
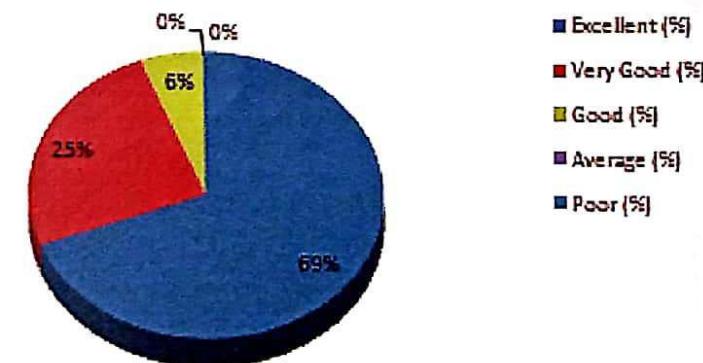
Q.6 Rate the contents included in the syllabus with reference to professional and higher level learning skills?



Q.7 How do you rate the evaluation scheme designed for each of the course?

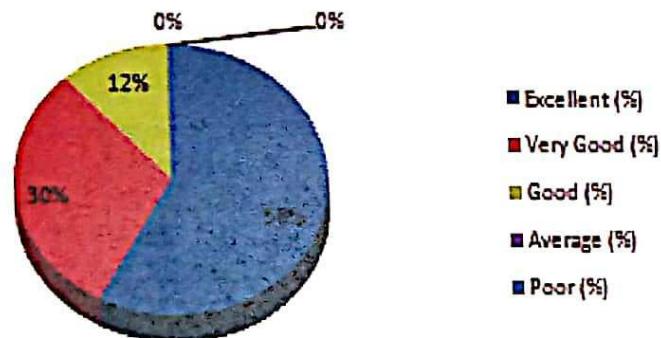


Q.8 How do you rate the sequence of the courses in the curriculum?

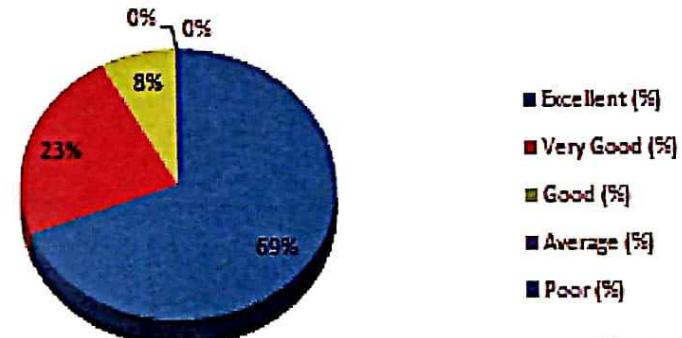


## Analysis of Stakeholders Feedback Report

**Q.9 Rate the satisfaction level of curriculum design as per the requirement of employability /higher learning?**



**Q.10 How do you rate the books listed as reference materials are relevant, updated and appropriate?**

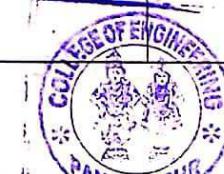


## Analysis of Stakeholders Feedback Report

### F. Analysis of Teachers' Feedback on the Syllabus and its Transaction at the Institution

**Total Responses =30**

Sr. No.	Particular	Strongly Disagree (%)	Disagree (%)	Neither Agree nor Disagree (%)	Agree (%)	Strongly Agree (%)
1.	The course objectives and outcomes of the current syllabi are well defined and clear for delivery of course.	0.0	0.0	16.7	50.0	33.3
2.	The current content of syllabus is fulfilling the need of industry, sufficient to bridge the gap between industry and academics.	0.0	0.0	20.0	30.0	50.0
3.	The course is well organized (e.g. teaching hours, the sequence of the courses in the curriculum).	0.0	30.0	10.0	36.7	23.3
4.	Emphasis on fundamentals, coverage of modern/advanced topics, good balance between theory and application.	0.0	13.3	16.7	43.3	26.7
5.	Evaluation schemes designed for each of the course are sufficient for providing proper assessment.	0.0	16.7	23.3	40.0	20.0
6.	The course/ syllabus has good balance between theoretical concepts of syllabus and Practical/Experiments.	0.0	20.0	13.3	26.7	40.0
7.	The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.	0.0	0.0	10.0	50.0	40.0
8.	Current syllabus tries to build the opportunities in terms of employability and entrepreneurial attitude amongst the students.	0.0	20.0	0.0	23.3	56.7



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## Analysis of Stakeholders Feedback Report

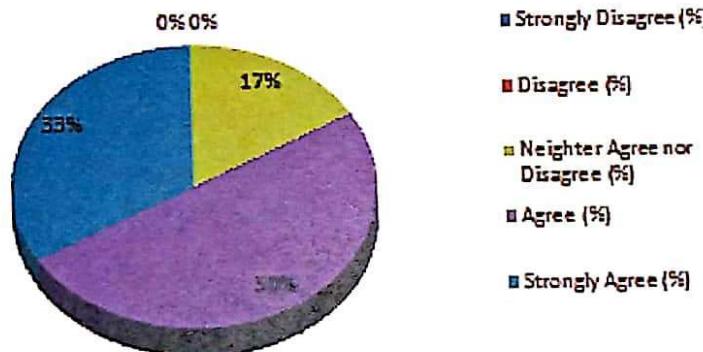
Sr. No.	Particular	Strongly Disagree (%)	Disagree (%)	Neither Agree nor Disagree (%)	Agree (%)	Strongly Agree (%)
9.	The books/ reference materials prescribed are relevant, updated and appropriate.	0.0	0.0	16.7	36.7	46.7
10.	The course/syllabus has enabled to update knowledge and perspective in the subject area.	0.0	13.3	13.3	40.0	33.3



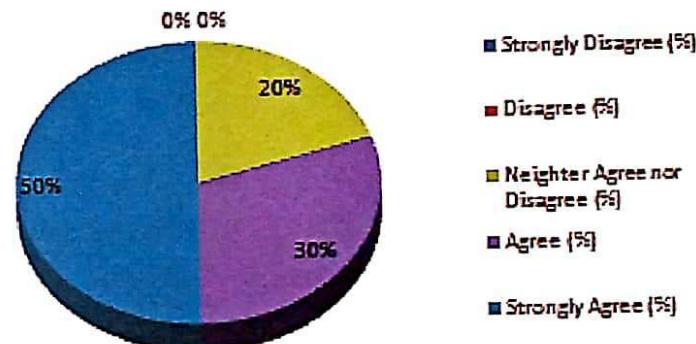
*B. R. Joshi*  
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College of Engineering  
PANDHARPUR

# Analysis of Stakeholders Feedback Report

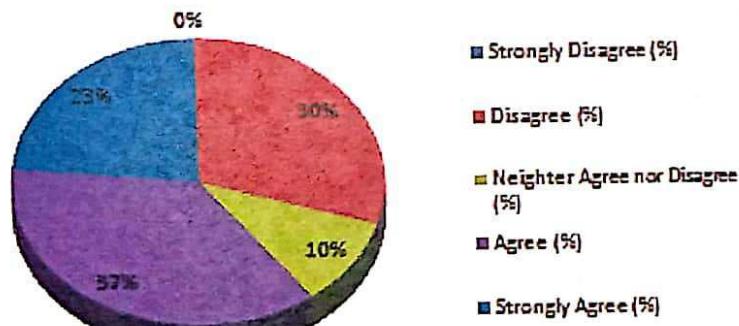
Q.1 The course objectives and outcomes of the current syllabi are well defined and clear for delivery of course.



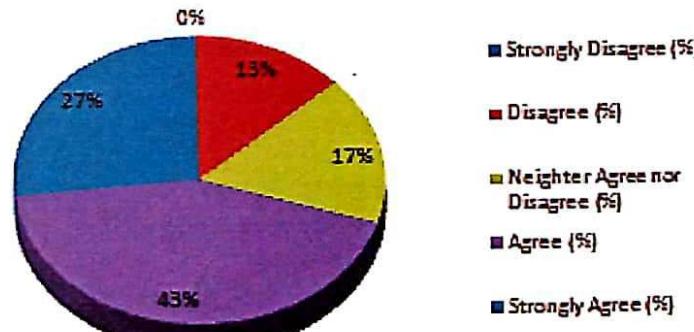
Q.2 The current content of syllabus is fulfilling the need of industry, sufficient to bridge the gap between industry and academics.



Q.3 The course is well organized (e.g. teaching hours, the sequence of the courses in the curriculum).

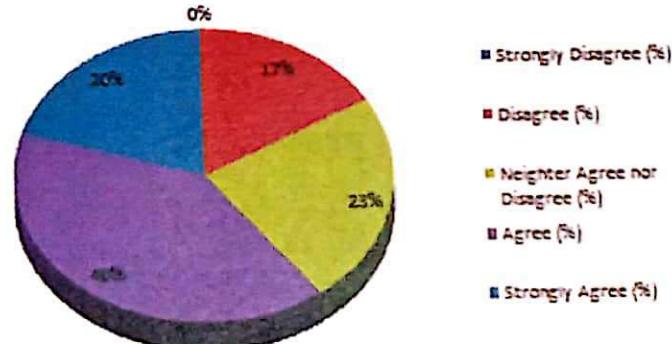


Q.4 Emphasis on fundamentals, coverage of modern/advanced topics, good balance between theory and application.

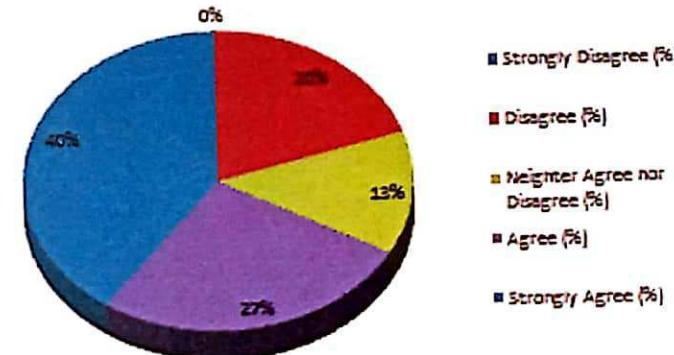


## Analysis of Stakeholders Feedback Report

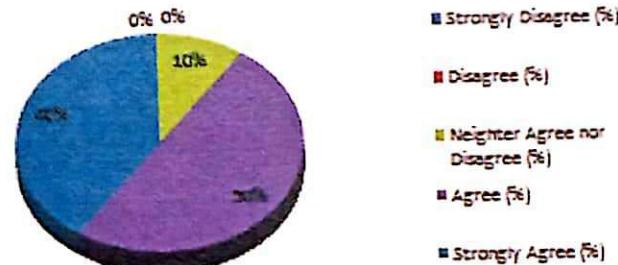
Q.5 Evaluation schemes designed for each of the course are sufficient for providing proper assessment.



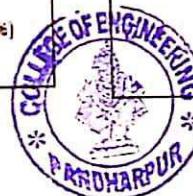
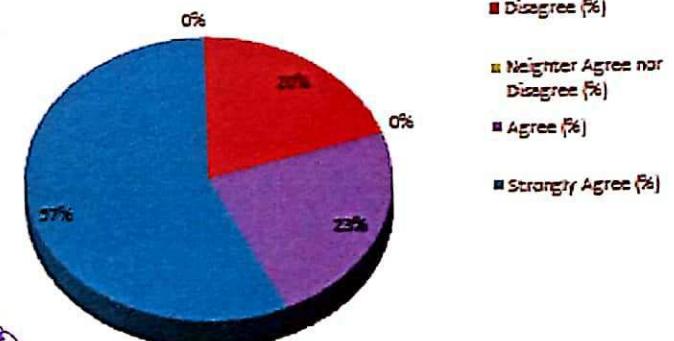
Q.6 The course / syllabus has good balance between theoretical concepts of syllabus and Practical/Experiments.



Q.7 The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.

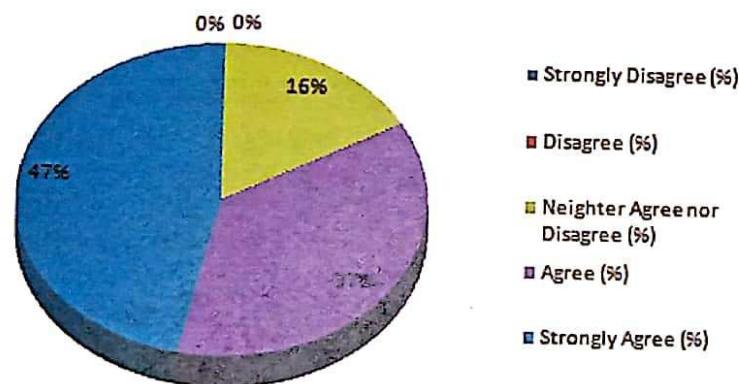


Q.8 Current syllabus tries to build the opportunities in terms of employability and entrepreneurial attitude amongst the students.

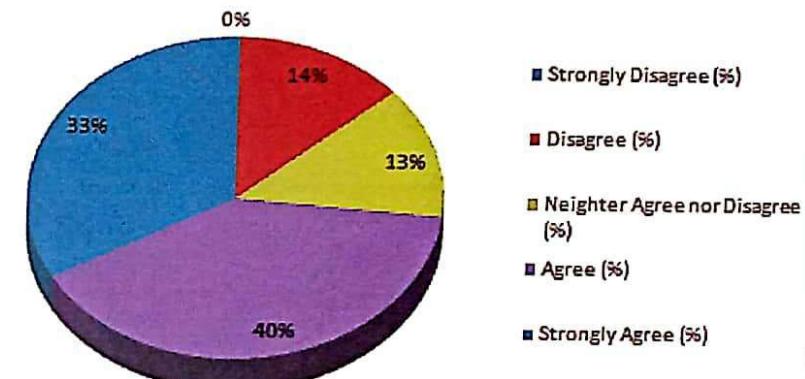


## Analysis of Stakeholders Feedback Report

**Q.9 The books/ reference materials prescribed are relevant, updated and appropriate.**



**Q.10 The course/syllabus has enabled to update knowledge and perspective in the subject area.**



## Analysis of Stakeholders Feedback Report

### G. Analysis of Alumni Feedback on the Syllabus and its Transaction at the Institution

Total Responses =30

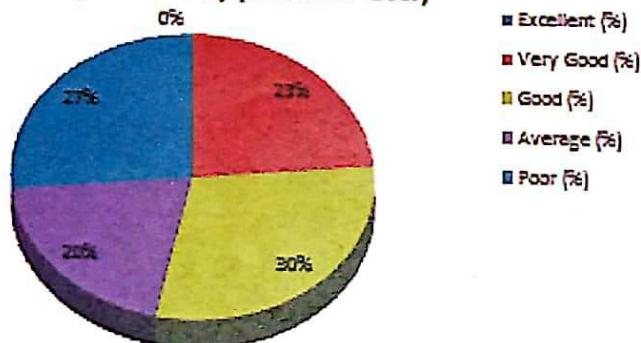
Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
1.	Course was well structured to achieve the learning outcomes (good balance of lectures, learning resources, tutorials, practical etc.)	0.0	23.3	30.0	20.0	26.7
2.	The syllabus was need based; Emphasis on fundamentals, coverage of modern/ advanced topics, good balance between theory and application.	0.0	6.7	10.0	33.3	50.0
3.	Current syllabus is adequately covers contemporary issues/emerging global and national trends in engineering.	0.0	6.7	10.0	50.0	33.3
4.	The syllabus meets the expectations in terms of learning values, skills, knowledge, attitude, analytical abilities, applicability, relevance and practical orientation to real life situations.	0.0	6.7	10.0	50.0	33.3
5.	Expectations about the course (Enhance by skill/knowledge base, better career opportunities etc) were achievable.	0.0	6.7	6.7	40.0	46.7
6.	The books prescribed/listed as reference materials are relevant, updated and appropriate.	16.7	33.3	16.7	16.7	16.7
7.	The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.	10.0	13.3	16.7	26.7	33.3
8.	The course enabled to build your future career.	0.0	13.3	16.7	50.0	20.0



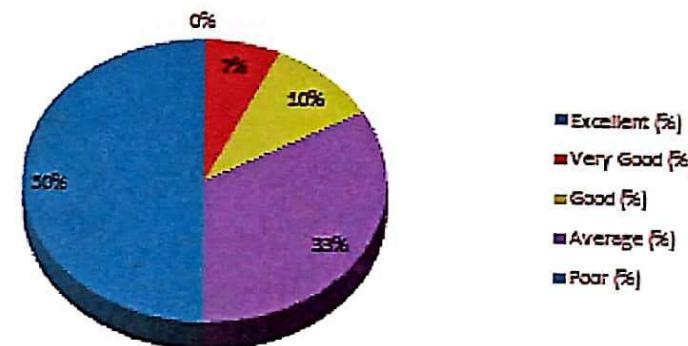
*B. R. Gangane*  
 PRINCIPAL,  
 College of Engineering  
 PANDHARPUR

## Analysis of Stakeholders Feedback Report

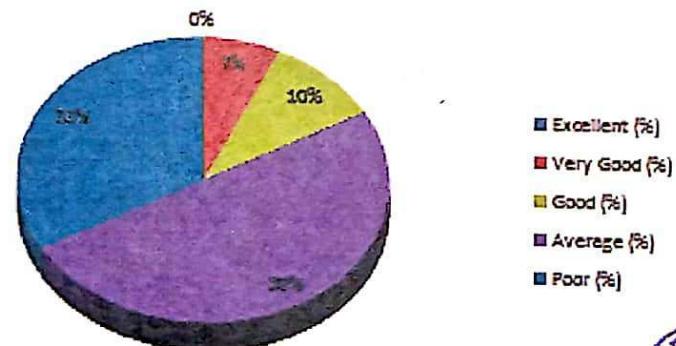
Q.1 Course was well structured to achieve the learning outcomes (good balance of lectures, learning resources, tutorials, practical etc.)



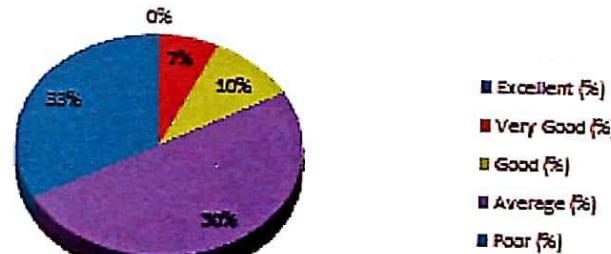
Q.2 The syllabus was need based; Emphasis on fundamentals, coverage of modern/ advanced topics, good balance between theory and application.



Q.3 Current syllabus is adequately covers contemporary issues/emerging global and national trends in engineering.

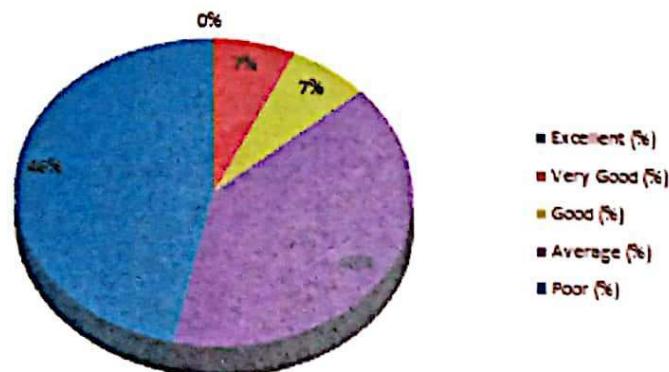


Q.4 The syllabus meets the expectations in terms of learning values, skills, knowledge, attitude, analytical abilities, applicability, relevance and practical orientation to real life situations.

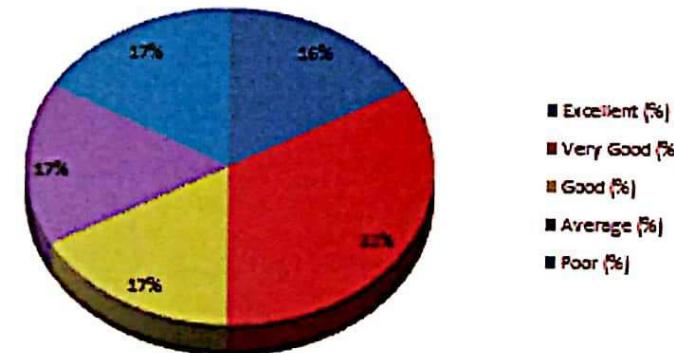


## Analysis of Stakeholders Feedback Report

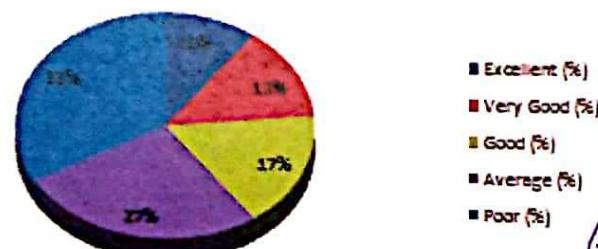
Q.5 Expectations about the course (Enhance by skill/knowledge base, better career opportunities etc) were achievable.



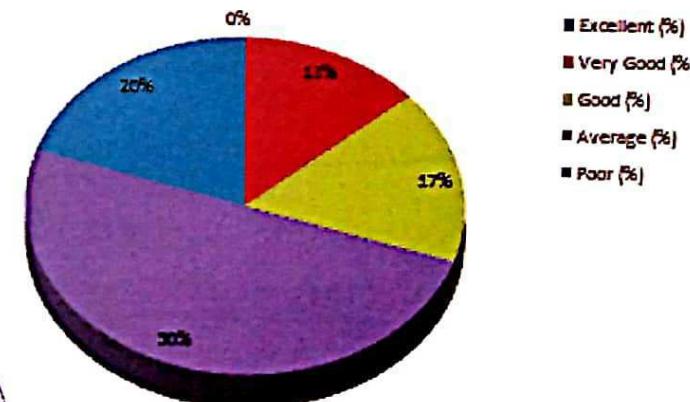
Q.6 The books prescribed/listed as reference materials are relevant, updated and appropriate.



Q.7 The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.



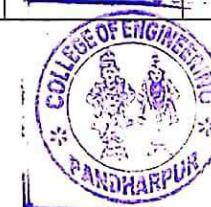
Q.8 The course enabled to build your future career.



## H. Analysis of Employers Feedback on the Syllabus and its Transaction at the Institution

Total Responses =06

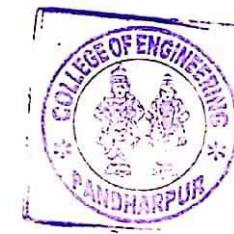
Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
1.	Current Curriculum of all Programmes is relevant for employability.	0.0	16.7	33.3	16.7	33.3
2.	Curriculum bridges the gap between Industry and Academic.	0.0	33.3	16.7	33.3	16.7
3.	Current curriculum offers need based and meets to the expectations of industry.	0.0	16.7	50.0	16.7	16.7
4.	Curriculum has enriched content which fulfils required orientation human resources.	0.0	16.7	33.3	16.7	33.3
5.	Curriculum has application based courses which caters the needs of industry in terms of knowledge, skills, attitude and innovation.	0.0	33.3	33.3	16.7	16.7
6.	Curriculum caters the need of industry and helps in building efficiency and effectiveness of organization.	16.7	16.7	33.3	33.3	0.0
7.	Curriculum helps in building an entrepreneurial motive which helps to the students for starting their business enterprise.	0.0	33.3	33.3	33.3	0.0



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PRINCIPAL,  
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## Analysis of Stakeholders Feedback Report

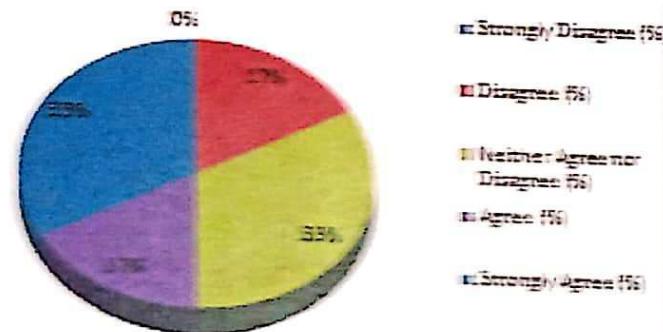
Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
8.	Curriculum helps in edifice ability and motivation to the students for involvement in social activities.	0.0	16.7	16.7	50.0	16.7
9	Curriculum exhibits to the students in communication skills and ability to function effectively as an individual as well as part of a team.	0.0	0.0	50.0	50.0	0.0
10	Curriculum show signs of independent thinking of students and appreciation of ethical values in their career.	0.0	25.0	75.0	0.0	0.0



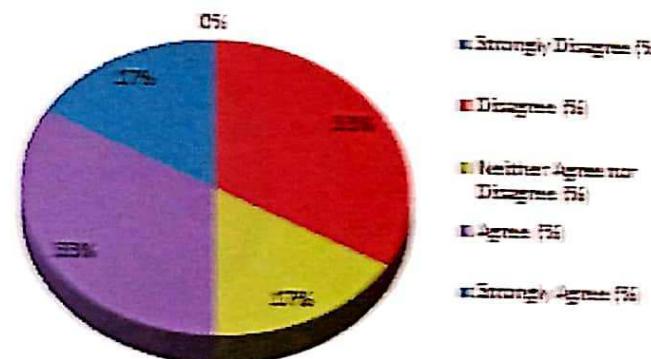
*B. R. Patil*  
 PRINCIPAL,  
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## Analysis of Stakeholders Feedback Report

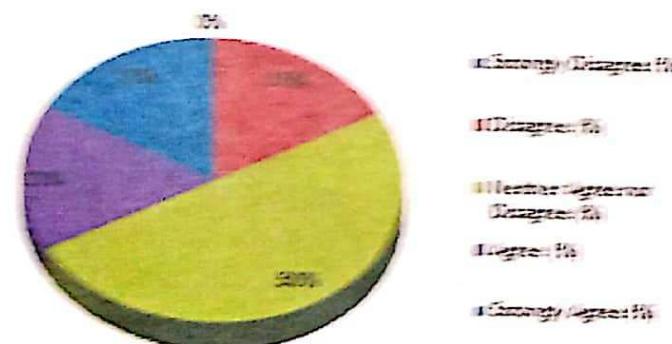
Q.1 Current Curriculum of all Programmes is relevant for employability.



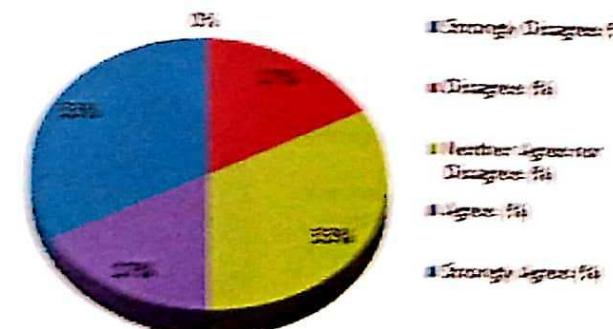
Q.2 Curriculum bridges the gap between Industry and Academic.



Q.3 Current curriculum offers need based and meets to the expectations of industry.

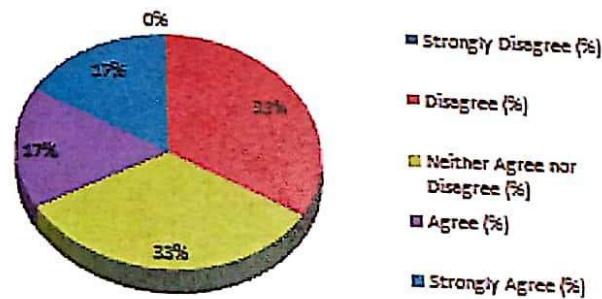


Q.4 Curriculum has enriched content which fulfills required orientation human resources

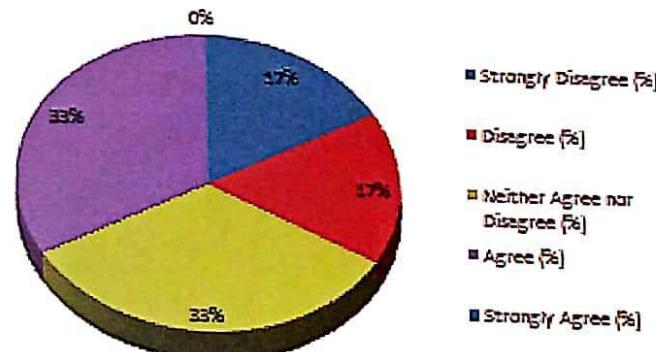


## Analysis of Stakeholders Feedback Report

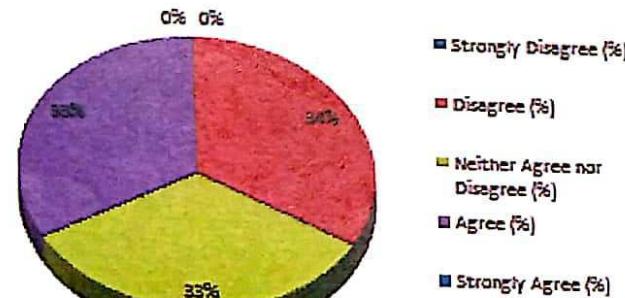
Q.5 Curriculum has application based courses which caters the needs of industry in terms of knowledge, skills, attitude and innovation.



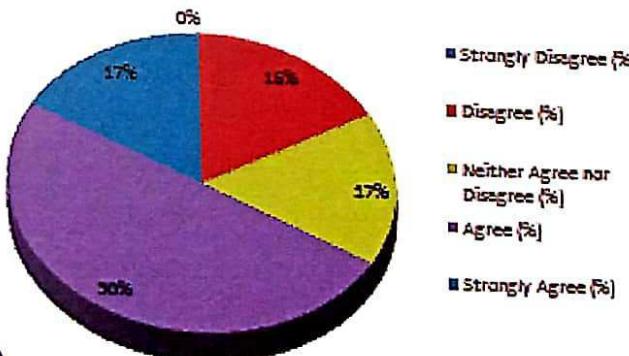
Q.6 Curriculum caters the need of industry and helps in building efficiency and effectiveness of organization.



Q.7 Curriculum helps in building an entrepreneurial motive which helps to the students for starting their business enterprise.

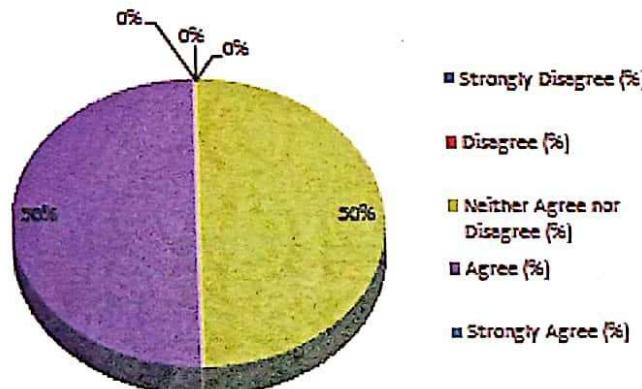


Q.8 Curriculum helps in edifice ability and motivation to the students for involvement in social activities.

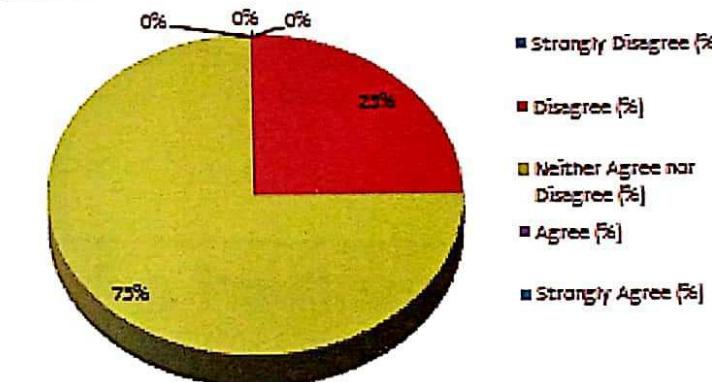


## Analysis of Stakeholders Feedback Report

**Q.9 Curriculum exhibits to the students in communication skills and ability to function effectively as an individual as well as part of a team.**



**Q.10 Curriculum show signs of independent thinking of students and appreciation of ethical values in their career.**



**SVERI's College of Engineering, Pandharpur**

**Department of MBA**

**Analysis of Feedback Report**

**Academic Year: 2019-2020**

# Analysis of Stakeholders Feedback Report

## A. Analysis of Students' Feedback Report:

**Total Responses =54**

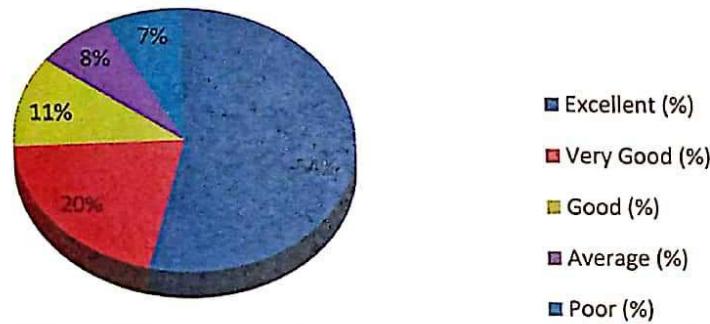
Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
1.	Rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course?	53.7	20.4	11.1	7.4	7.4
2.	How do you rate the relevance of the units in syllabus significant to the course?	55.6	27.8	9.3	5.6	1.9
3.	How do you rate the electives offered in relation to the technological advancements?	64.8	24.1	9.3	1.9	0.0
4.	Rate the courses in terms of extra learning or self learning considering the design of the courses?	53.7	25.9	16.7	1.9	1.9
5.	Rate the theoretical concepts of syllabus supported by Practical/Experiments?	61.1	22.2	14.8	1.9	0.0
6.	Rate the contents included in the syllabus with reference to professional and higher level learning skills?	46.3	37.0	13.0	3.7	0.0
7.	How do you rate the evaluation scheme designed for each of the course?	51.9	20.4	24.1	3.7	0.0
8.	How do you rate the sequence of the courses in the curriculum?	53.7	29.6	11.1	5.6	0.0
9.	Rate the satisfaction level of curriculum design as per the requirement of employability / higher learning?	33.3	40.7	20.4	5.6	0.0
10.	How do you rate the books listed as reference materials are relevant, updated and appropriate?	48.1	40.7	11.1	0.0	0.0



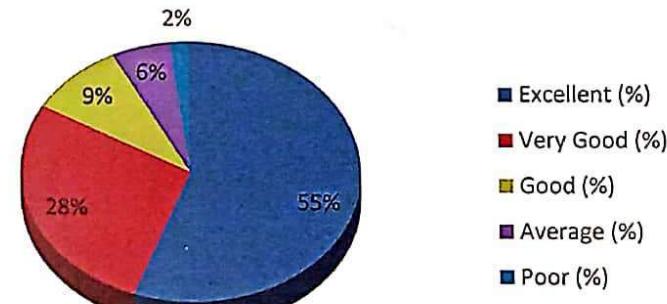
*D. Pange*  
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 College of Engineering  
 PANDHARPUR

## Analysis of Stakeholders Feedback Report

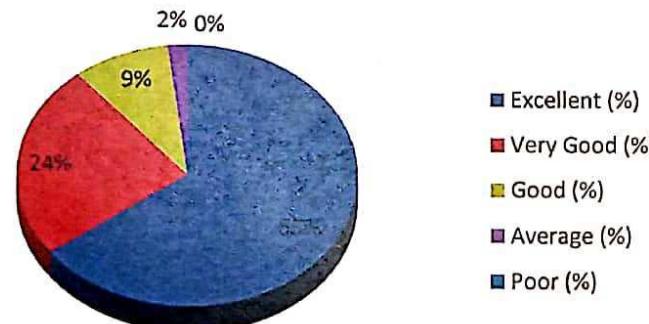
**Q.1 Rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course?**



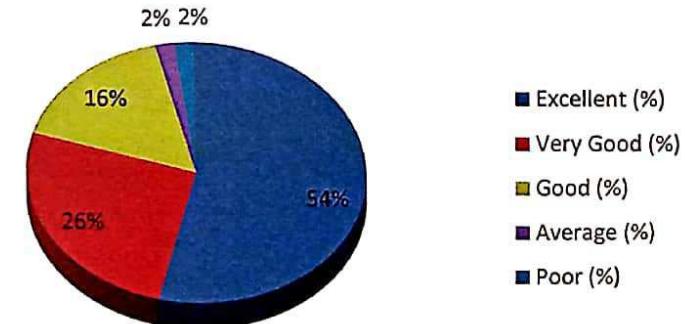
**Q.2 How do you rate the relevance of the units in syllabus significant to the course?**



**Q.3 How do you rate the electives offered in relation to the technological advancements?**

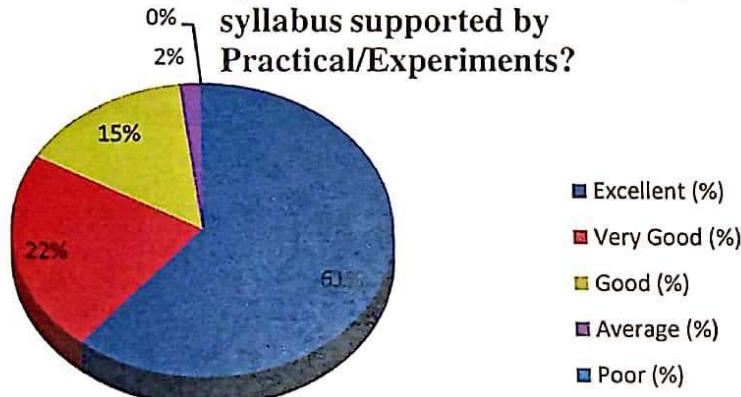


**Q.4 Rate the courses in terms of extra learning or self learning considering the design of the courses?**

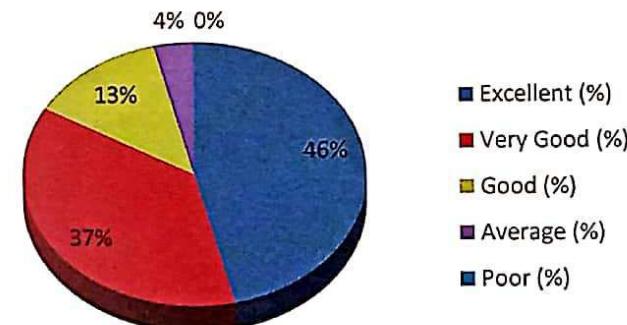


## Analysis of Stakeholders Feedback Report

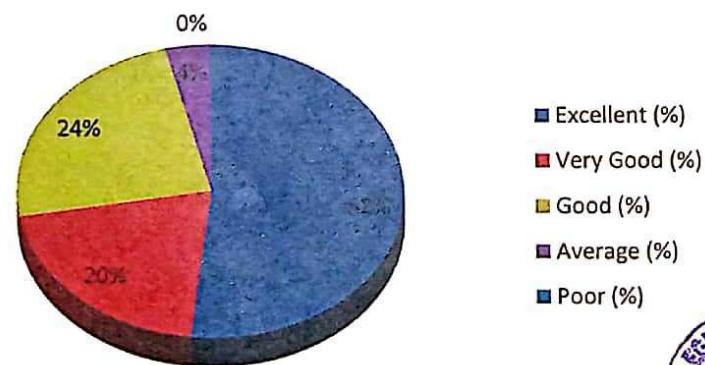
**Q.5 Rate the theoretical concepts of syllabus supported by Practical/Experiments?**



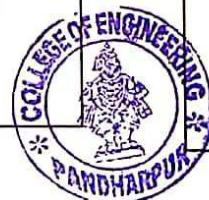
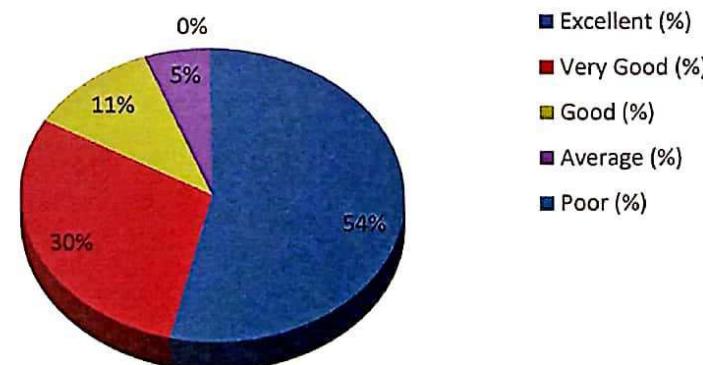
**Q.6 Rate the contents included in the syllabus with reference to professional and higher level learning skills?**



**Q.7 How do you rate the evaluation scheme designed for each of the course?**

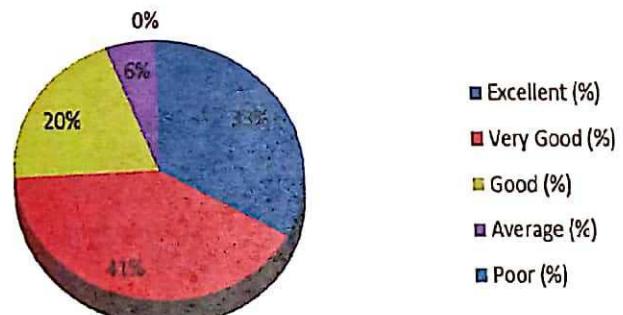


**Q.8 How do you rate the sequence of the courses in the curriculum?**

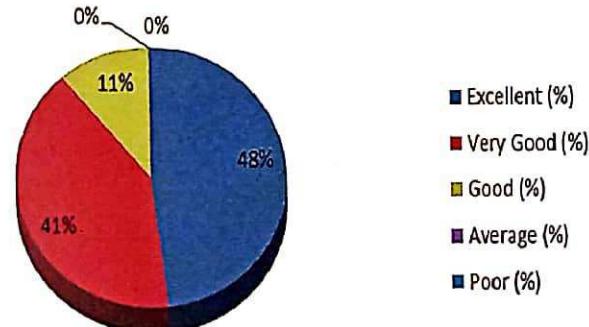


## Analysis of Stakeholders Feedback Report

Q.9 Rate the satisfaction level of curriculum design as per the requirement of employability / higher learning?



Q.10 How do you rate the books listed as reference materials are relevant, updated and appropriate?

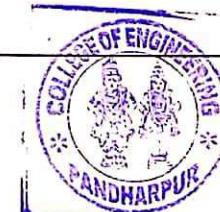


## Analysis of Stakeholders Feedback Report

### B. Analysis of Teachers' Feedback on the Syllabus and its Transaction at the Institution

Total Responses = 7

Sr. No.	Particular	Strongly Disagree (%)	Disagree (%)	Neither Agree nor Disagree (%)	Agree (%)	Strongly Agree (%)
1.	The course objectives and outcomes of the current syllabi are well defined and clear for delivery of course.	0.0	0.0	14.3	71.4	14.3
2.	The current content of syllabus is fulfilling the need of industry, sufficient to bridge the gap between industry and academics.	0.0	14.3	0.0	28.6	57.1
3.	The course is well organized (e.g. teaching hours, the sequence of the courses in the curriculum).	0.0	0.0	14.3	42.9	42.9
4.	Emphasis on fundamentals, coverage of modern/advanced topics, good balance between theory and application.	0.0	0.0	0.0	42.9	57.1
5.	Evaluation schemes designed for each of the course are sufficient for providing proper assessment.	0.0	0.0	0.0	85.7	14.3
6.	The course/ syllabus has good balance between theoretical concepts of syllabus and Practical/Experiments.	0.0	0.0	0.0	42.9	57.1



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## Analysis of Stakeholders Feedback Report

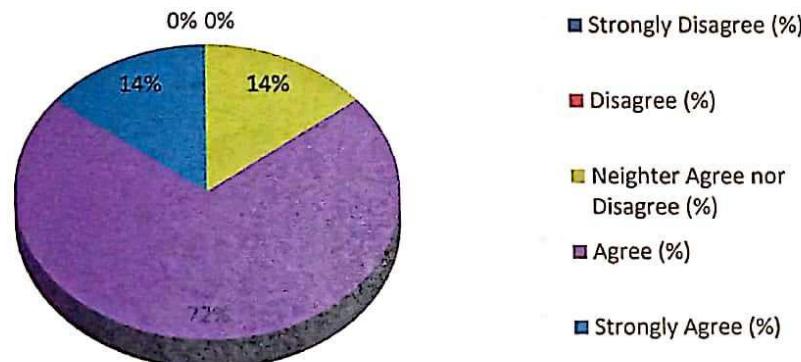
Sr. No.	Particular	Strongly Disagree (%)	Disagree (%)	Neither Agree nor Disagree (%)	Agree (%)	Strongly Agree (%)
7.	The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.	0.0	0.0	0.0	85.7	14.3
8.	Current syllabus tries to build the opportunities in terms of employability and entrepreneurial attitude amongst the students.	0.0	0.0	14.3	42.9	42.9
9.	The books/ reference materials prescribed are relevant, updated and appropriate.	0.0	0.0	0.0	71.4	28.6
10.	The course/syllabus has enabled to update knowledge and perspective in the subject area.	0.0	0.0	0.0	57.1	42.9



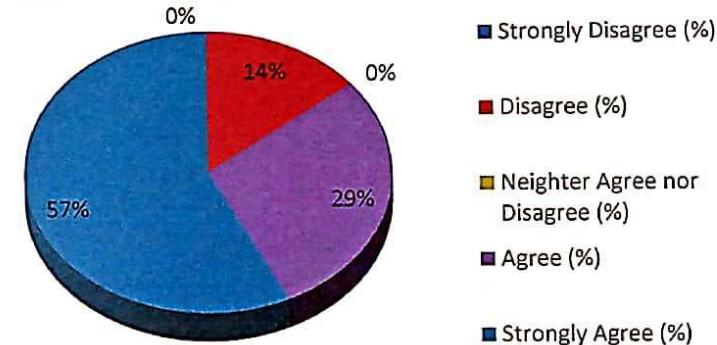
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## Analysis of Stakeholders Feedback Report

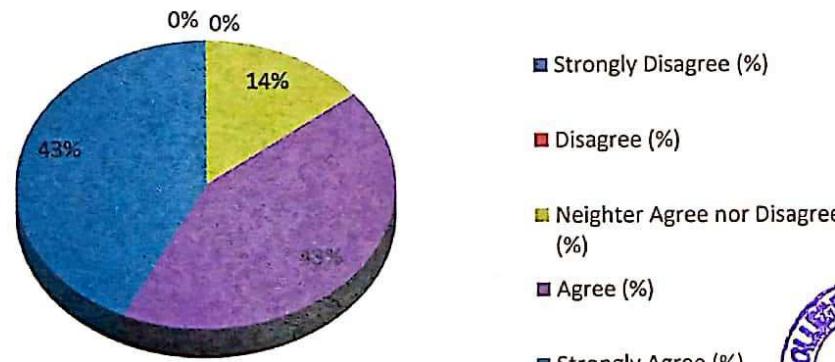
**Q.1 The course objectives and outcomes of the current syllabi are well defined and clear for delivery of course.**



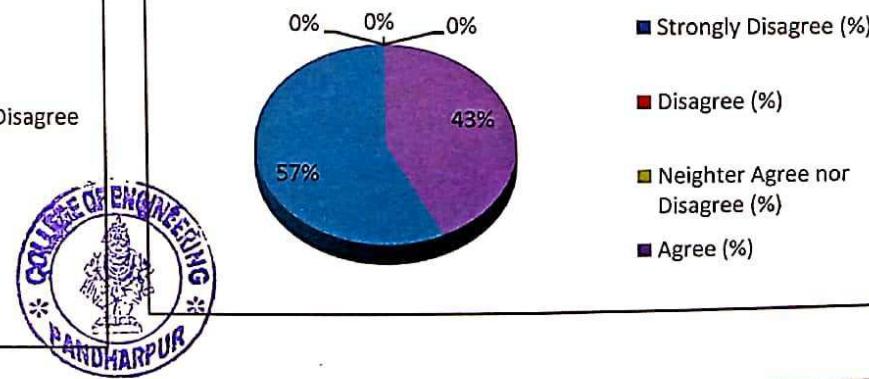
**Q.2 The current content of syllabus is fulfilling the need of industry, sufficient to bridge the gap between industry and academics.**



**Q.3 The course is well organized (e.g. teaching hours, the sequence of the courses in the curriculum).**

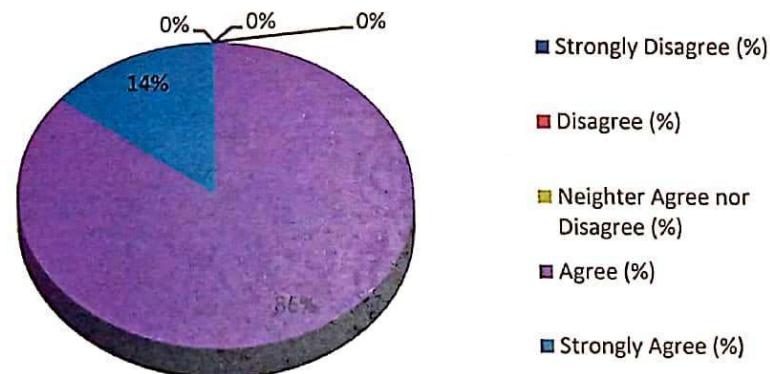


**Q.4 Emphasis on fundamentals, coverage of modern/advanced topics, good balance between theory and application.**

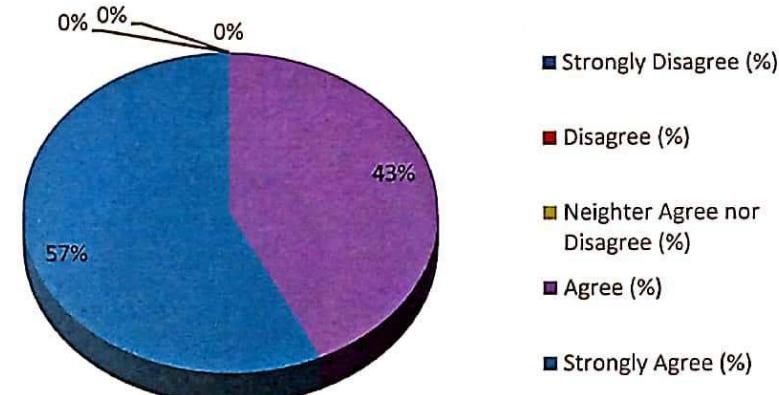


## Analysis of Stakeholders Feedback Report

**Q.5 Evaluation schemes designed for each of the course are sufficient for providing proper assessment.**

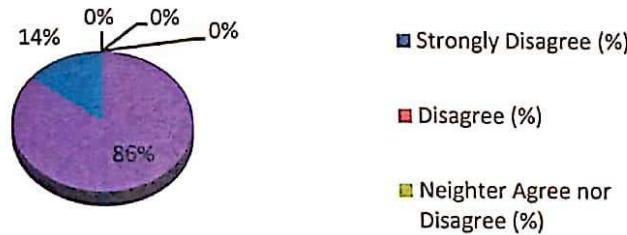


**Q.6 The course/ syllabus has good balance between theoretical concepts of syllabus and Practical/Experiments.**

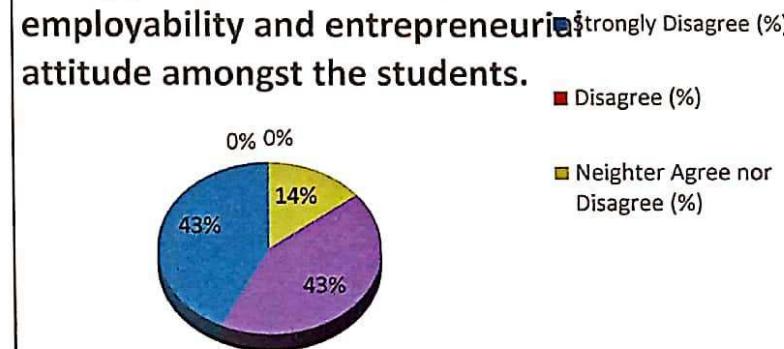


## Analysis of Stakeholders Feedback Report

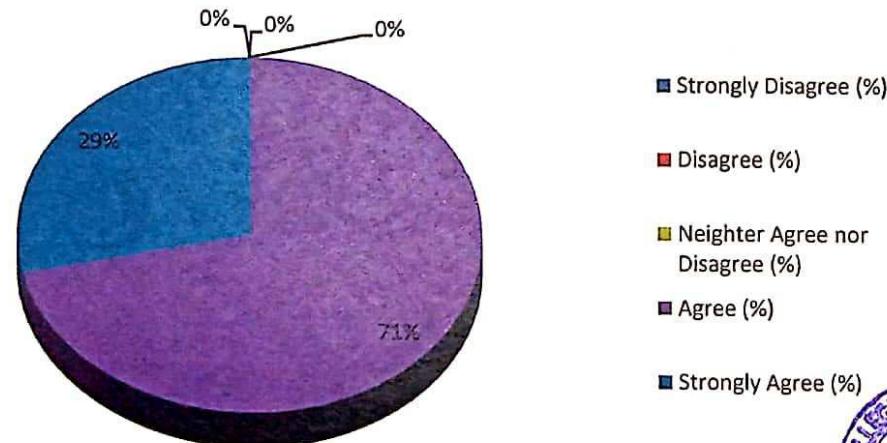
**Q.7 The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social...**



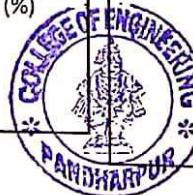
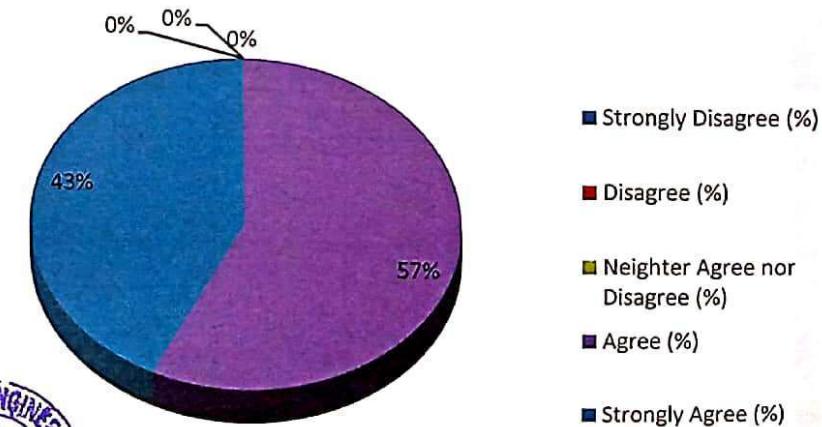
**Q.8 Current syllabus tries to build the opportunities in terms of employability and entrepreneurial attitude amongst the students.**



**Q.9 The books/ reference materials prescribed are relevant, updated and appropriate.**



**Q.10 The course/syllabus has enabled to update knowledge and perspective in the subject area.**



## Analysis of Stakeholders Feedback Report

### C. Analysis of Alumni Feedback on the Syllabus and its Transaction at the Institution

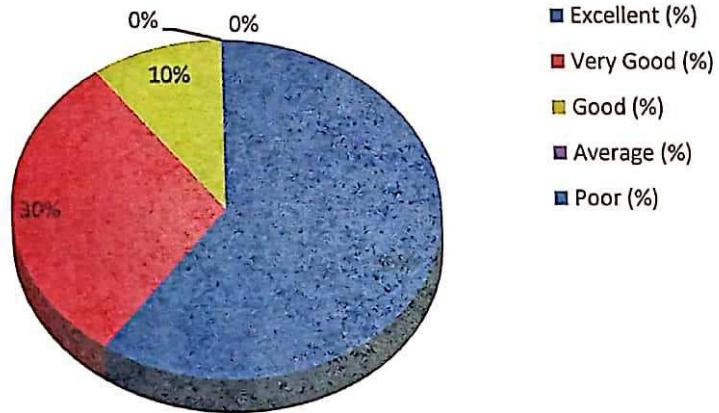
Total Responses = 10

Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
1.	Course was well structured to achieve the learning outcomes (good balance of lectures, learning resources, tutorials, practical etc.)	60.0	30.0	10.0	0.0	0.0
2.	The syllabus was need based; Emphasis on fundamentals, coverage of modern/ advanced topics, good balance between theory and application.	30.0	30.0	30.0	10.0	0.0
3.	Current syllabus is adequately covers contemporary issues/emerging global and national trends in engineering.	30.0	30.0	30.0	10.0	0.0
4.	The syllabus meets the expectations in terms of learning values, skills, knowledge, attitude, analytical abilities, applicability, relevance and practical orientation to real life situations.	30.0	30.0	40.0	0.0	0.0
5.	Expectations about the course (Enhance by skill/knowledge base, better career opportunities etc) were achievable.	30.0	30.0	40.0	0.0	0.0
6.	The books prescribed/listed as reference materials are relevant, updated and appropriate.	70.0	30.0	0.0	0.0	0.0
7.	The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.	10.0	30.0	50.0	10.0	0.0
8.	The course enabled to build your future career.	50.0	30.0	20.0	0.0	0.0

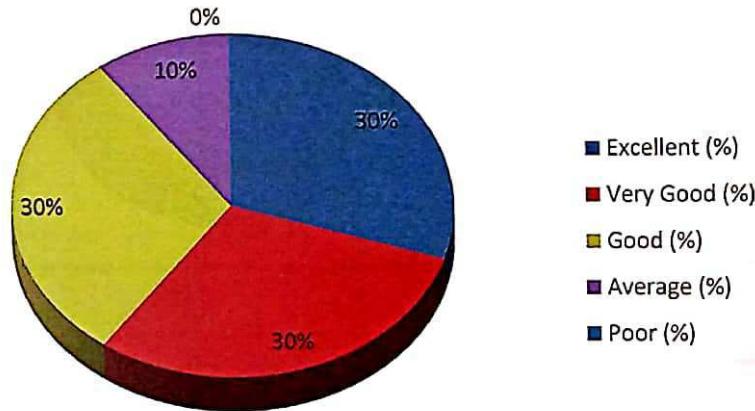


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**Q.1 Course was well structured to achieve the learning outcomes (good balance of lectures, learning resources, tutorials, practical etc.)**

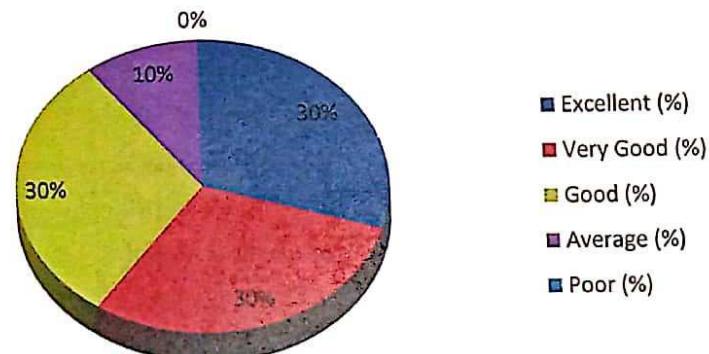


**Q.2 The syllabus was need based; Emphasis on fundamentals, coverage of modern/ advanced topics, good balance between theory and application.**

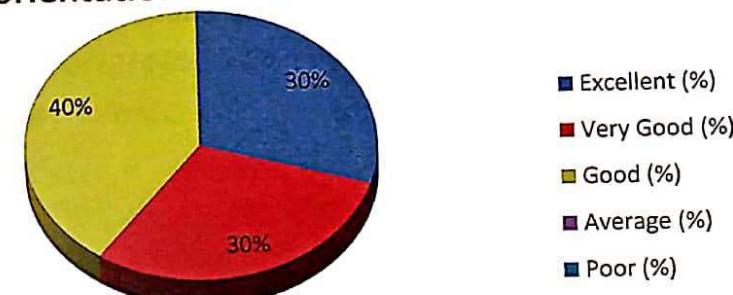


## Analysis of Stakeholders Feedback Report

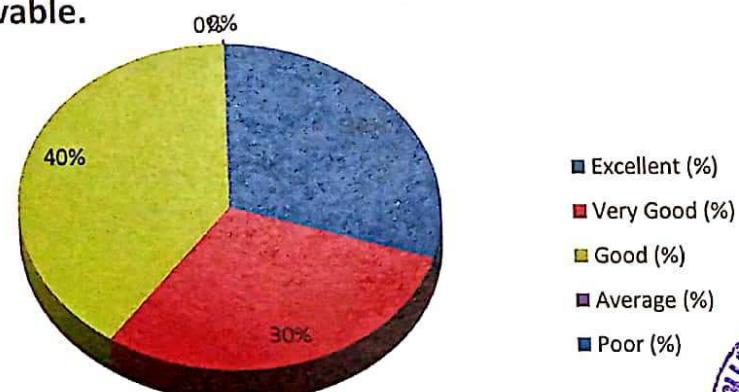
Q.3 Current syllabus is adequately covers contemporary issues/emerging global and national trends in engineering.



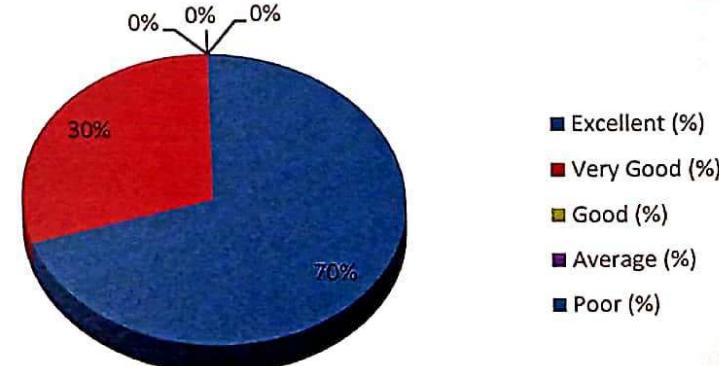
Q.4 The syllabus meets the expectations in terms of learning values, skills, knowledge, attitude, analytical abilities, applicability, relevance and practical orientation to real life situations.



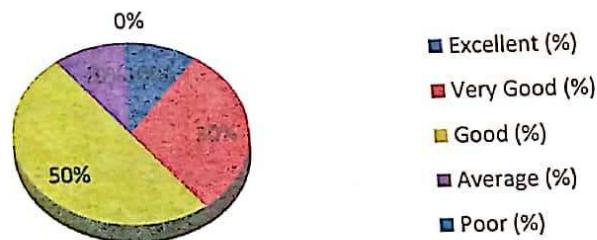
Q.5 Expectations about the course (Enhance by skill/knowledge base, better career opportunities etc) were achievable.



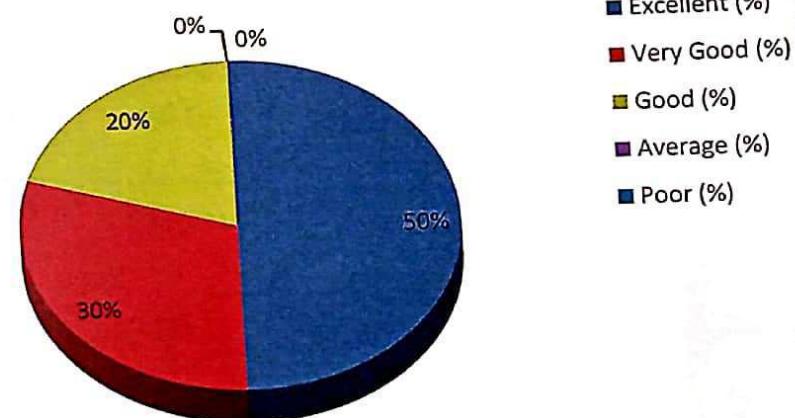
Q.6 The books prescribed/listed as reference materials are relevant, updated and appropriate.



Q.7 The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.



Q.8 The course enabled to build your future career.



**D. Analysis of Employers Feedback on the Syllabus and its Transaction at the Institution**

Total Responses =05

Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
1.	Current Curriculum of all Programmes is relevant for employability.	20.0	0.0	20.0	60.0	0.0
2.	Curriculum bridges the gap between Industry and Academic.	0.0	40.0	60.0	0.0	0.0
3.	Current curriculum offers need based and meets to the expectations of industry.	0.0	0.0	0.0	60.0	40.0
4.	Curriculum has enriched content which fulfils required orientation human resources.	0.0	0.0	0.0	60.0	40.0
5.	Curriculum has application based courses which caters the needs of industry in terms of knowledge, skills, attitude and innovation.	0.0	0.0	20.0	60.0	20.0
6.	Curriculum caters the need of industry and helps in building efficiency and effectiveness of organization.	0.0	0.0	0.0	60.0	40.0
7.	Curriculum helps in building an entrepreneurial motive which helps to the students for starting their business enterprise.	0.0	0.0	0.0	40.0	60.0
8.	Curriculum helps in edifice ability and motivation to the students for involvement in social activities.	0.0	0.0	0.0	80.0	20.0



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## Analysis of Stakeholders Feedback Report

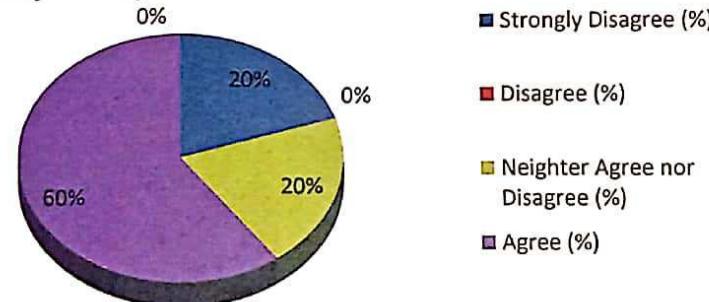
Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
9.	Curriculum exhibits to the students in communication skills and ability to function effectively as an individual as well as part of a team.	0.0	0.0	0.0	40.0	60.0
10.	Curriculum show signs of independent thinking of students and appreciation of ethical values in their career.	0.0	0.0	0.0	60.0	40.0



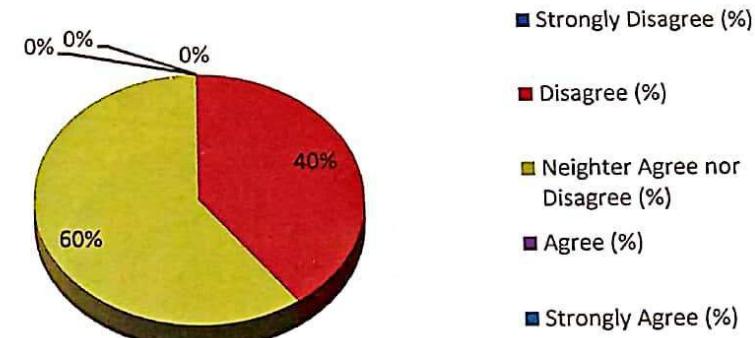
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## Analysis of Stakeholders Feedback Report

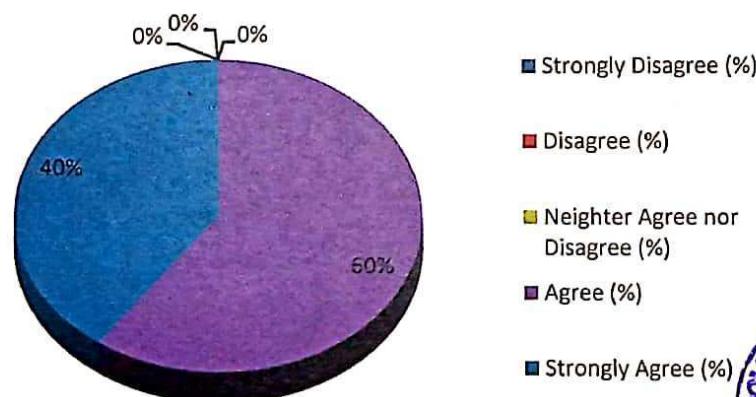
**Q.1 Current Curriculum of all Programmes is relevant for employability.**



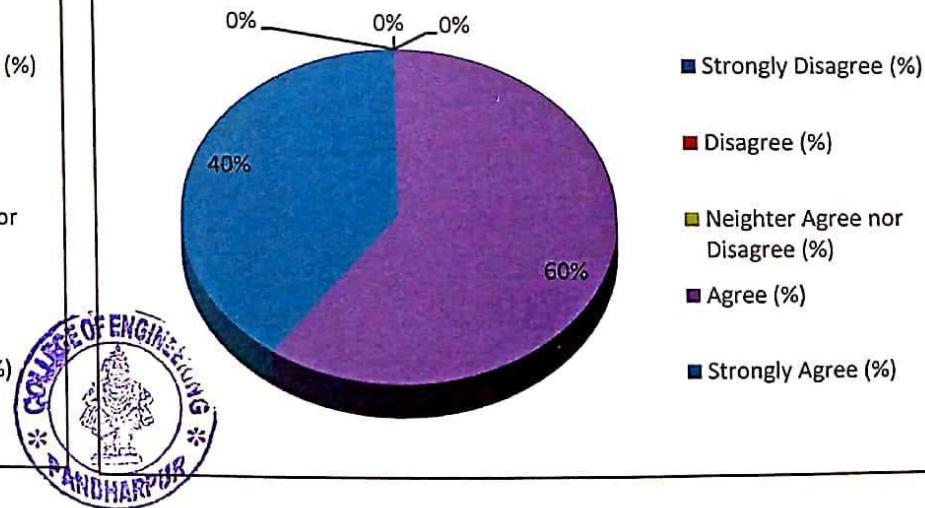
**Q.2 Curriculum bridges the gap between Industry and Academic.**



**Q.3 Current curriculum offers need based and meets to the expectations of industry.**

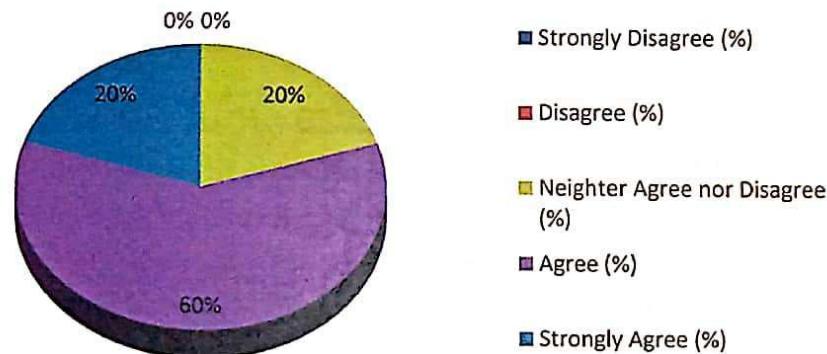


**Q.4 Curriculum has enriched content which fulfils required orientation human resources.**

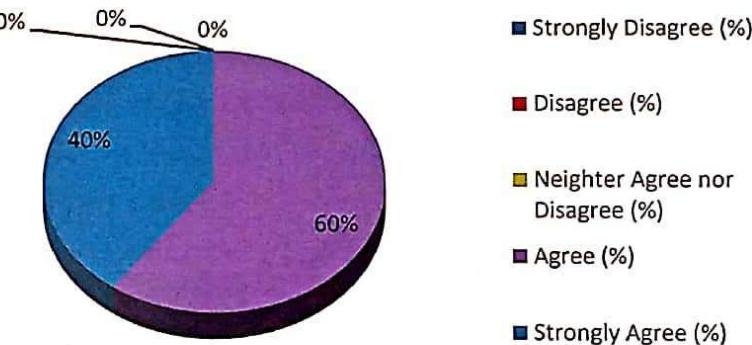


## Analysis of Stakeholders Feedback Report

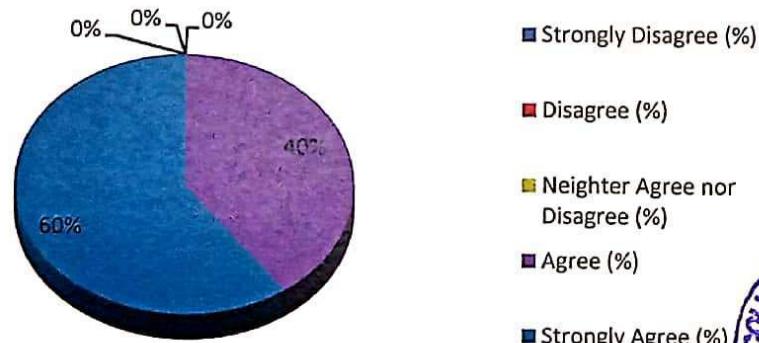
**Q.5 Curriculum has application based courses which caters the needs of industry in terms of knowledge, skills, attitude and innovation.**



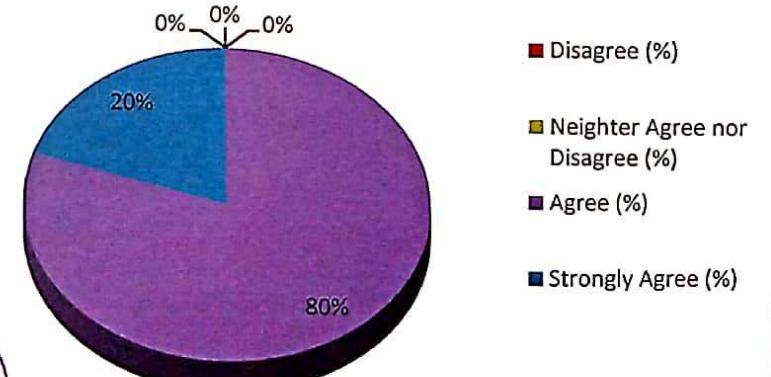
**Q.6 Curriculum caters the need of industry and helps in building efficiency and effectiveness of organization..**



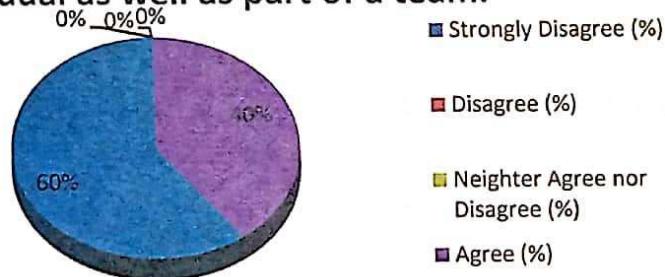
**Q.7 Curriculum helps in building an entrepreneurial motive which helps to the students for starting their business enterprise.**



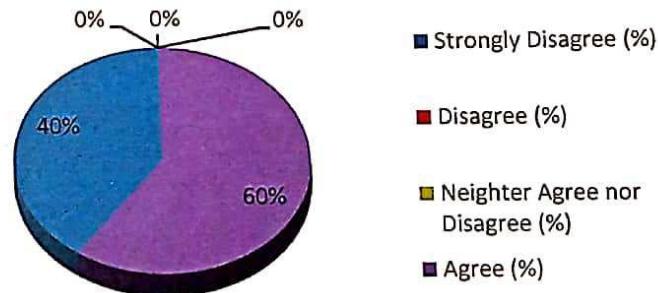
**Q.8 Curriculum helps in edifice ability and motivation to the students for involvement in social activities.**



**Q.9 Curriculum exhibits to the students in communication skills and ability to function effectively as an individual as well as part of a team.**



**Q.10 Curriculum show signs of independent thinking of students and appreciation of ethical values in their career.**



**SVERI's College of Engineering, Pandharpur**

**Department of MBA**

**Analysis of Feedback Report**

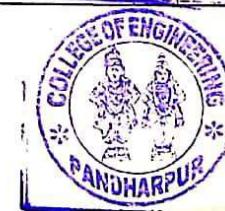
**Academic Year: 2018-2019**

## Analysis of Stakeholders Feedback Report

### A. Analysis of Students' Feedback Report:

Total Responses =53

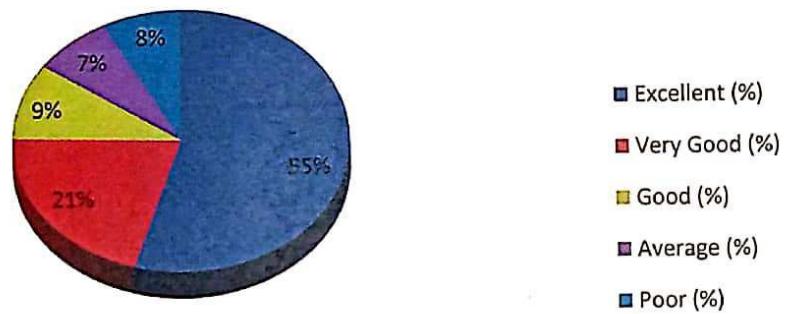
Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
1.	Rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course?	54.7	20.8	9.4	7.5	7.5
2.	How do you rate the relevance of the units in syllabus significant to the course?	30.2	43.4	11.3	9.4	5.7
3.	How do you rate the electives offered in relation to the technological advancements?	28.3	49.1	17.0	3.8	1.9
4.	Rate the courses in terms of extra learning or self learning considering the design of the courses?	24.5	39.6	24.5	7.5	3.8
5.	Rate the theoretical concepts of syllabus supported by Practical/Experiments?	30.2	34.0	30.2	3.8	1.9
6.	Rate the contents included in the syllabus with reference to professional and higher level learning skills?	30.2	34.0	30.2	3.8	1.9
7.	How do you rate the evaluation scheme designed for each of the course?	28.3	39.6	26.4	5.7	0.0
8.	How do you rate the sequence of the courses in the curriculum?	28.3	45.3	18.9	5.7	1.9
9.	Rate the satisfaction level of curriculum design as per the requirement of employability / higher learning?	34.0	41.5	20.8	3.8	0.0
10.	How do you rate the books listed as reference materials are relevant, updated and appropriate?	20.8	56.6	15.1	1.9	5.7



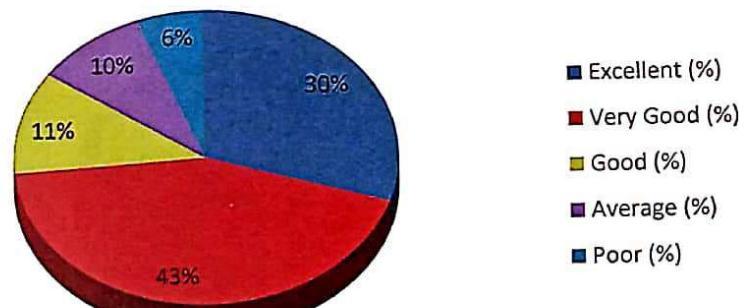
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## Analysis of Stakeholders Feedback Report

Q.1 Rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course?

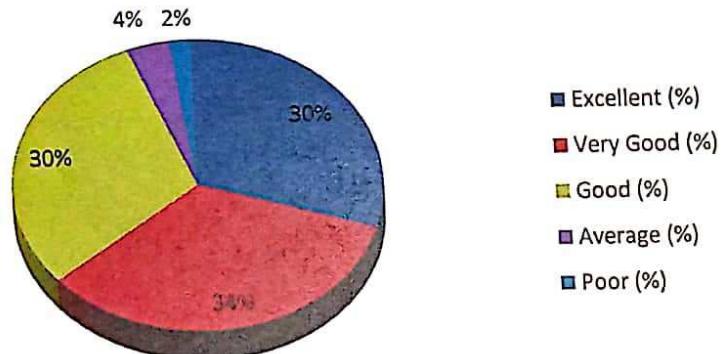


Q.2 How do you rate the relevance of the units in syllabus significant to the course?

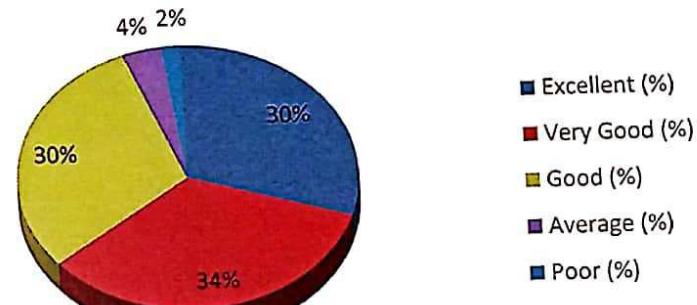


## Analysis of Stakeholders Feedback Report

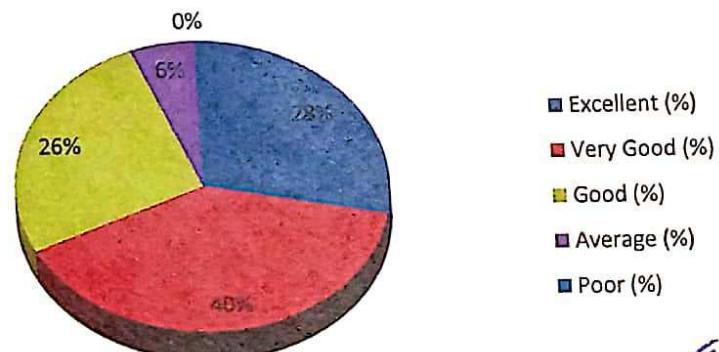
**Q.5 Rate the theoretical concepts of syllabus supported by Practical/Experiments?**



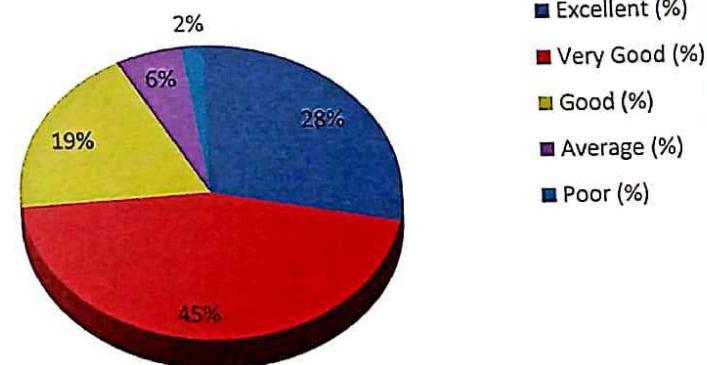
**Q.6 Rate the contents included in the syllabus with reference to professional and higher level learning skills?**



**Q.7 How do you rate the evaluation scheme designed for each of the course?**

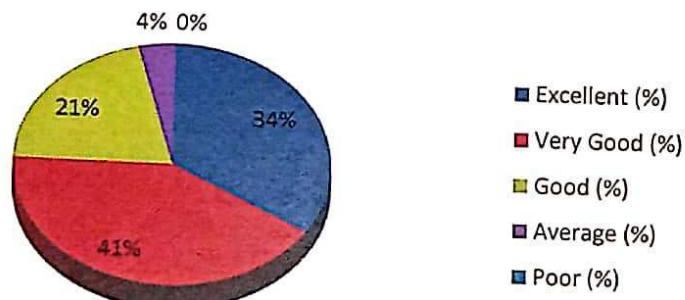


**Q.8 How do you rate the sequence of the courses in the curriculum?**

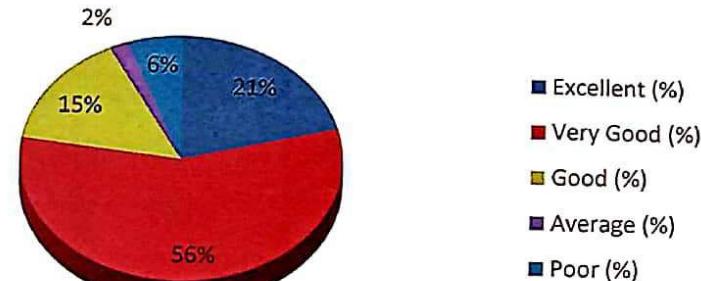


## Analysis of Stakeholders Feedback Report

**Q.9 Rate the satisfaction level of curriculum design as per the requirement of employability / higher learning?**



**Q.10 How do you rate the books listed as reference materials are relevant, updated and appropriate?**

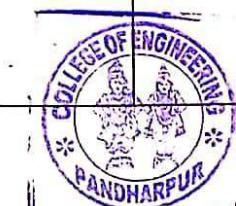


## Analysis of Stakeholders Feedback Report

### B. Analysis of Teachers' Feedback on the Syllabus and its Transaction at the Institution

**Total Responses =20**

Sr. No.	Particular	Strongly Disagree (%)	Disagree (%)	Neither Agree nor Disagree (%)	Agree (%)	Strongly Agree (%)
1.	The course objectives and outcomes of the current syllabi are well defined and clear for delivery of course.	0.0	0.0	0.0	85.7	14.3
2.	The current content of syllabus is fulfilling the need of industry, sufficient to bridge the gap between industry and academics.	0.0	14.3	0.0	42.9	42.9
3.	The course is well organized (e.g. teaching hours, the sequence of the courses in the curriculum).	0.0	14.3	14.3	28.6	42.9
4.	Emphasis on fundamentals, coverage of modern/advanced topics, good balance between theory and application.	0.0	0.0	0.0	71.4	28.6
5.	Evaluation schemes designed for each of the course are sufficient for providing proper assessment.	0.0	0.0	14.3	57.1	28.6
6.	The course/ syllabus has good balance between theoretical concepts of syllabus and Practical/Experiments.	0.0	0.0	0.0	42.9	57.1
7.	The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.	0.0	0.0	0.0	85.7	14.3
8.	Current syllabus tries to build the opportunities in terms of employability and entrepreneurial attitude amongst the students.	0.0	0.0	0.0	42.9	57.1

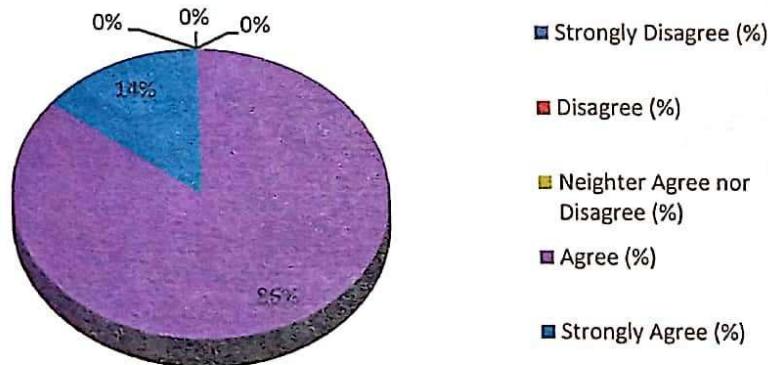


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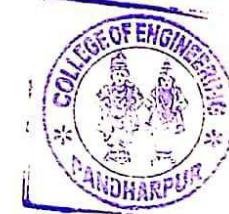
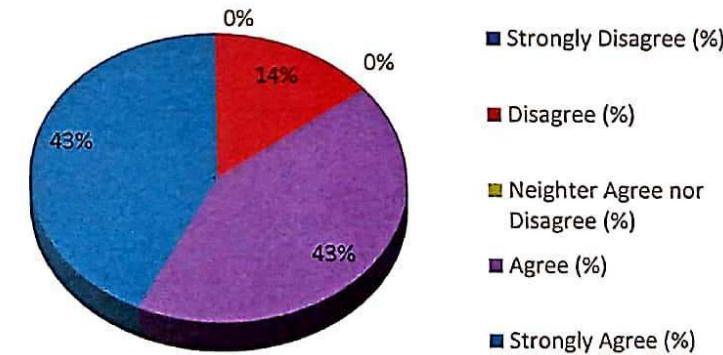
## Analysis of Stakeholders Feedback Report

Sr. No.	Particular	Strongly Disagree (%)	Disagree (%)	Neither Agree nor Disagree (%)	Agree (%)	Strongly Agree (%)
9.	The books/ reference materials prescribed are relevant, updated and appropriate.	0.0	0.0	0.0	85.7	14.3
10.	The course/syllabus has enabled to update knowledge and perspective in the subject area.	0.0	0.0	0.0	42.9	57.1

**Q.1 The course objectives and outcomes of the current syllabi are well defined and clear for delivery of course.**



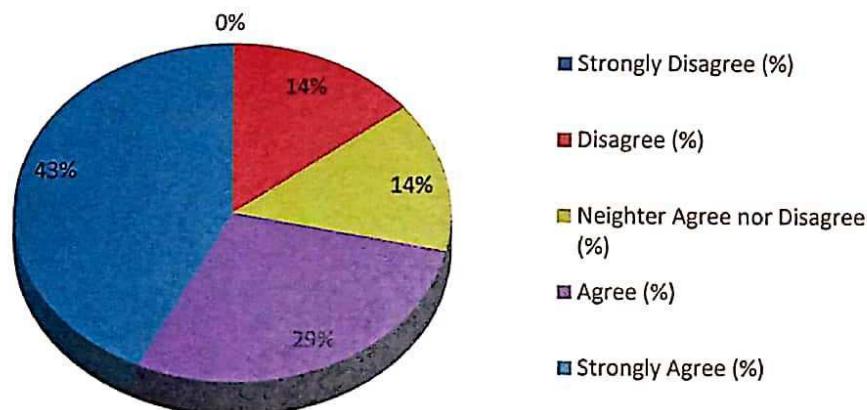
**Q.2 The current content of syllabus is fulfilling the need of industry, sufficient to bridge the gap between industry and academics.**



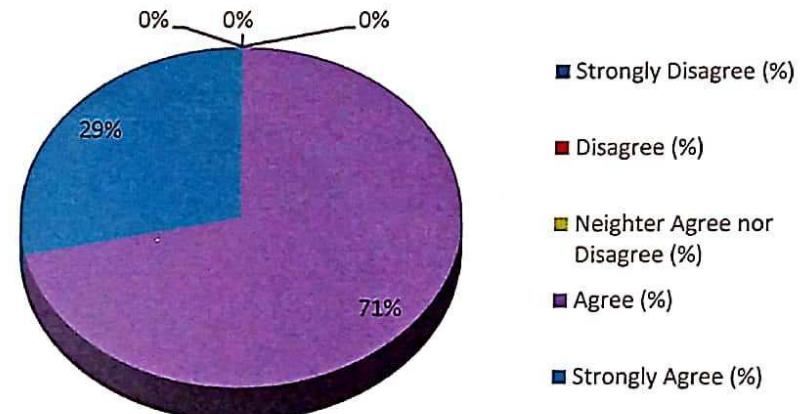
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## Analysis of Stakeholders Feedback Report

**Q.3 The course is well organized (e.g. teaching hours, the sequence of the courses in the curriculum).**

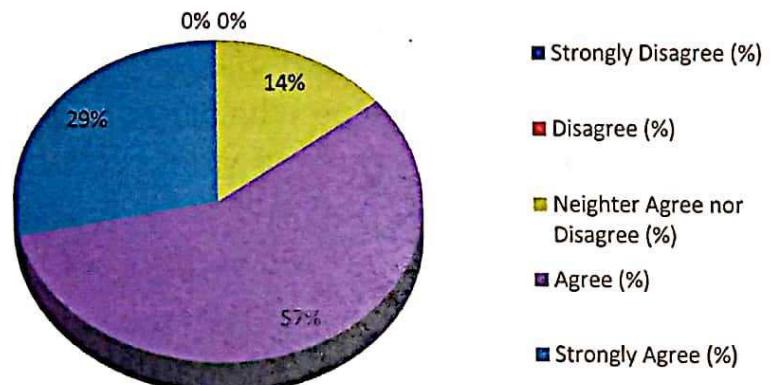


**Q.4 Emphasis on fundamentals, coverage of modern/advanced topics, good balance between theory and application.**

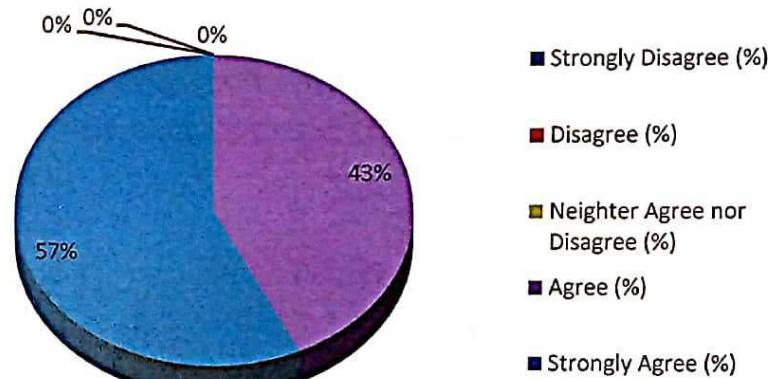


## Analysis of Stakeholders Feedback Report

**Q.5 Evaluation schemes designed for each of the course are sufficient for providing proper assessment.**

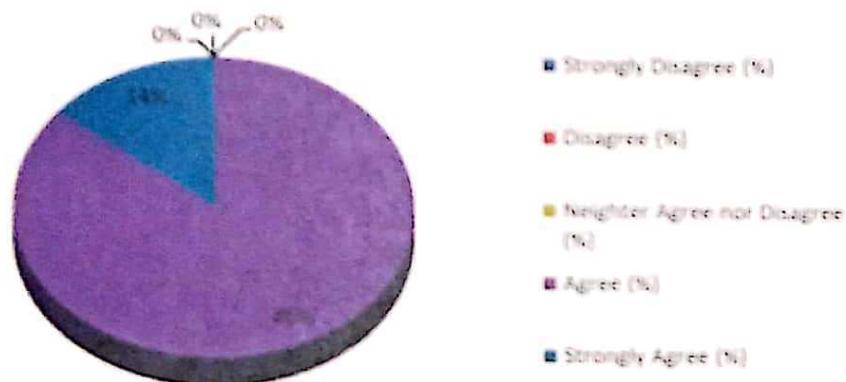


**Q.6 The course/ syllabus has good balance between theoretical concepts of syllabus and Practical/Experiments.**

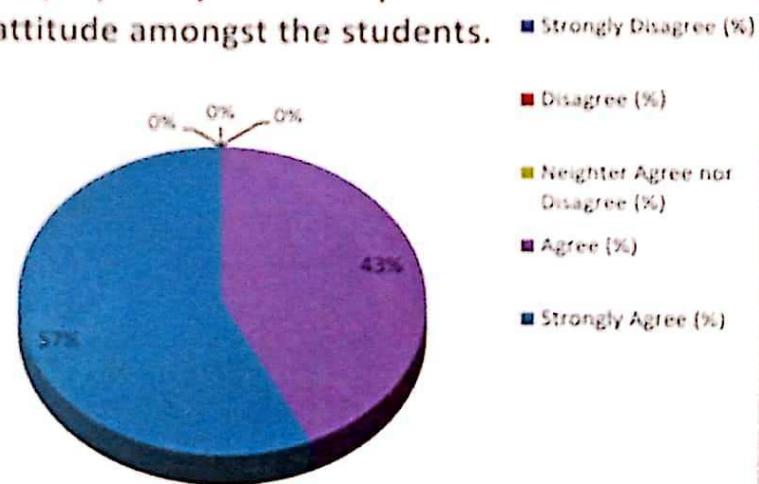


## Analysis of Stakeholders Feedback Report

Q.7 The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.

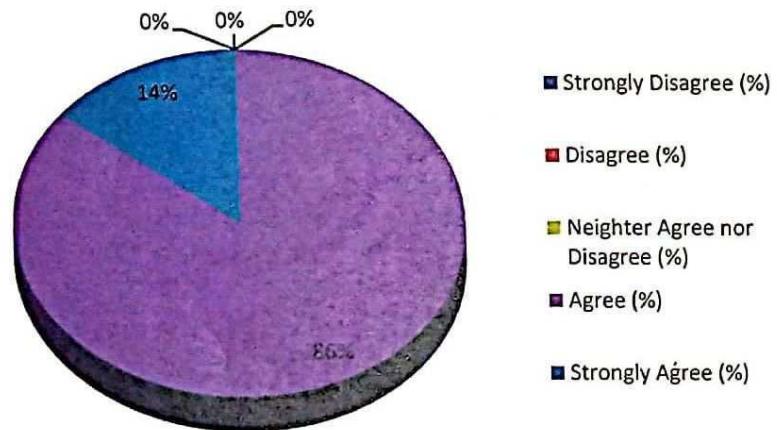


Q.8 Current syllabus tries to build the opportunities in terms of employability and entrepreneurial attitude amongst the students.

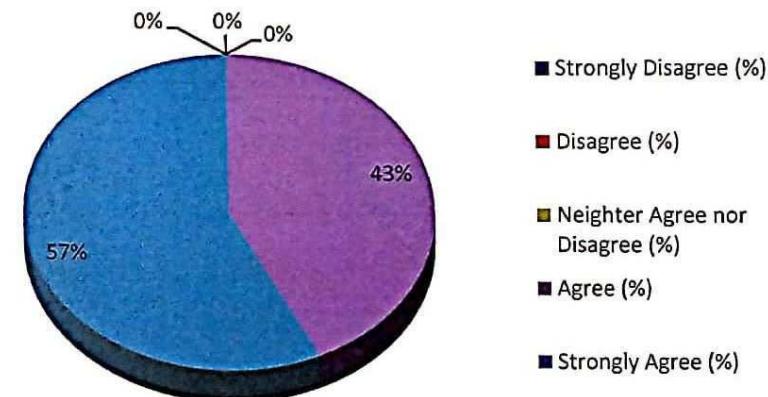


## Analysis of Stakeholders Feedback Report

**Q.9 The books/ reference materials prescribed are relevant, updated and appropriate.**



**Q.10 The course/syllabus has enabled to update knowledge and perspective in the subject area.**

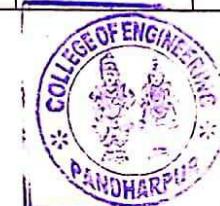


## Analysis of Stakeholders Feedback Report

### C. Analysis of Alumni Feedback on the Syllabus and its Transaction at the Institution

Total Responses =10

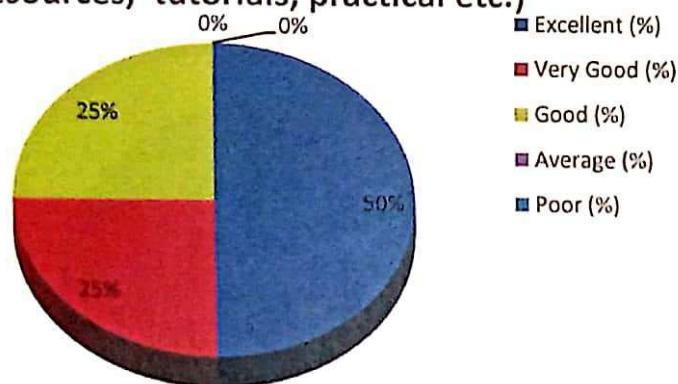
Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
1.	Course was well structured to achieve the learning outcomes (good balance of lectures, learning resources, tutorials, practical etc.)	60.0	30.0	30.0	0.0	0.0
2.	The syllabus was need based; Emphasis on fundamentals, coverage of modern/ advanced topics, good balance between theory and application.	20.0	10.0	70.0	0.0	0.0
3.	Current syllabus is adequately covers contemporary issues/emerging global and national trends in engineering.	30.0	20.0	50.0	0.0	0.0
4.	The syllabus meets the expectations in terms of learning values, skills, knowledge, attitude, analytical abilities, applicability, relevance and practical orientation to real life situations.	30.0	40.0	30.0	0.0	0.0
5.	Expectations about the course (Enhance by skill/knowledge base, better career opportunities etc) were achievable.	20.0	20.0	50.0	10.0	0.0
6.	The books prescribed/listed as reference materials are relevant, updated and appropriate.	60.0	20.0	20.0	0.0	0.0
7.	The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.	10.0	20.0	50.0	10.0	10.0
8.	The course enabled to build your future career.	20.0	40.0	40.0	0.0	0.0



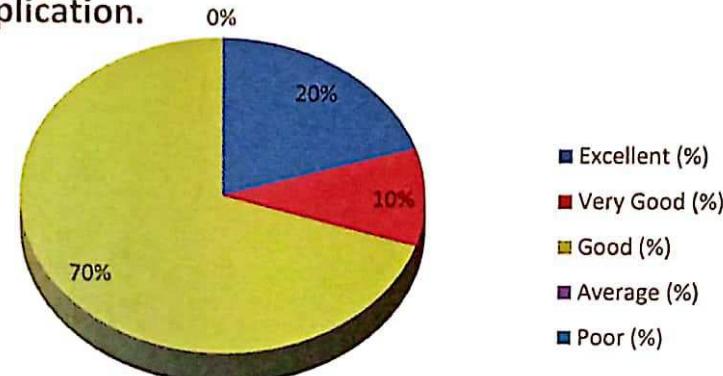
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## Analysis of Stakeholders Feedback Report

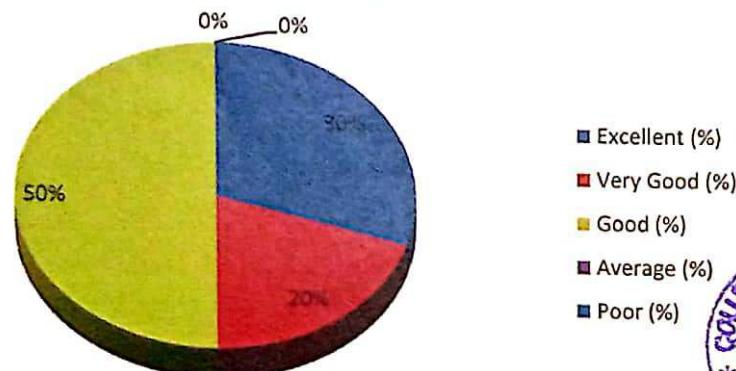
**Q.1 Course was well structured to achieve the learning outcomes (good balance of lectures, learning resources, tutorials, practical etc.)**



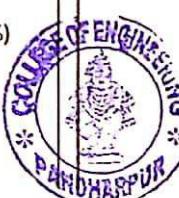
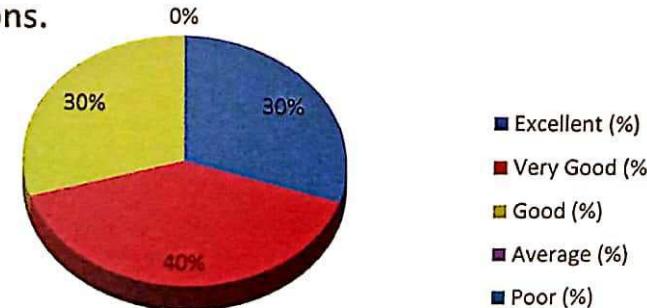
**Q.2 The syllabus was need based; Emphasis on fundamentals, coverage of modern/ advanced topics, good balance between theory and application.**



**Q.3 Current syllabus is adequately covers contemporary issues/emerging global and national trends in engineering.**

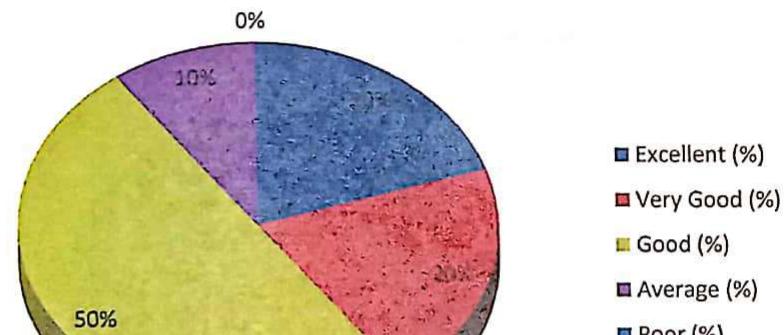


**Q.4 The syllabus meets the expectations in terms of learning values, skills, knowledge, attitude, analytical abilities, applicability, relevance and practical orientation to real life situations.**

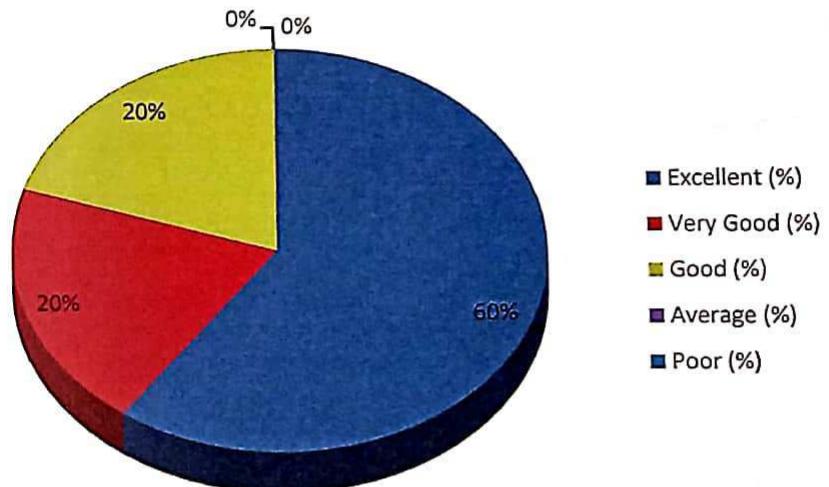


## Analysis of Stakeholders Feedback Report

**Q.5 Expectations about the course  
(Enhance by skill/knowledge base, better  
career opportunities etc) were achievable.**

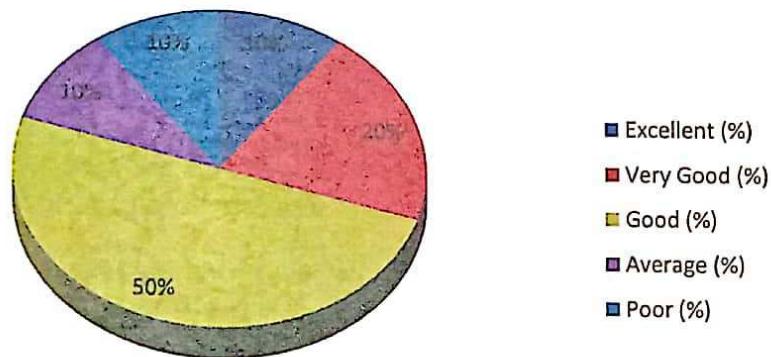


**Q.6 The books prescribed/listed as  
reference materials are relevant, updated  
and appropriate.**

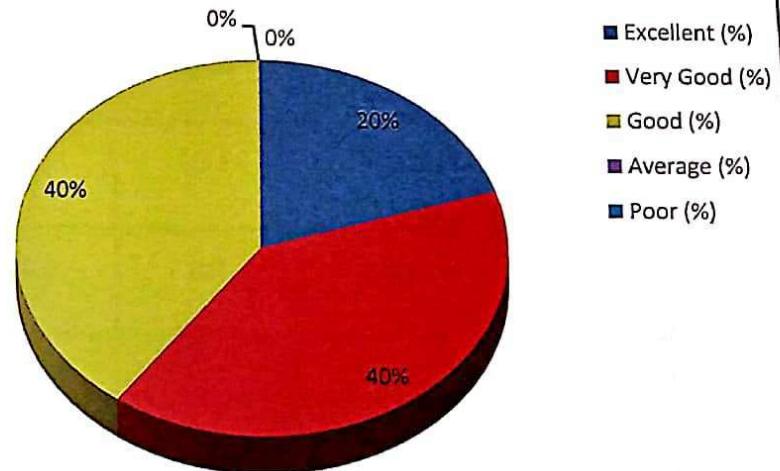


## Analysis of Stakeholders Feedback Report

**Q.7 The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.**



**Q.8 The course enabled to build your future career.**

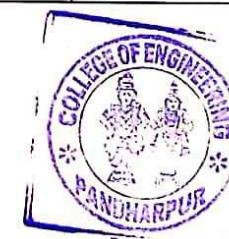


# Analysis of Stakeholders Feedback Report

## Analysis of Employers Feedback on the Syllabus and its Transaction at the Institution

Total Responses =05

Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
1.	Current Curriculum of all Programmes is relevant for employability.	0.0	0.0	20.0	60.0	20.0
2.	Curriculum bridges the gap between Industry and Academic.	20.0	20.0	0.0	20.0	40.0
3.	Current curriculum offers need based and meets to the expectations of industry.	0.0	20.0	0.0	60.0	20.0
4.	Curriculum has enriched content which fulfils required orientation human resources.	0.0	0.0	20.0	60.0	20.0
5.	Curriculum has application based courses which caters the needs of industry in terms of knowledge, skills, attitude and innovation.	0.0	0.0	20.0	60.0	20.0
6.	Curriculum caters the need of industry and helps in building efficiency and effectiveness of organization.	0.0	20.0	0.0	40.0	40.0
7.	Curriculum helps in building an entrepreneurial motive which helps to the students for starting their business enterprise.	0.0	20.0	20.0	20.0	40.0

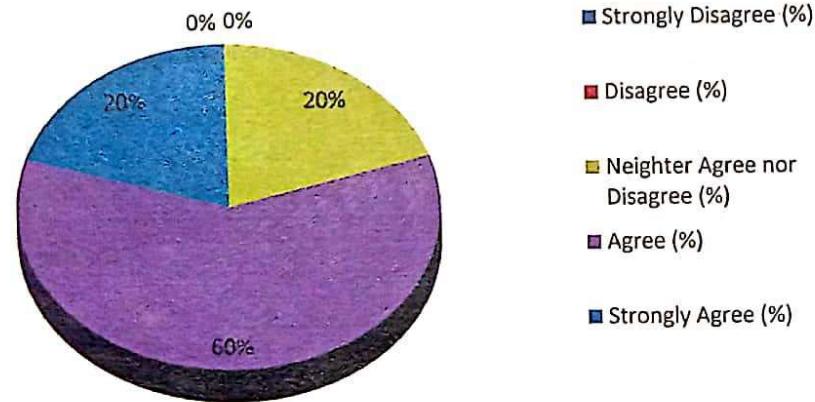


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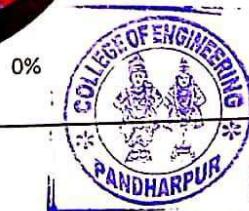
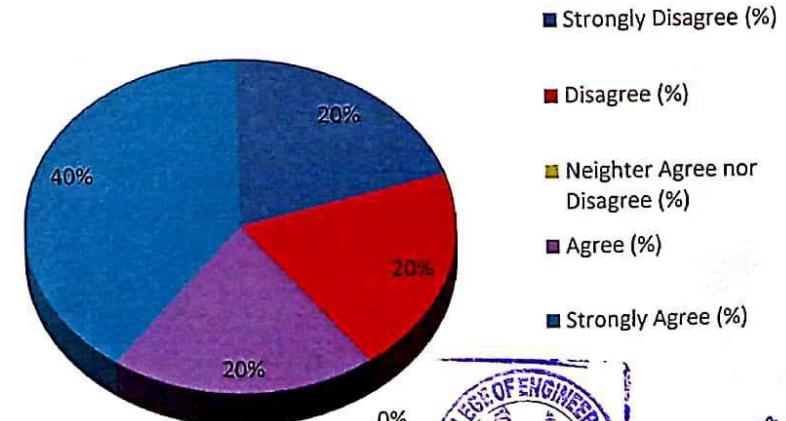
## Analysis of Stakeholders Feedback Report

Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
8.	Curriculum helps in edifice ability and motivation to the students for involvement in social activities.	0.0	20.0	20.0	20.0	40.0
9	Curriculum exhibits to the students in communication skills and ability to function effectively as an individual as well as part of a team.	0.0	0.0	20.0	40.0	40.0
10	Curriculum show signs of independent thinking of students and appreciation of ethical values in their career.	0.0	20.0	0.0	40.0	40.0

**Q.1 Current Curriculum of all Programmes is relevant for employability.**



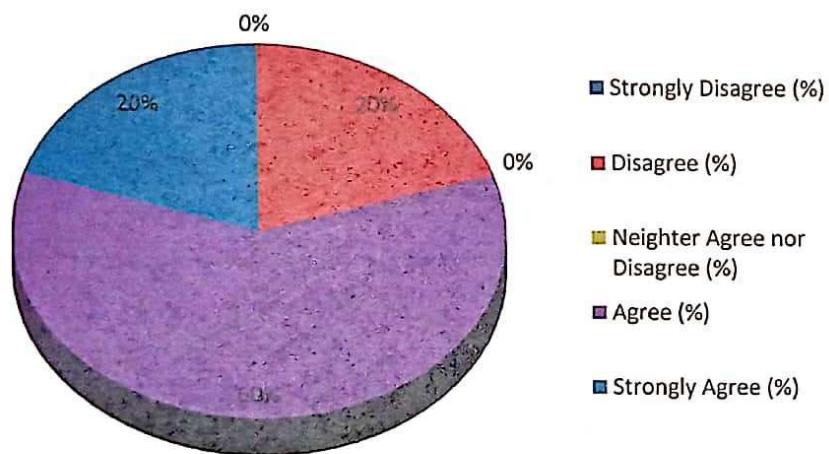
**Q.2 Curriculum bridges the gap between Industry and Academic.**



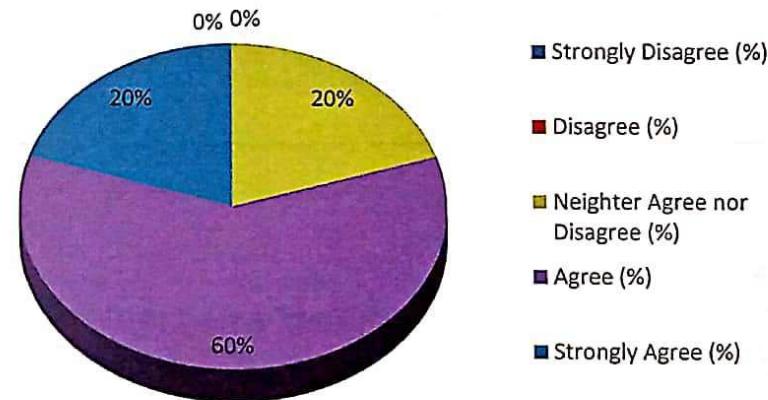
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## Analysis of Stakeholders Feedback Report

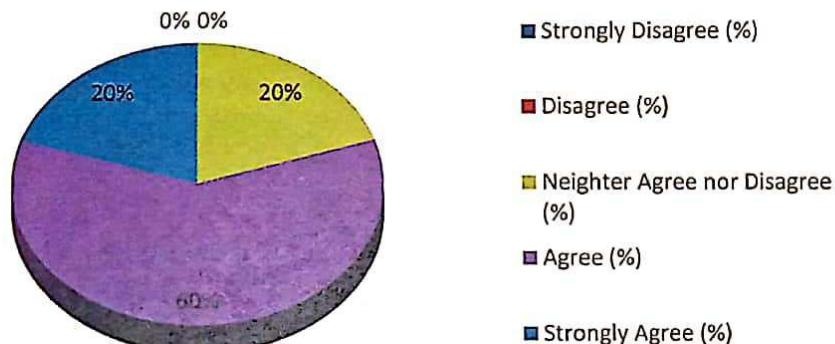
**Q.3 Current curriculum offers need based and meets to the expectations of industry.**



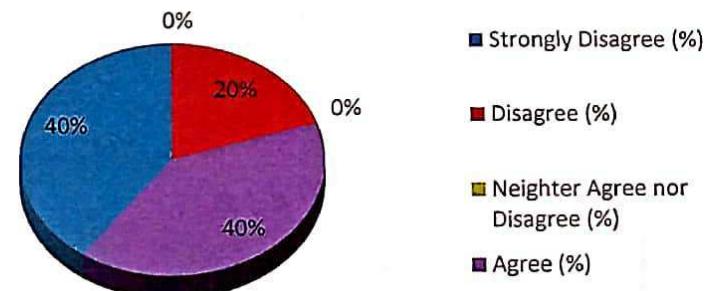
**Q.4 Curriculum has enriched content which fulfils required orientation human resources.**



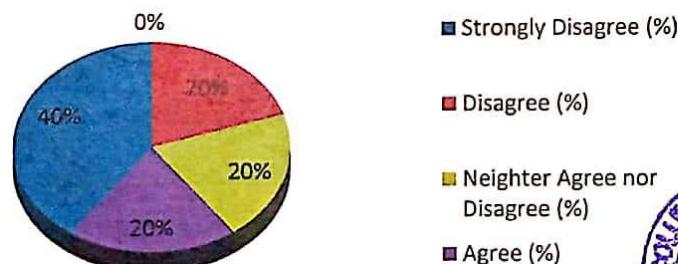
**Q.5 Curriculum has application based courses which caters the needs of industry in terms of knowledge, skills, attitude and innovation.**



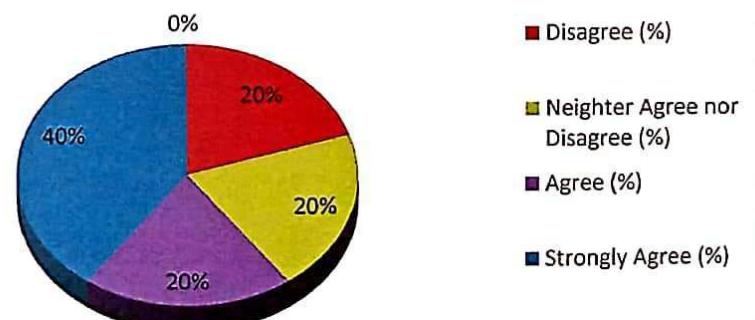
**Q.6 Curriculum caters the need of industry and helps in building efficiency and effectiveness of organization..**



**Q.7 Curriculum helps in building an entrepreneurial motive which helps to the students for starting their business enterprise.**

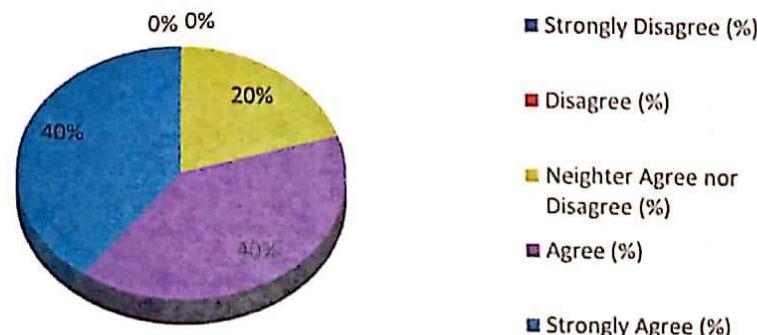


**Q.8 Curriculum helps in edifice ability and motivation to the students for involvement in social activities.**

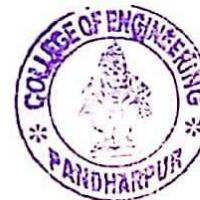
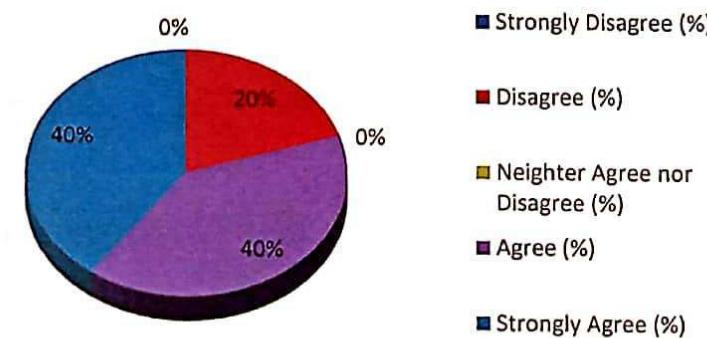


## Analysis of Stakeholders Feedback Report

**Q.9 Curriculum exhibits to the students in communication skills and ability to function effectively as an individual as well as part of a team.**



**Q.10 Curriculum show signs of independent thinking of students and appreciation of ethical values in their career.**



**SVERI's College of Engineering, Pandharpur**

**Department of Electrical Engineering**

**Analysis of Feedback Report**

**Academic Year: 2019-2020**

## Analysis of Stakeholders Feedback Report

### A. Analysis of Students' Feedback Report:

Total Responses =68

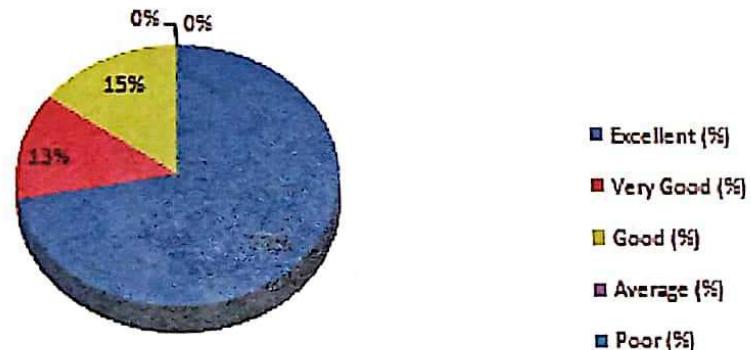
Sr. No.	Particular	Excellent (%)	Very Good (%)	Good (%)	Average (%)	Poor (%)
1.	Rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course?	72.1	13.2	14.7	0.0	0.0
2.	How do you rate the relevance of the units in syllabus significant to the course?	16.2	77.9	5.9	0.0	0.0
3.	How do you rate the electives offered in relation to the technological advancements?	39.7	42.6	17.6	0.0	0.0
4.	Rate the courses in terms of extra learning or self learning considering the design of the courses?	26.5	63.2	10.3	0.0	0.0
5.	Rate the theoretical concepts of syllabus supported by Practical/Experiments?	35.3	54.4	10.3	0.0	0.0
6.	Rate the contents included in the syllabus with reference to professional and higher level learning skills?	19.1	64.7	16.2	0.0	0.0
7.	How do you rate the evaluation scheme designed for each of the course?	35.3	50.0	14.7	0.0	0.0
8.	How do you rate the sequence of the courses in the curriculum?	33.8	50.0	16.2	0.0	0.0
9.	Rate the satisfaction level of curriculum design as per the requirement of employability / higher learning?	33.8	48.5	17.6	0.0	0.0
10.	How do you rate the books listed as reference materials are relevant, updated and appropriate?	30.9	38.2	30.9	0.0	0.0



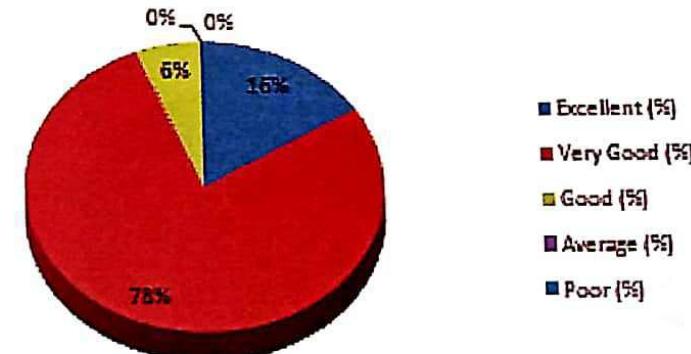
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# Analysis of Stakeholders Feedback Report

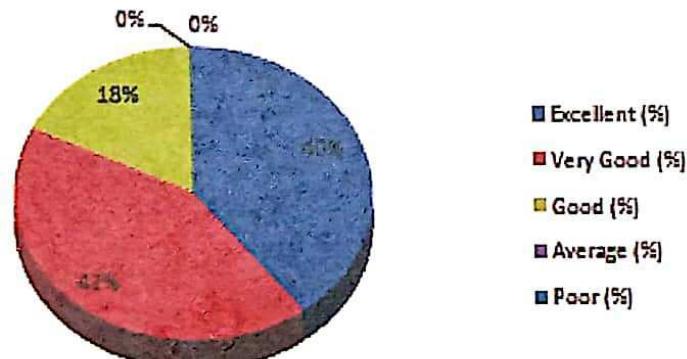
**Q.1 Rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course?**



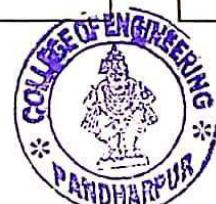
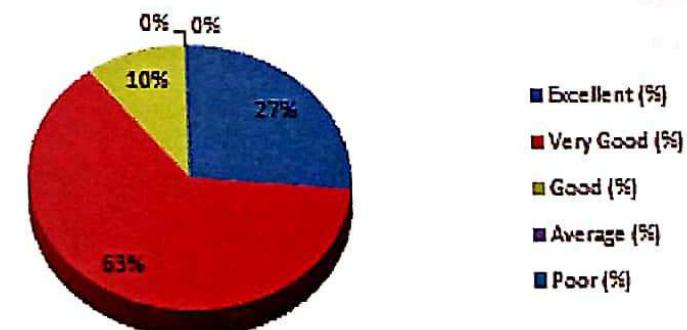
**Q.2 How do you rate the relevance of the units in syllabus significant to the course?**



**Q.3 How do you rate the electives offered in relation to the technological advancements?**

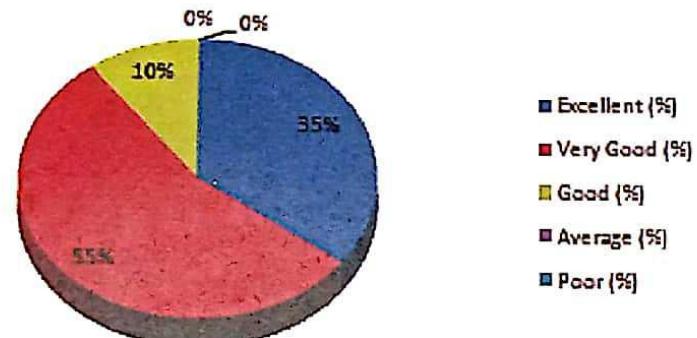


**Q.4 Rate the courses in terms of extra learning or self learning considering the design of the courses?**

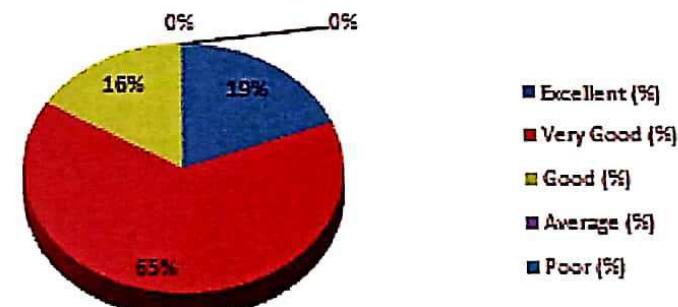


## Analysis of Stakeholders Feedback Report

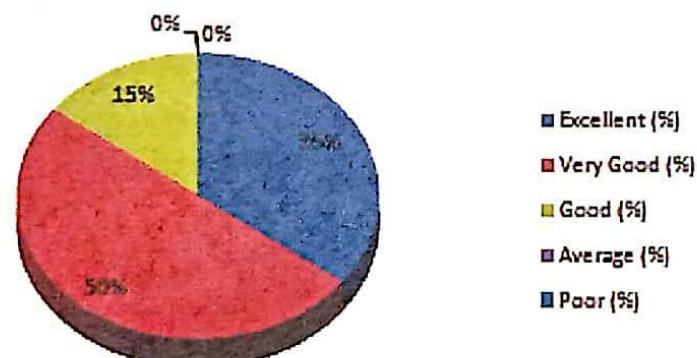
**Q.5 Rate the theoretical concepts of syllabus supported by Practical/Experiments?**



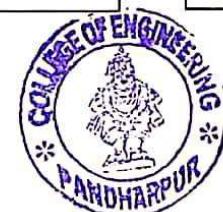
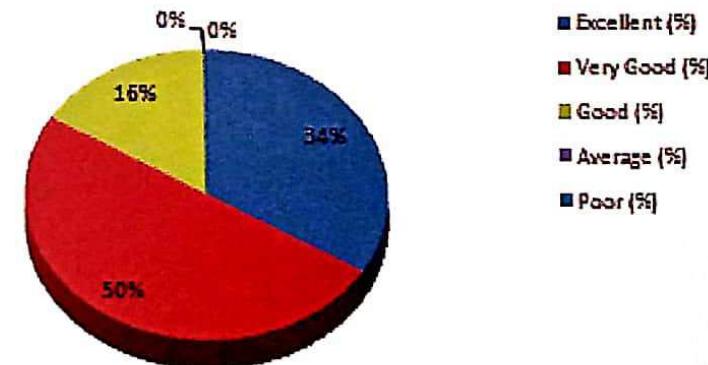
**Q.6 Rate the contents included in the syllabus with reference to professional and higher level learning skills?**



**Q.7 How do you rate the evaluation scheme designed for each of the course?**

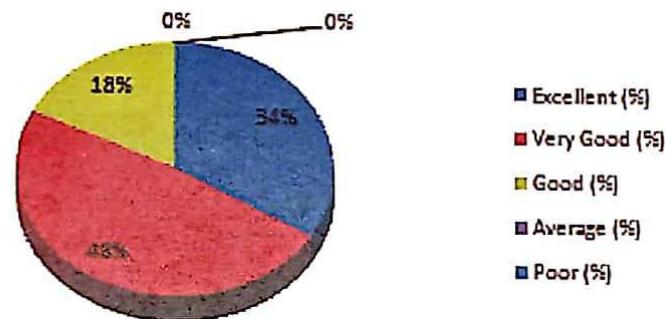


**Q.8 How do you rate the sequence of the courses in the curriculum?**

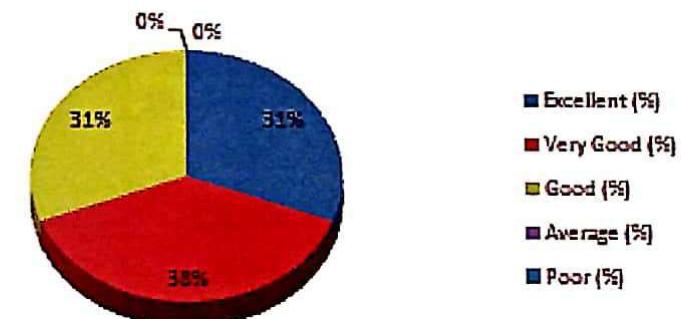


## Analysis of Stakeholders Feedback Report

**Q.9 Rate the satisfaction level of curriculum design as per the requirement of employability /higher learning?**



**Q.10 How do you rate the books listed as reference materials are relevant, updated and appropriate?**



# Analysis of Stakeholders Feedback Report

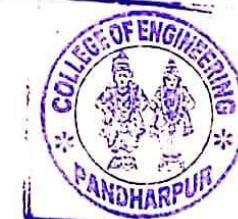
## B. Analysis of Teachers' Feedback on the Syllabus and its Transaction at the Institution

Department Name:- Electrical Engineering

Academic Year: 2019-2020

Total Responses =09

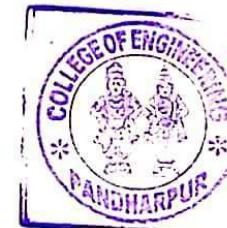
Sr. No.	Particular	Strongly Disagree (%)	Disagree (%)	Neither Agree nor Disagree (%)	Agree (%)	Strongly Agree (%)
1.	The course objectives and outcomes of the current syllabi are well defined and clear for delivery of course.	0.0	0.0	11.1	66.7	22.2
2.	The current content of syllabus is fulfilling the need of industry, sufficient to bridge the gap between industry and academics.	0.0	0.0	22.2	44.4	33.3
3.	The course is well organized (e.g. teaching hours, the sequence of the courses in the curriculum).	0.0	11.1	22.2	44.4	22.2
4.	Emphasis on fundamentals, coverage of modern/advanced topics, good balance between theory and application.	0.0	0.0	22.2	66.7	11.1
5.	Evaluation schemes designed for each of the course are sufficient for providing proper assessment.	0.0	0.0	33.3	22.2	44.4
6.	The course/ syllabus has good balance between theoretical concepts of syllabus and Practical/Experiments.	0.0	0.0	22.2	77.8	0.0
7.	The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.	0.0	11.1	33.3	55.6	0.0



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## Analysis of Stakeholders Feedback Report

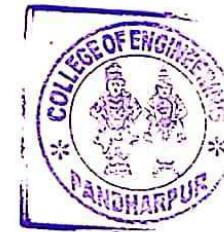
Sr. No.	Particular	Strongly Disagree (%)	Disagree (%)	Neither Agree nor Disagree (%)	Agree (%)	Strongly Agree (%)
8.	Current syllabus tries to build the opportunities in terms of employability and entrepreneurial attitude amongst the students.	0.0	0.0	33.3	66.7	0.0
9.	The books/ reference materials prescribed are relevant, updated and appropriate.	0.0	0.0	0.0	44.4	55.6
10.	The course/syllabus has enabled to update knowledge and perspective in the subject area.	0.0	0.0	11.1	66.7	22.2



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## Analysis of Stakeholders Feedback Report

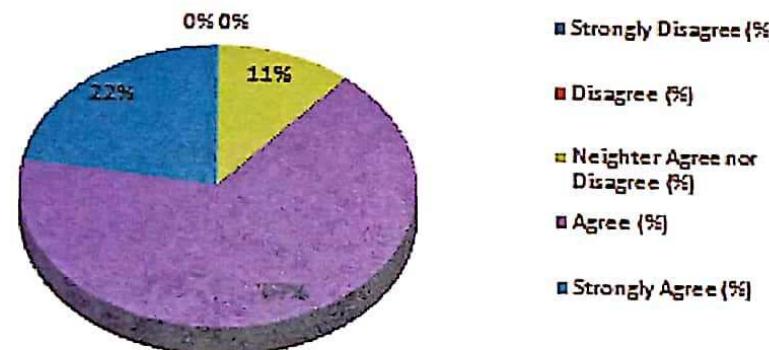
Sr. No.	Particular	Strongly Disagree (%)	Disagree (%)	Neither Agree nor Disagree (%)	Agree (%)	Strongly Agree (%)
8.	Current syllabus tries to build the opportunities in terms of employability and entrepreneurial attitude amongst the students.	0.0	0.0	33.3	66.7	0.0
9.	The books/ reference materials prescribed are relevant, updated and appropriate.	0.0	0.0	0.0	44.4	55.6
10.	The course/syllabus has enabled to update knowledge and perspective in the subject area.	0.0	0.0	11.1	66.7	22.2



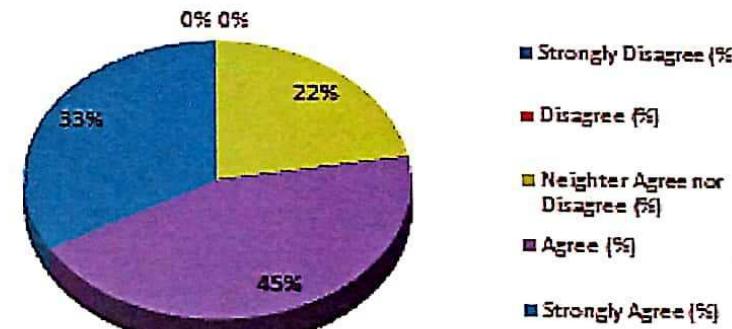
*B. R. Joshi*  
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College of Engineering  
PANDHARPUR

# Analysis of Stakeholders Feedback Report

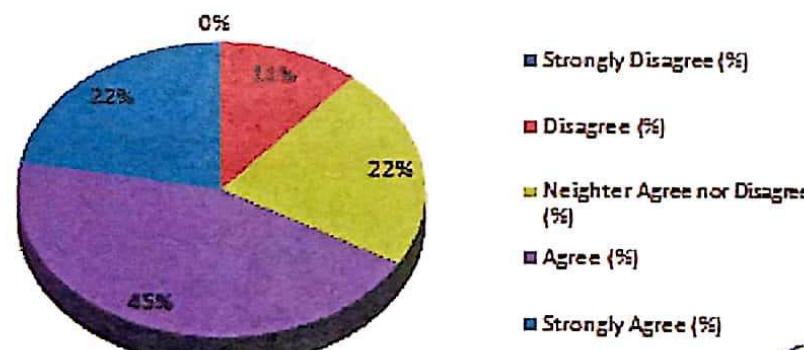
**Q.1 The course objectives and outcomes of the current syllabi are well defined and clear for delivery of course.**



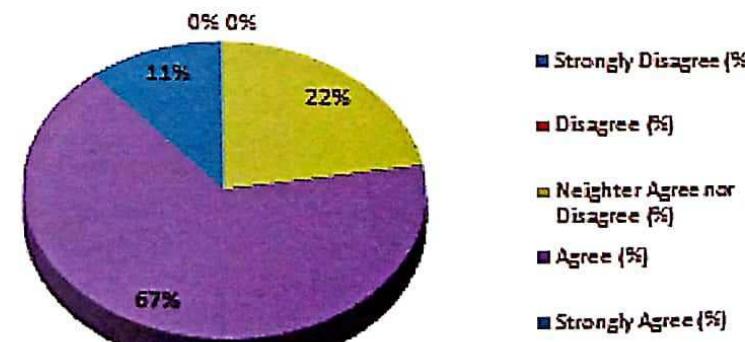
**Q.2 The current content of syllabus is fulfilling the need of industry, sufficient to bridge the gap between industry and academics.**



**Q.3 The course is well organized (e.g. teaching hours, the sequence of the courses in the curriculum).**

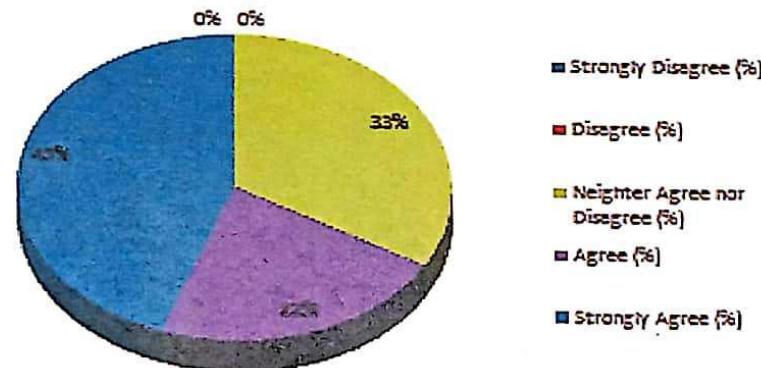


**Q.4 Emphasis on fundamentals, coverage of modern/advanced topics, good balance between theory and application.**

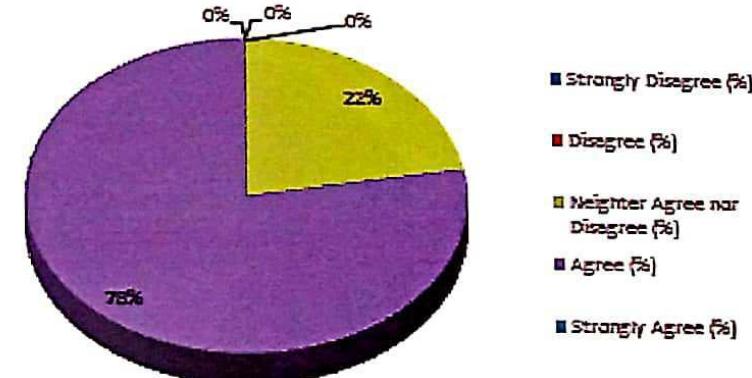


## Analysis of Stakeholders Feedback Report

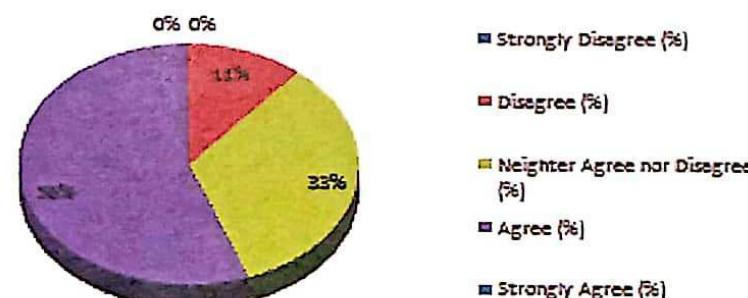
Q.5 Evaluation schemes designed for each of the course are sufficient for providing proper assessment.



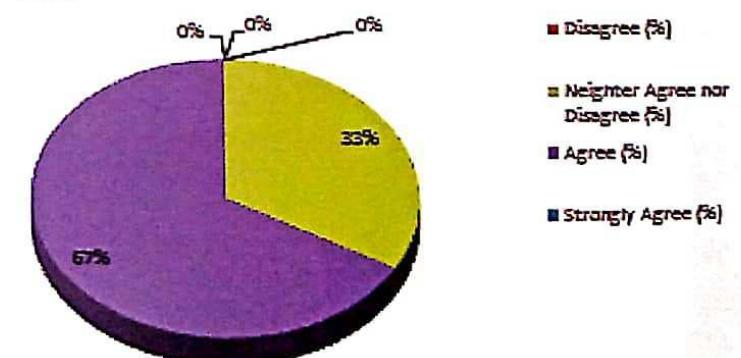
Q.6 The course/ syllabus has good balance between theoretical concepts of syllabus and Practical/Experiments.



Q.7 The syllabus is covering inculcation of the aspects of life skills, transferable skills, cross cutting issues, gender equality, environment and sustainability, human rights and social security.

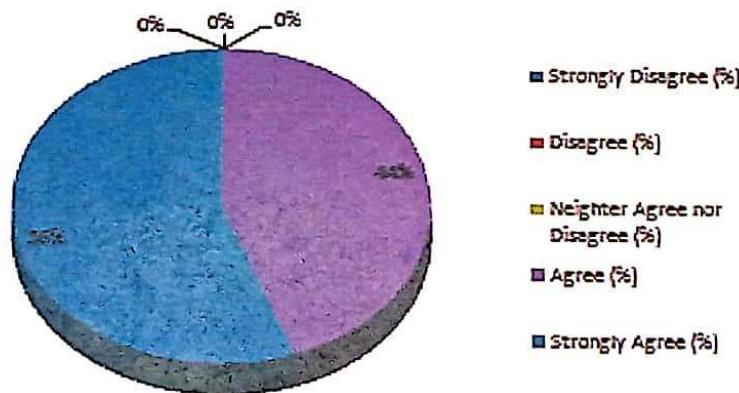


Q.8 Current syllabus tries to build the opportunities in terms of employability and entrepreneurial attitude amongst the students.

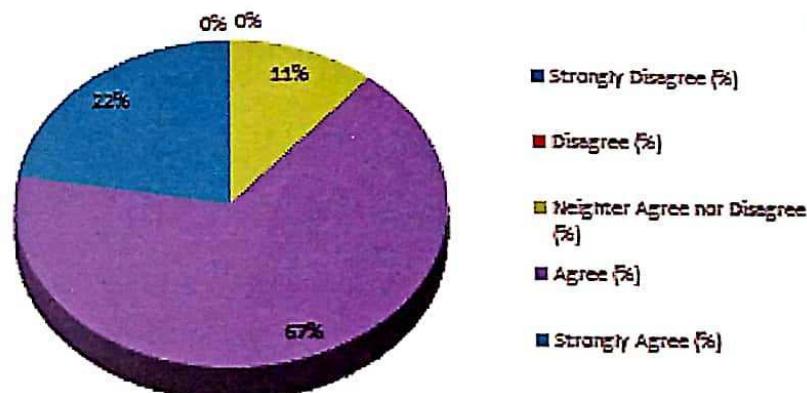


## Analysis of Stakeholders Feedback Report

Q.9 The books/ reference materials prescribed are relevant, updated and appropriate.



Q.10 The course/syllabus has enabled to update knowledge and perspective in the subject area.



# **Appendix-II**

**SVERI's**  
**College of Engineering, Pandharpur**  
**Department wise Action taken**  
**Report on feedback**



Shri Vithal Education & Research Institute's  
**COLLEGE OF ENGINEERING, PANDHARPUR**



ISO 9001:2015  
TUV Approved  
Quality Mark



P.B.No.54, Gopalpur - Ranjani Road, Gopalpur, Pandharpur - 413304, District: Solapur (Maharashtra)  
Tel.: (02186) 216063, 9503103757, Toll Free No.: 1800-3000-4131 e-mail.: coe@sveri.ac.in  
Website.: [www.sveri.ac.in](http://www.sveri.ac.in) (Approved by A.I.C.T.E., New Delhi and Affiliated to Solapur University, Solapur)  
NBA Accredited all eligible UG Programmes, NAAC Accredited Institute, ISO 9001:2015 Certified Institute.  
Accredited by The Institution of Engineers (India), Kolkata and TCS, Pune.

Ref.:-

Date:-

**Action Taken Report on feedback**  
**Department Name- Mechanical Engineering**  
**Feedback Received from Students' A.Y. 2019-2020**

Sr. No.	Suggestions / Comments Received through Students Feedback
1.	Some part of ceramic & composite material can be added in metallurgy subject
2.	Considering current scenario & need of industry, subject under category of Professional Elective V can be modified
3.	In case of Refrigeration & Air Conditioning subject content related to Cryogenics & Its application should be added
4.	Professional Elective V should be designed by considering current scenario & need of industry
5.	Subject under the category of Free Elective II can be modified
6.	ACE subject should be at T.E Level with some modification
7.	Robotics part can be added in the syllabus of Mechanical Engineering
8.	Syllabus of EM-III is very vast & it can be reduced
9.	More project related work is at second semester of final year level hence Operational research subject should be shifted to Third year level
10.	Final year second semester should consist of six month industry training in order to cope up with current industrial needs.
11.	More focus should be given for practicals of metrology & mechanical measurements.
12.	Direct second year students are not getting enough time for preparation of EM-III, Hence EM-III subject should be at second semester of second year
13.	Automatic control engineering subject should be modified by considering current industrial requirements
14.	Considering current scenario & need of industry, subject under category of Professional Elective VI can be modified

SAB  
HEAD,  
Dept. of Mechanical Engg  
C.O.E, Pandharpur.





Ref.:-

Date:-

## Action Taken Report on feedback

### Department Name- Mechanical Engineering

### Feedback Received from Teachers A.Y. 2019-2020

Sr. No.	Suggestions / Comments Received through Feedback
1.	Fluid machinery part should be included in fluid mechanics subject
2.	In CAD/CAM subject CAE should be implemented
3.	Hydraulics & Pneumatics subject may be separated from Fluid Machinery & Fluid Power Subject
4.	Need more practical as per syllabus
5.	Syllabus of Non Conventional Machining is appropriate
6.	From Engineering Graphics subject, Isometric view should be removed & it can be introduced in second year syllabus
7.	Design and development of bending dies topic need to be added in Tool Engineering Subject
8.	Mechanics of Material subject is appropriate
9.	Some common industrial problems to be considered in syllabus, so that student will think in advance
10.	Provision should be made for separate Hydraulics & Pneumatics Subject

  
**HEAD,**  
 Dept. of Mechanical Engg  
 G.O.E, Pandharpur.



## Action Taken Report on feedback

### Department Name- Mechanical Engineering

### Feedback Received from Employers

Sr. No.	Suggestions / Comments Received through Feedback
1.	In professional elective subject considering current scenario & needs of industries, subject under this category can be modified.
2.	Computational Fluid Dynamics subject should be added in curriculum.
3.	Internal Combustion Engine should be part of Second year syllabus as it contains most of the basic concepts & introduction part of IC engine
4.	Management case studies will provide more exposure to students & better understanding of management subjects that can be added in curriculum.
5.	C, C++ hands on training needed for mechanical students
6.	In industrial manufacturing subject more focus should be given on practical examples.
7.	Python Programming should be added in syllabus of mechanical engineering.
8.	In addition to present syllabus of manufacturing process with respect to few mechanical components & tools should be added.

*SAB*

Dept. of ~~MEAU~~,  
C.O.E, Pandharpur.  
C.O.E, Pandharpur.



## Action Taken Report on feedback

### Department Name- Mechanical Engineering

#### Feedback Received from Alumni A.Y. 2019-2020

Sr. No.	Suggestions / Comments Received through Feedback
1.	Some programming language can be added in Mechanical Engineering curriculum
2.	More practical focus should be given on metrology subject instead of theoretical part
3.	Python language knowledge is important as an mechanical engineer, Hence contents of Python language may be added in curriculum.
4.	Machine Design -II subject is very vast, It should be reduced.
5.	In CAD/CAM subject CAE should be included
6.	IC Engine subject should be part of second year syllabus as it contains basic concepts.
7.	In professional elective subject can be modified.
8.	Under Workshop Practices, concept of Tool Grinding & Tool Geometry can be added
9.	Machine Design subject syllabus is very vast, It should be reduced.
10.	More focus should be given on Nondestructive Testing
11.	Syllabus of Scilab can be added in curriculum

*SAB*  
HEAD,  
Dept. of Mechanical Engg  
C.O.E. Pandharpur.





Ref.:-

Date:-

## Action Taken Report on feedback

Department Name- Civil Engineering

Feedback Received from Students' A.Y. 2019-2020

Sr. No.	Suggestions / Comments Received through Students Feedback
1.	Stability of slopes is to be shifted to GT-I whereas earth pressure has to be added in GT-II
2.	Training on field is to be included
3.	New ground improvement techniques need to be added in GT-I
4.	Current technology needs to be added
5.	Include design of dam and spillway structures in water resource engineering
6.	Need to increase GT practical
7.	Increase session related to software
8.	Emerging syllabus
9.	New design software
10.	More software practice should be included
11.	More practical needed
12.	Site oriented syllabus should be there
13.	Need software use in structure related subjects



  
HEAD,  
Dept. of Civil. Engg.  
C.O.E. Pandharpur

## Action Taken Report on feedback

### Department Name- Civil Engineering

### Feedback Received from Teachers A.Y. 2019-2020

Sr. No.	Suggestions / Comments Received through Feedback
1.	New ground improvement techniques has to be added
2.	Include advanced software related to design of dams & spillway
3.	Subject related to structural health monitoring, structural audit should be added in the syllabus
4.	Site Visits should be included in building construction and drawing
5.	Need to be include advanced softwares related to design
6.	Need to add skyciv software in syllabus for design
7.	Inclusion of softwares related to transportation engineering like synchro, etc
8.	New ground techniques have to be added. Earth pressure irrelevant in GT-I has to be shifted to GT-II
9.	Softwares related to transportation engineer
10.	Include Ansys, watergems software for analysis
11.	Include hands on software of transportation engineering in practical
12.	Material Testing should be included either in Concrete Technology or Structural Mechanics



  
 HEAD,  
 Dept. of Civil. Engg.  
 C.O.E. Pandharpur



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Accredited by The Institution of Engineers (India), Kolkata and TCS, Pune.

Ref.:-

Date:-

## Action Taken Report on feedback

Department Name- Civil Engineering

Feedback Received from Alumni A.Y. 2019-2020

Sr. No.	Suggestions / Comments Received through Feedback
1.	All subjects should be modified by as per IIT syllabus
2.	Solid waste management subject should be modified
3.	Add emerging trends in syllabus
4.	Syllabus of traffic engineering should be modified as per GATE syllabus
5.	In Building construction and Drawing subject more weightage should be given on practicals than theory
6.	Syllabus should be practical oriented
7.	Update Syllabus as per Industry requirement
8.	Do include practical oriented syllabus
9.	Field visits to road construction sites
10.	Practicals on Auto-CAD should be included in Building construction and Drawing subject
11.	Information technology related subject should be there so that students will have knowledge of using word, excel, PowerPoint, etc



  
HEAD,  
Dept. of Civil. Engg.  
C.O.E. Pandharpur

## Action Taken Report on feedback

**Department Name- Civil Engineering**

**Feedback Received from Employers A.Y. 2019-2020**

Sr. No.	Suggestions / Comments Received through Feedback
1.	More focus should be given on practicals than theory
2.	More site visits should be included in curriculum particularly in Building construction related subjects
3.	Material testing practicals should be given more importance
4.	Interior design part should be included in syllabus
5.	Some weightage should be given on verbal and non-verbal communication in syllabus



  
**HEAD,**  
**Dept. of Civil. Engg.**  
**C.O.E. Pandharpur**



## Action Taken Report on feedback

**Department Name- Computer Science & Engg.**  
**Feedback Received from Students' A.Y. 2019-2020**

Sr. No.	Suggestions / Comments Received through Students Feedback
1.	Add Artificial Intelligence Subject in list of compulsory subjects. As AI is need of today's world. Update syllabus need to be changed as per industry requirement.
2.	Syllabus is good no change is required
3.	Syllabus is vast
4.	As flowcharts and conceptual diagrams need to be shown in Projects
5.	Syllabus is very good
6.	Satisfied with current syllabus so need not to change
7.	Today's computer world generates a huge database, so it is needed to understand and analyze the database. So modern data analysis tools may be included in our syllabus like Machine Learning, Data Science etc.

*B. li - m*

**HOD,**

Department of Computer Science & Engg  
SVERI's C.O.E. Pandharpur.



Ref.:-

Date:-

## Action Taken Report on feedback

**Department Name- Computer Science & Engg.**  
**Feedback Received from Teachers A.Y. 2019-2020**

Sr. No.	Suggestions / Comments Received through Feedback
1.	For subjects like CO, along with only computer organization, there should have been some part on architecture also, syllabus on CO&A should have been introduced as per knowledge of architecture is required to know in depth of the computer architecture to be more aware on hardware of computer system
2.	subjects like CO the teaching hours is more as per the given syllabus and should have be reduced
3.	Subject like Artificial Intelligence, have been introduced, as per the current trends in technology and requirement in IT Sectors, so AI with more emphasis on problem solving and searching should have been introduced, so that Global problems and searching methods would have more real and clear to students to meet the requirement of IT Industries and face interviews by students
4.	More Emphasis should be give on Python programming to solve the problems and Represent the Knowledge, so that students can face the interviews of IT Sectors to increase the placement ratio of jobs of students
5.	For DAA subject more emphasis should be given on Syllabus with concept based to focus on day -today interviews by students
6.	Some subjects like DAA ,should be conceptual to face interview, and its teaching hours should be reduced
7.	Some subjects like JAVA is conceptual and its teaching hours should be reduced with some change in internal evaluation tools
8.	Subjects like MC & MAD should have combined into one syllabus so that more emphasis should have been given on mobile app development, so students can learn to develop the app along with computing, this helps to meet and face the Global booming IT development apps.

*By*  
*li m*  
**HOD,**

Department of Computer Science & Engg  
 SVERI's C.O.E. Pandharpur





## Action Taken Report on feedback

**Department Name- Computer Science & Engg.**

**Feedback Received from Alumni**

Sr. No.	Suggestions / Comments Received through Feedback
1.	Subjects like AI should be include as compulsory subject
2.	Include MAD subject in Syllabus as per new trends and techniques
3.	Include subject like Data Science as per Industry requirement
4.	for recent trends and technology include AI subject in Syllabus
5.	Require AI subject as compulsory subject knowing recent trends and techniques
6.	Require Python Programming subject to TY for facing the interviews
7.	Include OOMD subject to TY for understanding concepts of UML
8.	Require AI and Python Programming subject as per Industry requirement
9.	Require AI subject as compulsory for understanding concepts and techniques

*B. M.*  
HOD,  
Department of Computer Science & Engg  
SVERI's C.O.E. Pandharpur





Ref.:-

Date:-

## Action Taken Report on feedback

**Department Name- Computer Science & Engg.**

**Feedback Received from Employers**

Sr. No.	Suggestions / Comments Received through Feedback
1.	Real time project should be included as case studies in the syllabus
2.	Artificial Intelligence & ML applications should be part of curriculum
3.	Advanced concepts of IOT should be added
4.	Interdisciplinary applications should be part of curriculum
5.	More Emphasis should be give on Python programming to solve the practical problems
6.	As per the current trends in technology and requirement in IT Sectors, AI with more emphasis on problem solving and searching should have been introduced
7.	Android application development should be included in the syllabus

*Shri. D. M. HOD,*  
HOD,

Department of Computer Science & Engg.  
SVERI's C.O.E Pandharpur





## Action Taken Report on feedback

**Department Name- Electronics & Tele-communication Engineering**  
**Feedback Received from Students' A.Y. 2019-2020**

Sr. No.	Suggestions / Comments Received through Students Feedback
1.	Industry related contents should be included in the syllabus.
2.	Should give More focus on Practicals.
3.	Self Learning subject should be like NPTEL.
4.	Need to include recent technical subject like AI & ML.
5.	Mention workshop for elective subjects which is of technical.
6.	Robotics part can be added in the syllabus of ENTC Engineering
7.	More project related work is at second semester of final year level hence Operational research subject should be shifted to Third year level
8.	Final year second semester should consist of six month industry training in order to cope up with current industrial needs.
9.	Considering current scenario & need of industry, subject under category of Professional Elective VI can be modified

**HEAD**

Dept. of Electronics & Telecom. Engg.  
C.O.E. Pandharpur





## **Action Taken Report on feedback**

**Department Name- Electronics & Tele-communication Engineering**

**Feedback Received from Teachers A.Y. 2019-2020**

<b>Sr. No.</b>	<b>Suggestions / Comments Received through Feedback</b>
1.	Improvements in Syllabus more focus on Industry Points.
2.	Syllabus should include Workshops
3.	Syllabus has to modify
4.	Include AI and ML in syllabus
5.	NPTEL type of course should include

  
**HEAD**  
*Dept. of Electronics & Telecom Engg*  
*C. O. E. Pandharpur*





Ref.:-

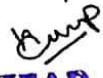
Date:-

## Action Taken Report on feedback

**Department Name- Electronics & Tele-communication Engineering**

**Feedback Received from Alumni**

Sr. No.	Suggestions / Comments Received through Feedback
1.	Syllabus includes industry workshops.
2.	Visits of Industry for Pre-Final year and Final Year students Required
3.	Robotics Type of workshops should include.
4.	Cyber security, AI, ML Type of subjects has to include.
5.	6 Months Industry training course has to be given to Final Year students.

  
**HEAD**  
 Dept. of Electronics & Telecomm.  
 C. O. E. Pandharpur





Shri Vithal Education & Research Institute's

# COLLEGE OF ENGINEERING, PANDHARPUR

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Accredited by The Institution of Engineers (India), Kolkata and TCS, Pune.



Ref.:-

Date.:-

## Action Taken Report on feedback

**Department Name- Electronics & Tele-communication Engineering**  
**Feedback Received from Employers**

Sr. No.	Suggestions / Comments Received through Feedback
1.	As per the industry requirement, Python programming should be part of Electronic Software subject
2.	Electronic system design subject should be included at third year curriculum
3.	4G (LTE) & 5G Next generation technology should be covered in the curriculum
4.	Need to modify syllabus as per the requirement of industries

*W.M.*  
**HEAD**  
Dept. of Electronics & Telecom. Engg.  
C.O.E. Pandharpur





Ref.:-

Date:-

## Action Taken Report on feedback

### Department Name- Electrical Engineering

A.Y. 2019-2020

Sr. No.	Suggestions / Comments Received through Feedback
1.	Current cutting edges based topic with practicals should be added
2.	The basics related to the renewable energy should be included in syllabus
3.	There should be well organized teaching hours.



  
**HEAD**  
 Dept. of Electrical Engg.  
 C.O.E. Pandharpur.

**Action Taken Report on feedback**  
**Department Name- Master of Business Administration (MBA)**  
**Feedback Received from Students' A.Y. 2019-2020**

Sr. No.	Suggestions / Comments Received through Students Feedback
1.	GST related contents should be included
2.	The examination pattern should be 80:20
3.	The curriculum should include Hard Core, Soft Core and Skill Core type content.
4.	Solapur University Dept syllabus and other colleges under Solapur University syllabus should be same.
5.	Disaster management concepts should be included in syllabus.
6.	Banking sector terminology should be more focused.
7.	Business law should be optional
8.	As there is more scope for service sector, service sector content should be included.
9.	Employability skill subject required for improving skill of MBA students.
10.	MCQs should be included in internal evaluation




**H. O. D.**

Master of Business Administration  
 C. O. E. Pandharpur



## Action Taken Report on feedback

**Department Name- Master of Business Administration (MBA)**  
**Feedback Received from Teachers A.Y. 2019-2020**

Sr. No.	Suggestions / Comments Received through Feedback
1.	Syllabus related digital environment should be included.
2.	Disaster related content should be included.
3.	Bank related specialization should be included.



  
**H. O. D.**  
 Master of Business Administration  
 C. O. E. Pandharpur



Ref.:-

Date:-

## Action Taken Report on feedback

**Department Name- Master of Business Administration (MBA)**

**Feedback Received from Alumni**

Sr. No.	Suggestions / Comments Received through Feedback
1.	Industrial Oriented Subject should be included.
2.	Banking sector related specialization should be included.
3.	Small scale Industries training type content should be included.
4.	Live Project should be included in syllabus rather than theory only.
5.	Human Resource Management practical should be included
6.	Export import related content should be included in syllabus.
7.	International Marketing related content should be included in syllabus.
8.	Live Case studies should be focused to update problem solving ability.



*Ritik*  
**H. O. D.**  
 Master of Business Administration  
 C. O. E. Pandharpur



Ref.:-

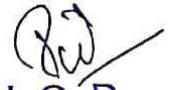
Date:-

## **Action Taken Report on feedback**

**Department Name- Master of Business Administration (MBA)**

**Feedback Received from Employers**

Sr. No.	Suggestions / Comments Received through Feedback
1.	Syllabus should have topics on recent advances.
2.	More programs should be conducted to enhance leadership and managerial skills
3.	Presentation skills techniques related content should be added in syllabus to improve courage and remove fear in mind of students
4.	Students' need for career counseling session
5.	More Industrial visits should be include

**H. O. D.**

Master of Business Administration  
 C. O. E. Pandharpur.

# **Appendix-III**

**SVERI's  
College of Engineering, Pandharpur**

**Document showing the  
communication with the Punyashlok  
Ahilyadevi Holkar Solapur University  
about the Feedback**



Ref.: COEPKJ 2019 - 20 / 658 C1)

Date: 14/12/2019

To the Director, **Punyashlok Ahilyadevi Holkar Solapur University,** Dnyanteerth Nagar, Kegaon, Solapur-Pune National Highway, Solapur- 413255.

Sub.: About Major Curriculum Gaps under Civil Engineering.

Respected Sir,

As per the requirement of National Board of Accreditation (NBA), it is required to identify the Curriculum Gaps for all Courses (Subjects), which are to be taught by subject teachers as content beyond syllabus. Accordingly, we have identified Curriculum Gaps for various Subjects under Civil Engineering Programme. We are submitting these identified Curriculum Gaps for your kind perusal and necessary action.

You are requested to kindly do further needful and oblige.

Thank you,

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Punyashlok Ahilyadevi Holkar Solapur University, Solapur.	
Inward No. ....	
7669(BM)	
18 DEC 2019	
Asst. Register Dy. Registrar AR & O	



Yours faithfully,

(Dr. B. P. Ronge)  
PRINCIPAL

Encl.: Details of Major Curriculum Gaps for (Civil Engineering)

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Vati  
19-12-2019

# Civil Engineering Department

## CURRICULUM

### **G1. Interior Design and Architectural Aspects**

In the modern era, it is having more importance to interior design & architecture. By introducing this topic will make students more skillful and updated to modern techniques of aesthetic appearance, fascinating interior design and astonishing architectural drawing/design.

### **G2. Structural Health Auditing and Repair**

With aging structures there will be great demand of structural health auditing experts. Based on their audit, there is need for suggesting repair strategies. This topic will cover various approaches of Non Destructive tests of civil engineering structures which further involve damage identification, sizing, localization and characterization of damage. This identification becomes useful for predicting the criticality of damage and assessing remaining life of structure.

### **G3. Civil Engineering Related Softwares**

Most of the detailed analysis & design work for moderate and large structures is being performed using commercially available software. The efforts will be taken to introduce most frequently used softwares by industries in various domains of drawing, structural design, water resources etc.

### **G4. Practical Aspects of Construction Management**

In the curriculum various sub courses of construction management viz, drawings, design, estimation, concrete technology, surveying etc are structured separately. However utilization of all these tools for completing a single project need to be introduced from stage one to final stage.

### **G5. Advanced Topics in Civil Engineering**

In the curriculum stress is mainly given on fundamentals of Civil engineering topic. However for onsite implementation of mega projects its essential to get introduced with advanced topics like advanced construction processes and equipments, advanced materials, prefabricated structures etc.



(Dr. B. P. Ronge)  
PRINCIPAL



Shri Vithal Education & Research Institute's  
**COLLEGE OF ENGINEERING, PANDHARPUR**



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NBA Accredited all eligible UG Programmes, NAAC Accredited Institute, ISO 9001:2015 Certified Institute.  
Accredited by The Institution of Engineers (India), Kolkata and TCS, Pune.

Ref.: COEPR /2019 - 20/ 1005 (A)

Date: 04/02/2020

To,  
The Chairman,  
BOS in Mechanical Engineering,  
Punyashlok Ahilyadevi Holkar Solapur University,  
Solapur.

Subject : Suggestions to be incorporated in the syllabus of T.Y. B. Tech (Mechanical Engineering) w. e. f. 2020-21.

Respected Sir,

Throughout the year we collect suggestions from various stake holders regarding the curriculum. We have also received number of inputs for curriculum improvement through industrial experts. Received inputs were discussed in the Department meeting.

Our Mechanical Engineering department has recommended the following suggestions for incorporation in course curriculum of TY. B. Tech. (Mechanical Engineering) w. e. f. 2020-21 to enrich students' learning experience and making them more employable.

**Name of Program:** Mechanical Engineering

**Modifications in Course Content:**

**1. Machine Design -II**

Include Chapter- standards used in design (Introduction to ASME, TEMA, IBR, API, IS, etc.)

**2. Course: CAD-CAM & CAE**

Include topic -Robotics in automation

**3. Course: Tool Engineering**

Include topic -Design and development of bending dies.

**4. Course: Machine Design-I**

Include topic -Screw jack, friction.

**5. Course: Material Science & Metallurgy**

Include topic -Ceramic material, Composite materials etc.

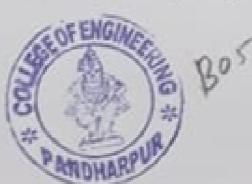
You are requested to kindly bring all above suggestions to the notice of Board of Studies in Mechanical Engineering.

We will be happy to interact for clarification, if any.

Thanking you,

Regards,

*B. Ronge*  
(Dr. B. P. Ronge)  
PRINCIPAL



Punyashlok Ahilyadevi Holkar  
Solapur University, Solapur.  
Inward No. ....

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Asst. Registrar Dy. Registrar AR & D

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**COLLEGE OF ENGINEERING, PANDHARPUR**

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Ref.: COEP/2018-2019/2194

Date: - 31/03/2019

To,

The Director,

Board of University Examinations and Evaluation,  
Solapur University, Solapur  
Dnyanteerth Nagar, Kegaon,  
Solapur-Pune National Highway,  
Solapur-413255, Maharashtra (India)

**Subject:** About Curriculum Gaps under Electronics and Telecommunication Engineering  
Dear Sir,

As per the requirement of National Board of Accreditation (NBA), it is required to identify the Curriculum Gaps for all Courses (Subjects), which are to be taught by subject teachers as content beyond syllabus. Accordingly, we have identified Curriculum Gaps for various Subjects under Electronics and Telecommunication Engineering Programme. We are submitting these identified Curriculum Gaps along with broader gap for your kind perusal and necessary action.

You are requested to kindly do further needful and oblige.

Thank You,



Yours faithfully,

(PRINCIPAL)

**Encl:** Details of Curriculum Gaps for S.E, T.E. and B.E. (Electronics and Telecommunication Engineering) Part -I& II.

# **Appendix-IV**

**SVERI's  
College of Engineering, Pandharpur**

**Action Taken Report of the  
Institution on Feedback Report**

## Action Taken Report of the Institution on Feedback Report

➤ Letter to BOS in Mechanical Engineering, Punyashlok Ahilyadevi Holkar Solapur University about incorporating different suggestions collected from various stakeholders regarding curriculum.

**Shri Vithal Education & Research Institute's  
COLLEGE OF ENGINEERING, PANDHARPUR**   
P.B.No.54, Gopalpur - Ranjani Road, Gopalpur, Pandharpur - 413304, District: Solapur (Maharashtra)  
Tel.: (02186) 216063, 9503103757, Toll Free No.: 1800-3000-4131 e-mail.: coe@sveri.ac.in  
Website: www.sveri.ac.in (Approved by A.I.C.T.E., New Delhi and Affiliated to Solapur University, Solapur)  
NBA Accredited all eligible UG Programmes, NAAC Accredited Institute, ISO 9001:2015 Certified Institute.  
Accredited by The Institution of Engineers (India), Kolkata and TCS, Pune.  
Ref.: COEPR / 2019 - 20 / 1005 (A) Date: 03/02/2020

To,  
The Chairman,  
BOS in Mechanical Engineering,  
Punyashlok Ahilyadevi Holkar Solapur University,  
Solapur.

Subject : Suggestions to be incorporated in the syllabus of T.Y. B. Tech (Mechanical Engineering) w. e. f. 2020-21.

Respected Sir,

Throughout the year we collect suggestions from various stake holders regarding the curriculum. We have also received number of inputs for curriculum improvement through industrial experts. Received inputs were discussed in the Department meeting.

Our Mechanical Engineering department has recommended the following suggestions for incorporation in course curriculum of TY. B. Tech. (Mechanical Engineering) w. e. f. 2020-21 to enrich students' learning experience and making them more employable.

**Name of Program:** Mechanical Engineering

**Modifications in Course Content:**

1. **Machine Design -II**  
Include Chapter- standards used in design (Introduction to ASME, TEMA, IBR, API, IS, etc.)
2. **Course: CAD-CAM & CAE**  
Include topic -Robotics in automation
3. **Course: Tool Engineering**  
Include topic -Design and development of bending dies.
4. **Course: Machine Design-I**  
Include topic -Screw jack, friction.
5. **Course: Material Science & Metallurgy**  
Include topic -Ceramic material, Composite materials etc.

You are requested to kindly bring all above suggestions to the notice of Board of Studies in Mechanical Engineering.

We will be happy to interact for clarification, if any.

Thanking you,

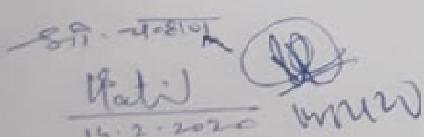
Regards,

  
(Dr. B. P. Ronge)  
PRINCIPAL

  
BOS

**Punyashlok Ahilyadevi Holkar  
Solapur University, Solapur.  
Inward No. .... 1276 B  
14 FEB 2020**

Asst. Registrar Dy. Registrar AR & D

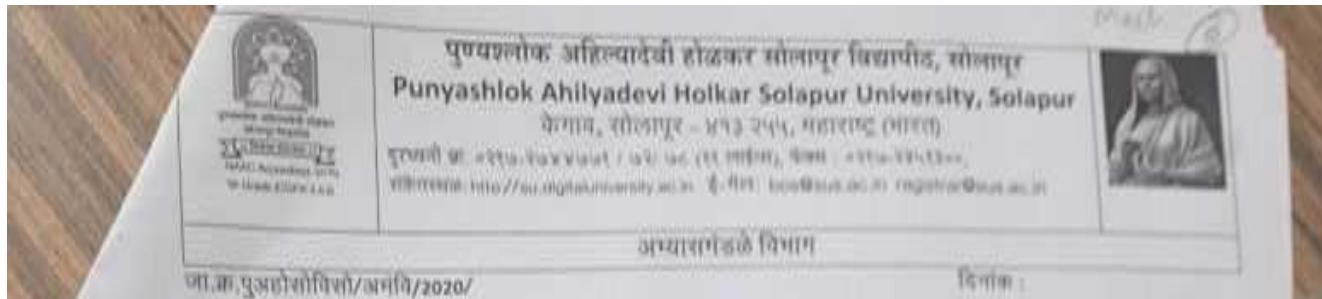


## **Action Taken Report of the Institution on Feedback Report**

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**Minutes of the meeting of the Board of Studies in the  
Subject of Mechanical Engineering was held in the  
University office on 05/02/2020**

# Action Taken Report of the Institution on Feedback Report



जा.का.पुस्तकालयिकी/असंगठ/2020/

दिनांक:

## Minutes

Minutes of the meeting of the Board/Ad-hoc Board Studies in the Subject of Mechanical Engg..... was held in the University office, on 03/02/2020 at 11.00 A.M./P.M.

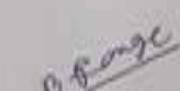
The following members were present:

Sr. No.	Name	Sign.
1)	B. P. Range	B. Range
2)	R. R. Gidde	Kishor
3)	P. R. Kulkarni	P. R. Kulkarni
4)	B. B. Deshmukh	Mhapper
5)	R. T. Vyavahare	R
6)	S. G. Kulkarni	S. G. Kulkarni
7)	S. S. Sarawade	S. S. Sarawade
8)		
9)		
10)		
11)		

The following business was transacted at the Meeting.

Item No.1: Confirmation of the last meeting minutes of the Board of Studies in Subject of Mech. Engg..... was held in the University office, on 13 / 09 /2020.

Resolution:

  
Chairman

## Action Taken Report of the Institution on Feedback Report

105): The minutes of the last meeting held on 13/09/2020 were read and unanimously confirmed.

106) डॉ. समिन तर्फ 2020-21 पास्तूल B.Tech, आग्रा-3 (तुलीय लष्ट) कर्तव्य Mechanical Engineering ग्रा पाठ्यक्रमाचा नियंत्रणार्थी असारीत असेही प्रभालीकृतार्थ (C.E.C.E.) अंतर्गत असले विकासात विद्यार्थ्यांते दिलासा तात किंवारात.

107): डॉ. समिन तर्फ 2020-21 पास्तूल B.Tech, आग्रा-3 (तुलीय लष्ट) कर्तव्य मेकेनिकल इंजिनियरीज आ पाठ्यक्रमाचा नियंत्रण आसारीत असारीत प्रभालीकृतार्थ (C.E.C.E.) आसारातका त अंतर्गत असले नयार करण्याची प्रक्रिया राळतिथाकामी अलालीला प्राप्त उपभोगी गटीत करण्यात नाली.

- १) डॉ. सी. शार, तुलीकृती
- २) डॉ. एस. नी. तुलीकृती
- ३) डॉ. नी. नी. देशमुख
- ४) डॉ. अर्द. सी. ल्यावहर
- ५) डॉ. अर्द. अर्द. गिरु
- ६) डॉ. पास. एस. सरस्वते

वाढू उपभोगींने SVERT's College of Engineering जेव्हे योनकी तही अवगायकांचे लागवाणा आणोरुनि करून जातलेला आसारात अंतर्गत असलेलक्ष्य नियार करून दि. २५ फेब्रुवारी पर्यंत विद्यार्थीहात आसारात विद्यार्थींने मार्फ मर्हिण्यात आ असानंगावली घेऊ व्होलकून वाढू आसारात अंतर्गत करून पुढील प्रक्रियेस देशात.

108) परीक्षेसाठी भासित, परीक्षां व नियामन गोपनी नेमद्दूरी करीत तसेही ज्ञानीकृत अधिनियम, २०२८ कलम ४१(१) नुसार अवगायकांचा नावाची गटी नियार करून पर्याप्त अंतर्गत संस्कृते विकास असारातील तात किंवारात.

## Action Taken Report of the Institution on Feedback Report

ठोस ३) लालू यादी जी अमानमंडलाजी जीने डॉ. डॉ. श्री. देवगुल द्वारा १९१०२१-२६२० पर्यंत वित्तीयाला लालू नहीं.

विषय. ४) S.E., M.E. Part- 2 वा ३५३८ अप्रभावकारीपूर्ण गतिशील अवाधिकारक (S.Y. B.Tech, M.Tech - Part- 3) २०१३/१४ (Equivalence) विषय नमाद विषयात्मक गति विवाद.

८) मार्गदर्शक १२१०११२०३० नंगा लोक्यांगाचे निवास जालेजा अंडुगा  
पो अंडुंगाने लालकुडा यात्रा ना अगोदर्वा विकारीवाहा राहत  
जालेवाहा आही याची लोह लेणार भाली.

ପିଥିରୀ, ୫) Ph.D ଲେଖନିକ୍ ରାଜମାନ୍ଦୁ ଉପରାଷ୍ଟି କାର୍ତ୍ତିକ ନାମୋଦାକାରୀ,

ટેલ ૫): PhD કોર્સની ડાક્યમાંથી ગમાં કારણાબાટી રાણીનું હાંદું  
ઉપયુક્તિ ચાહીએ કારણાં લાભી.

१) श्री. पी. भार.	कुलकर्णी	—	अध्यक्ष
२) श्री. लाल. गी.	व्यापारी	—	सदस्य
३) श्री. भार. भार.	गिरि	—	सदस्य
४) श्री. (पी. भ.)	व्यापारी	—	सदस्य
५) श्री. (पी. गी.)	कुलकर्णी	—	सदस्य
६) श्री. गी. गी.	व्यापारी	—	सदस्य

વિધગ દ્વારા જાહેર ગયા પૂર્વસ્વાતનત્વને નેત્રાન્યા આપણા લેખને લિખાયા

(19) डॉक्यूमेंट अर्फ 2026.03 पास्टर न्य. Tech Part III Merchantile  
Engineering आणि पाच्यात्रामाच्या निवास आवाहानी फ्रेक्चर प्रणालीमुळे  
C.P.C. अस्यामध्ये विनाशकी विद्यालयातून विनाशकी विद्यालय करवाणी  
लाई विनाशात.

7317 (3)

6.90%

## Action Taken Report of the Institution on Feedback Report

(v) तात्पर्य वाचिकालिकी महात्मागांधी ने पत्र नं. 910412640, T.4, B.3, T-3, अप्रैल १९४८ को तात्पर्य वाचिकालिकी का लिखा था। असाधुरी अनुवाद।

(vi) या उपर्युक्त अनुवाद नाम लिखने वाली।

The sub-committee Board of Studies have received various suggestions from affiliated institutions, representative of industry on BOS, other industry experts and various employees of graduates of this university. The institute suggestions also includes suggestions received from industry experts.

A detailed discussion on suggestions received from the various stakeholders was done in depth and its impact on attainment of PGS/ PGSC was discussed. Accordingly the PGSC has come to a conclusion for inclusion of suggestions on course content at I.T. B.Tech Mechanical Engg. from A.Y. 2024-25.

The subcommittee constituted as per resolution no. 2 shall take note of the above and take care accordingly in the workshop for revising the structure and framing the syllabus at T.Y. B.Tech Level.

Further copy of the letter from the principal WIT subpny, dated 3/2/2020 is handed over to subcommittee chairman for consideration in the workshop.

Question 6(a): About Industrial Training to the students.

22194(2): It was brought to the notice of the meeting that in S.Y. B-Tech Structure under note at 58, no. 2 following was pointed, <sup>as</sup>

“Industrial training (evaluated at B.Tech sem-7) of minimum 15 days shall be completed in any vacation after B.Tech sem-3, but before B.Tech sem-7 and report shall be submitted and evaluated in B.Tech sem-7.”

## Action Taken Report of the Institution on Feedback Report

Thorough discussion was made and it was resolved unanimously to modify the above note as follows:

3. Industrial Training (evaluated at B.Tech. sem.7) of minimum 30 <sup>days</sup> of a stretch or in two lots of 15 days each at the discretion of the institute, shall be completed by every student during any vacation after B.Tech sem.3, but before B.Tech Sem.7 and the report shall be submitted and evaluated in B.Tech. Sem.7.

There being no further issues to discuss, the meeting is concluded with the vote of thanks to all present.

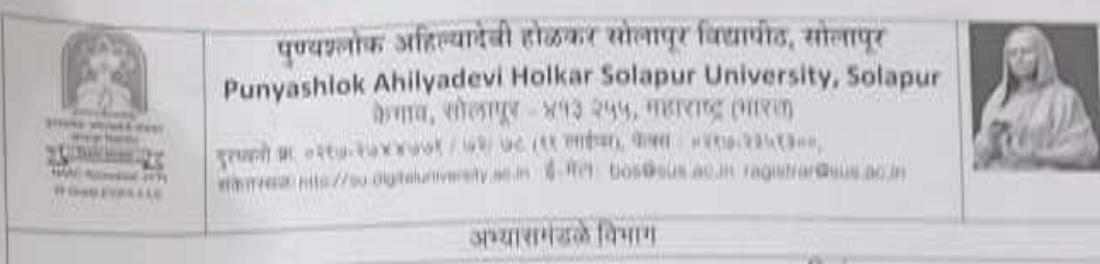
B. Ronge

## **Action Taken Report of the Institution on Feedback Report**

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**Minutes of the meeting of the Board of Studies in the  
Subject of Mechanical Engineering was held in the  
University office on 12/02/2020**

# Action Taken Report of the Institution on Feedback Report



अध्यायामध्ये विभाग

वा.वा.प्रबोधालय/अग्रवाली/2020/

दिनांक:

## Minutes

The meeting of the Board/Ad-hoc Board of Studies in the Subject of Mechanical Engineering was held in the University office, on 12/03/2020 at 12.30.00 A.M./P.M.

The following members were present:

Sr. No.	Name	Sign.
1)	Dr. B. P. Range	B. Range
2)	Dr. P. R. Kulikarni	P. R. Kulikarni
3)	Dr. R. R. Gidale	R. R. Gidale
4)	Dr. B. B. Deshmukh	B. B. Deshmukh
5)	Dr. R. T. Vyawahare	R. T. Vyawahare
6)	Mr. Chandanshiv. Somadg. Anil	Chandanshiv. Somadg. Anil
7)	Divya Pradny. Kulkarni	Divya Pradny. Kulkarni
8)	Dr. S. G. Kulkarni	S. G. Kulkarni
9)		
10)		
11)		

The following business was transacted at the Meeting.

Item No. 1: Confirmation of the last meeting minutes of the Board of Studies in Subject of Mech. Engg. was held in the University office, on 05/02/2020

Resolution:-

B. Range  
Chairman

## Action Taken Report of the Institution on Feedback Report

Resolution No. 01: The minutes of the last meeting held 05/03/2020 were read and unanimously confirmed.

विषय (२) ई-सारिन वर्ष 2020-21 पायरा B.Tech शास्त्रीय - ३

(तृतीय अवधि) वर्गाचा Mechanical Engineering ग्रा पाठ्यक्रमाचा निवड आजारित श्रेष्ठांके प्रणालीनुसार (CBSE) अनुसारकृत लिनकारण विद्यार्थ्यांनी डिफार्स उत्तमात्मी आणि निमात्मी.

ठराव (२): ई-सारिन वर्ष 2020-21 पायरा B.Tech शास्त्रीय - ३

(तृतीय अवधि) वर्गाचा Mechanical Engineering शास्त्रीय पाठ्यक्रमाचा निवड आजारित श्रेष्ठांके प्रणालीनुसार (CBSE) अनुसारकृत लारारवडा ९ अनुसारकृत उत्तरानुसार लिनकारणात आले ९ पुढील मानवेशास्त्री यदृच लारारवडा ९ अनुसारकृतमात्री विद्यार्थ्यांनी डिफार्स उत्तमात्मी आली.

विषय (३): परविषेषाची प्राक्षिक जरीफात द नियामक शास्त्रीय

नोमानूली करीता महाराष्ट्र शार्किनिक शास्त्रीयनिधम, २०१६ नं (४९) नुसार अद्यापर्याप्त नावाची आही नुसार एकज परिसा व मुल्यमापण ग्रंथांकडे डिफार्स करण्याची काळ विधातात.

ठराव - (३) : परविषेषाची प्राक्षिक, परविषेष व नियामक शास्त्रीय

नोमानूली करीता महाराष्ट्र शार्किनिक शास्त्रीयनिधम २०१६ नं (४९) नुसार अद्यापर्याप्त नावाची आही नुसार एकजीसाठे उत्तमात्मी नावाची आही नुसार नावाची आही (मास उत्तरानुसारे मासांमध्ये २/५

१०.००.२०२०

## Action Taken Report of the Institution on Feedback Report

स्विकारणात  
कृत्यानि आणि ए पुढील मान्यतेचाची परिभा ए  
मूलगमाणसंकाळे विकासमध्ये घरत्याग आली.

विषय (३) : उपचालितेचे तपार केलेला PhD कोर्सिंगा  
डायग्रामाचार्ज नवीनीकृत विकासातेकृत डिप्लायल  
कृत्यानि काळ विचारणा.

रुपान (४) : उपचालितेचे तपार केलेला PhD कोर्सिंगा  
डायग्रामाचार्ज नवीनीकृत विकासातेकृत डिप्लायल  
कृत्यानि काळ विचारणा.

विषय (५) : मा. अड्डाम गांव पुरपिलानगांवे अणा-गा.  
आगामा केळेचे तिष्यम.

विषय (६)(७) : व्हेसीज नोंदवे लोक दोजिनिहारीचे पेट्टेशूर  
गा. महाविद्यालयाच्या नंबरी १२. COEPR/2019-20/  
9004 (A) दि. ०३/०२/२०२० नंतर घेणारागा.

विषय (८)(९) : व्हादर पगालील मुद्द्यांच्या लंबुदांधाने झापला  
झाक्यातमंडळाच्या दि. ५/०२/२०२० नंतर घेण्यातील  
व्हादर पगाली नोंद घेण्यात आली.

B. P. P. O. P.

२/८

## Action Taken Report of the Institution on Feedback Report

Ques (4)-(2): To consider Institution of Honors degree in emerging area in the existing Mechanical Engineering degree with honors degree in the specialization ~~as shown in~~

Ans (4)-(2):

AICTE Approval Process Handbook 2020-21 has come out with various emerging areas in Engineering and Technology. Accordingly, ~~Mechanical~~ Engineering Under Graduate course in emerging areas of ~~Mechanical~~ Engineering shall offer Honors degree of Specialization by earning 18 to 20 credits in a selected specialization as mentioned below.

Therefore, it is resolved to recommend to the university authority to institute and offer following mentioned degree as specialization by earning 18 to 20 credits in a selected specialization in existing Mechanical Engineering Degree offered by P.A.M. Solapur University, Solapur.

Sr.no	Honors degree as a specialization	To be offered as Honors for the following major Disciplines
1)	Robotics	Mechanical Engineering
2)	Energy Engineering	Mechanical Engineering
3)	3-D Printing	Mechanical Engineering
4)	Electrical Vehicles	Mechanical Engineering

## Action Taken Report of the Institution on Feedback Report

The meeting took the note of the letter, in this respect, from WIT/2019-20/1582 dated 11/03/2020 from WIT Solapur.

प्राप्ति य (3): About letter no. SKNSCOE/2019-20/842 dated 24/02/2020 from SKN Sinhgad college of Engg. Korti.

प्राप्ति य (3): The meeting took note of the above letter.

प्राप्ति य (2): About letter no. WIT/ 1772 dated 07/03/2020 from WIT Solapur.

प्राप्ति य (2): The meeting took note of the above letter.

प्राप्ति य (4): About letter NBNSCOE/MECH/19-20/182 dated 15/02/2020 from NBH Sinhgad college of Engineering, Solapur.

प्राप्ति य (4): The meeting took note of the above letter.

प्राप्ति य (5): About letter from International Research Journal of India dated 31/3/2020.

प्राप्ति य (5): The meeting took note of the above letter.

**Action Taken (New Content / Topic Added)  
in the Curriculum**

# Action Taken Report of the Institution on Feedback Report

Punyashlok Ahilyadevi Holkar Solapur University, Solapur

Faculty of Science & Technology

Credit System MODIFIED structure of T.Y.B.Tech. Mechanical Engineering W.E.F. 2020-21

Semester -VI

Theory Courses

Course code	Name of Theory Course	Hrs./week				Credits	Examination Scheme			
		L	T	P	D		ISE	ESE	ICA	Total
ME321	Machine Design -II	3	-	-	-	3	30	70	-	100
ME322	Instrumentation & Control	3	-	-	-	3	30	70	-	100
ME323	Heat Transfer	3	-	-	-	3	30	70	-	100
ME324	Industrial & Quality Management	3	-	-	-	3	30	70	-	100
ME325	Professional Elective -IV	3	-	-	-	3	30	70	-	100
ME326	Mini Project	-	-	-	-	-	-	-	-	-
ME327	Metrology	-	-	-	-	-	-	-	-	-
SLH 32	Self-Learning Technical	-	-	-	-	2#	-	50	-	50
	Sub Total	15	-	-	-	15	150	400	-	550

Semester 6 Laboratory / Tutorial Courses

Course code	Name of Laboratory / Tutorial Course	Hrs./week				Credits	Examination Scheme			
		L	T	P	D		ISE	ESE	ICA	Total
ME321	Machine Design -II	-	-	2	-	1	-	-	-	25
ME322	Instrumentation & Control	-	-	2	-	1	-	-	-	25
ME323	Heat Transfer	-	-	2	-	1	-	25	-	25
ME324	Industrial & Quality Management	-	1	-	-	1	-	-	-	25
ME325	Professional Elective -IV	-	-	2		1	-	-	-	25
ME326	Mini Project	-	1	-	-	1	-	-	-	25
ME327	Metrology	6		2		1		25	25	50
ME328	Mechanical Workshop -III	-	-	2	-	1		25	25	25
	Sub Total	-	02	12	-	08	-	50	200	250
	Grand Total	15	02	12	-	23	150	450	200	800

Abbreviations: L-Lectures, T-Tutorials, P-Practical, D-Drawing, ISE- In-Semester Exam, ESE- End Semester Exam, ICA- Internal Continuous Assessment , Professional Elective -IV: A. Project Management B. Industrial Product Design C. Plastic Engineering D. Mechanical Vibrations E. Railway Transportation. # indicates credits over and above

# Action Taken Report of the Institution on Feedback Report

Punyashlok Ahilyadevi Holkar Solapur University, Solapur

Faculty of Science & Technology

Credit System MODIFIED structure of T.Y. B. Tech. Mechanical Engineering W.E.F. 2020-21

Semester -VI

Theory Courses

Course code	Name of Theory Course	Hrs./week				Credits	Examination Scheme			
		L	T	P	D		ISE	ESE	ICA	Total
ME321	Machine Design -II	3	-	-	-	3	30	70	-	100
ME322	Instrumentation & Control	3	-	-	-	3	30	70	-	100
ME323	Heat Transfer	3	-	-	-	3	30	70	-	100
ME324	Industrial & Quality Management	3	-	-	-	3	30	70	-	100
ME325	Professional Elective -IV	3	-	-	-	3	30	70	-	100
ME326	Mini Project	-	-	-	-	-	-	-	-	-
ME327	Metrology	-	-	-	-	-	-	-	-	-
SLH 32	Self-Learning Technical	-	-	-	-	2#	-	50	-	50
<b>Sub Total</b>		<b>15</b>	-	-	-	<b>15</b>	<b>150</b>	<b>400</b>	-	<b>550</b>

Semester 6 Laboratory / Tutorial Courses

Course code	Name of Laboratory / Tutorial Course	Hrs./week				Credits	Examination Scheme			
		L	T	P	D		ISE	ESE	ICA	Total
ME321	Machine Design -II	-	-	2	-	1	-	-	--	25 25
ME322	Instrumentation & Control	-	-	2	-	1	-	-	-	25 25
ME323	Heat Transfer	-	-	2	-	1	-	25	-	25 50
ME324	Industrial & Quality Management	-	1	-	-	1	-	-	-	25 25
ME325	Professional Elective -IV	-	-	2	-	1	-	-	-	25 25
ME326	Mini Project	-	1	-	-	1	-	-	-	25 25
ME327	Metrology	-	-	2	-	1	-	25	25	50
ME328	Mechanical Workshop -III	-	-	2	-	1	-	-	-	25 25
<b>Sub Total</b>		<b>- 02</b>	<b>12</b>	<b>-</b>	<b>08</b>	<b>-</b>	<b>50</b>	<b>200</b>	<b>250</b>	
<b>Grand Total</b>		<b>15 02</b>	<b>12</b>	<b>-</b>	<b>23</b>	<b>150</b>	<b>450</b>	<b>200</b>	<b>800</b>	

Abbreviations: L-Lectures, T-Tutorials, P-Practical, D-Drawing, ISE-In-Semester Exam, ESE-End Semester Exam, ICA-Internal Continuous Assessment, Professional Elective -IV: A. Project Management B. Industrial Product Design C. Plastic Engineering D. Mechanical Vibrations E. Railway Transportation. # indicates credits over and above

# Action Taken Report of the Institution on Feedback Report

**Punyashlok Ahilyadevi Holkar Solapur University, Solapur**  
**T.Y. B.Tech (Mechanical Engineering) Semester- VI w.e.f Year 2020-2021**  
**ME 321 MACHINE DESIGN-II**

<i>Teaching Scheme</i>	<i>Examination Scheme</i>
Lectures – 3 Hours/week,	ESE – 70 Marks
Practical – 2 Hour/week,	ISE – 30 Marks
	ICA- 25 Marks

- **Course Introduction:**

This course seeks to provide an introduction to design of various machine elements and discusses various design procedures, requirements, and design methods. It introduces the design procedure for various types of gears like spur gears, helical gears, bevel gears and worm gears along with the introduction to AGMA standard. A further content explains in detail the significance of pressure vessels, design procedure, and introduction to various standards used for pressure vessels. The different types of bearings, their significance and the selection of the rolling contact bearings from Manufacturer's Catalogue and the design considerations for sliding contact bearing are also included in the course content.

- **Course Pre-requisite:** Student shall have knowledge of function of different machine elements such as different types of gears, bearings, shafts, keys, etc. A sound background of Mechanics of material and fundamentals of design of machine elements essential for successful completion of this course.

- **Course Objectives:** During this course, student is expected

1. To design gears and pressure vessels.
2. To select bearing from Manufacturer's catalogue
3. To use standards in design of machine elements.

- **Course Outcomes:** At the end of this course, student will be able to

1. Design gears and pressure vessels.
2. Calculate the load acting on shaft to select bearing from Manufacturer's catalogue.
3. Use standards in design of machine elements.

# Action Taken Report of the Institution on Feedback Report

## Section I

Unit 1- Spur and Helical Gears	No of lectures – 11
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### Spur Gear

- Unit Content:

Design considerations of gears, gear materials, types of gear tooth failures, hunting tooth, gear tooth loads, minimum number of teeth, face width, Lewis equation, Spur's equation, Buckingham's' Equation (Introductory treatment), gear design for maximum power transmission, Introduction to AGMA code.

#### Helical Gear.

Virtual number of teeth, force analysis, beam and wear strength, effective load on gear tooth.

Unit 2- Pressure vessel	No of lectures – 06
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- Unit Content:

Thin cylinders-Types of stresses, design of thin cylinders. (Numerical)

Thick cylinders- Types of stresses, failure criteria- Lame's equation, Clavarino's equation, Birnies equation (Numerical, No derivations)

Introduction to compound cylinders, autofrettage, unfired pressure vessels (code), types of end closures (No Numerical).

Effect of opening and nozzle in shell and covers. (Numerical)

Introduction to ASME codes used for design of pressure vessels (Introductory treatment).

Unit 3- Statistical Considerations in Design	No of lectures -03
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- Unit Content:

Frequency distribution, probability distribution, normal curve, design and natural tolerances.

## Section II

Unit 4- Bevel Gear	No of lectures – 05
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- Unit Content:

Terminology and geometrical relation, force analysis, mounting of bevel gears, beam strength and wear strength, dynamic tooth load.

Unit 5- Worm Gear	No of lectures – 05
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- Unit Content:

Terminology and geometrical relations, materials, standard dimensions and recommendations of worm gearing, force analysis of worm drive, friction in worm gear, efficiency and design

# Action Taken Report of the Institution on Feedback Report

## Punyashlok Ahilyadevi Holkar Solapur University, Solapur Faculty of Science & Technology

Credit System MODIFIED structure of T.Y. B. Tech. Mechanical Engineering W.E.F. 2020-21

Semester -V

### Theory Courses

Course code	Name of Theory Course	Hrs./week				Credits	Examination Scheme			
		L	T	P	D		ISE	ESE	ICA	Total
ME311	Machine Design –I	3	-	-	-	3	30	70	-	100
ME312	CAD-CAM & CAE	3	-	-	-	3	30	70	-	100
ME313	Metallurgy	3	-	-	-	3	30	70	-	100
ME314	Industrial Engineering and Operation Research	3	-	-	-	3	30	70	-	100
ME315	Professional Elective –III	3	-	-	-	3	30	70	-	100
SLH	Self Learning: HSS					2#		50		50
<b>Sub Total</b>		<b>15</b>	-	-	-	<b>15</b>	<b>150</b>	<b>400</b>	-	<b>550</b>

### Semester5 Laboratory / Tutorial Courses

Course code	Name of Laboratory /Tutorial Course	Hrs./week				Credits	Examination Scheme			
		L	T	P	D		ISE	ESE	ICA	Total
							POE	OE		
ME311	Machine Design –I	-	-	2	-	1	-	-	-	25 25
ME312	CAD-CAM & CAE	-	-	2	-	1	25	-	25	50
ME313	Metallurgy	-	-	2	-	1	-	-	25	25 50
ME314	Industrial Engineering and Operation Research	-	-	2	-	1	-	-	-	25 25
ME315	Professional Elective –III	-	-	2	-	1	-	-	-	25 25
ME316	Advanced ProgrammingConcepts	1		2		2	-	-	-	50 50
ME317	Mechanical Workshop –II	-	-	2	-	1	-	-	-	25 25
<b>Sub Total</b>		<b>01</b>	-	<b>14</b>	-	<b>08</b>	-	<b>50</b>	<b>200</b>	<b>250</b>
<b>Grand Total</b>		<b>16</b>	-	<b>14</b>	-	<b>23</b>	<b>150</b>	<b>450</b>	<b>200</b>	<b>800</b>

# Action Taken Report of the Institution on Feedback Report

Punyashlok Ahilyadevi Holkar Solapur University, Solapur

## Faculty of Science & Technology

Credit System **MODIFIED** structure of T.Y. B. Tech. Mechanical Engineering W.E.F. 2020-21

Semester -VI

### Theory Courses

Course code	Name of Theory Course	Hrs./week				Credits	Examination Scheme			
		L	T	P	D		ISE	ESE	ICA	Total
ME321	Machine Design -II	3	-	-	-	3	30	70	-	100
ME322	Instrumentation & Control	3	-	-	-	3	30	70	-	100
ME323	Heat Transfer	3	-	-	-	3	30	70	-	100
ME324	Industrial & Quality Management	3	-	-	-	3	30	70	-	100
ME325	Professional Elective -IV	3	-	-	-	3	30	70	-	100
ME326	Mini Project	-	-	-	-	-	-	-	-	-
ME327	Metrology	-	-	-	-	-	-	-	-	-
SLH 32	Self-Learning Technical	-	-	-	-	2#	-	50	-	50
<b>Sub Total</b>		<b>15</b>	-	-	-	<b>15</b>	<b>150</b>	<b>400</b>	-	<b>550</b>

### Semester 6 Laboratory / Tutorial Courses

Course code	Name of Laboratory / Tutorial Course	Hrs./week				Credits	Examination Scheme			
		L	T	P	D		ISE	ESE	ICA	Total
ME321	Machine Design -II	-	-	2	-	1	-	-	-	25
ME322	Instrumentation & Control	-	-	2	-	1	-	-	-	25
ME323	Heat Transfer	-	-	2	-	1	-	25	-	25
ME324	Industrial & Quality Management	-	1	-	-	1	-	-	-	25
ME325	Professional Elective -IV	-	-	2	-	1	-	-	-	25
ME326	Mini Project	-	1	-	-	1	-	-	-	25
ME327	Metrology	§	-	-	2	1	-	25	25	50
ME328	Mechanical Workshop -III	-	-	2	-	1	-	-	-	25
<b>Sub Total</b>		<b>-</b>	<b>02</b>	<b>12</b>	<b>-</b>	<b>08</b>	<b>-</b>	<b>50</b>	<b>200</b>	<b>250</b>
<b>Grand Total</b>		<b>15</b>	<b>02</b>	<b>12</b>	<b>-</b>	<b>23</b>	<b>150</b>	<b>450</b>	<b>200</b>	<b>800</b>

*Abbreviations: L-Lectures, T-Tutorials, P-Practical, D-Drawing, ISE- In-Semester Exam, ESE- End Semester Exam, ICA- Internal*

*Continuous Assessment , Professional Elective -IV: A. Project Management B. Industrial Product Design C. Plastic Engineering D.*

*Mechanical Vibrations E. Railway Transportation. # indicates credits over and above*

# Action Taken Report of the Institution on Feedback Report

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**T.Y. B.Tech (Mechanical Engineering) Semester- V w.e.f Year 2020-2021**  
**ME313 METALLURGY**

<b>Teaching Scheme</b>	<b>Examination Scheme</b>
<b>Theory:</b> 3Hrs/week	<b>ESE:</b> 70 Marks
<b>Practical:</b> 2Hrs/week	<b>ISE – 30Marks</b>
	<b>ICA: 25Marks</b>
	<b>OE: 25Marks</b>

## **Course Introduction:**

Course Introduction: Metallurgy is an art of extracting the pure metals from its ore. Its full scope is in:

- Mixing two or more metals to form an Alloy.
- Shaping the metals & alloys by different processes such as Casting, Forming, and Joining etc.
- Undergoing suitable Heat treatment for modifying the properties.
- And finally, in Inspecting & testing before putting the products in to use.

**Course Prerequisites:** Engineering Chemistry, Work shop practices, Manufacturing processes.

**Course Objectives:** To make the students proficient in:

- Structures, composition, properties, applications of materials and their selection for design purpose.
- Testing of materials and its significance.
- Heat treatment processes for different engineering materials.
- Powder metallurgy process and composite materials with its applications.

**Course Outcomes:** At the end of course, students will be able to-

- Select of ferrous alloys and demonstrate the significance of heat treatment processes for engineering applications.
- Establish the characteristics of nonferrous alloys and Composite materials.
- Select suitable testing method & implication of Powder metallurgy for manufacturing of products.

## **SECTION-I**

### **UNIT-1 Introduction to ferrous alloys** **No. of lectures-06**

Brief classification of Metals, Concept of alloying, Classification of cooling curves, Types of equilibrium diagram, Lever rule, phase rule, Solid solution & its types, Intermetallic compounds, allotropy.

### **UNIT-2 Ferrous metals and alloys** **No. of lectures-11**

Fe-Fe3C equilibrium diagram, critical temperatures, Plain carbon steels: composition, applications & properties, Effect of alloying elements on steels, Eutectic, Eutectoid and Peritectic transformations, Plain carbon steels, classification, composition, properties &

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# Action Taken Report of the Institution on Feedback Report

applications, Types of cast irons, composition, properties, applications. Alloy steels, alloying elements added to steels and their purpose.

Study of composition, properties and applications of following alloying steels.

1. HSLA steels	2. Spring steels	3. Silicon steels
4. Hadfield 'Mn' steels.	5. HCHC steels	6. Water hardening steels
7. Oil hardening steel	8. Air hardening steel	9. Hot working tool and Die
steel 10. Chisel steels	11. HSS	12. ONHS
13. Stainless steels and its types	14. Invar	15. Steels for subzero applications

## UNIT-3 Non-ferrous alloys, composites and Nano materials      No. of lectures-08

### Non-ferrous alloys

Copper alloys: brasses, bronzes. Aluminum alloys: Al-Si alloy, Al-Cu alloy

Steps in precipitation hardening (Steps only), Pb-Sn alloys, Study of Babbitts. Introduction to Ni alloys.

### Composite materials: Classification, properties and Applications

Nano materials – Concept, effect of particle size on mechanical properties.

## SECTION II

## UNIT-4 Heat treatments of steel      No. of lectures-9

Objectives of Heat Treatment, TTT and CCT diagram for eutectoid Steel (Introductory treatment only)

Annealing - purposes, types, applications, limitations.

Normalizing- purposes, types, applications, limitations.

Hardening & Tempering: purposes, types, applications. Types of Tempering, structural changes during tempering, Subzero treatment.

Methods of hardening such as Austempering, Martempering, limitations of these process, Surface hardening treatments.

Carburising – types, Nitriding.

Cyaniding and carbinitriding – Purposes, chemistry of process, applications, limitations.

Induction hardening - Flame hardening – Concept process, advantages, limitations and applications.

## UNIT-5 Destructive and Non Destructive testing      No. of lectures-06

A. Destructive testing methods, test procedure in brief, significance of

- i) Tensile testing ii) Hardness testing iii) Impact testing iv) Creep v) Fatigue testing.

B. Study of Non Destructive Testing methods (NDT) such as

- i) dye penetrant test ii) magnetic Particle test iii) Ultrasonic test iv) Radiography test v) Eddy current test. Introduction to advanced NDT methods.

## UNIT-6 Introduction to powder metallurgy      No. of lectures-04

Significance, steps in powder metallurgy process, Applications, Methods of powder manufacture, mixing / blending, compaction methods, sintering processes & types, advantages & limitations, Typical powder metallurgy applications and their flow chart: - Self lubricated bearings, cemented carbide cutting tools, friction materials, etc

# Action Taken Report of the Institution on Feedback Report

## Punyashlok Ahilyadevi Holkar Solapur University, Solapur Faculty of Science & Technology

Credit System MODIFIED structure of T.Y. B. Tech. Mechanical Engineering W.E.F. 2020-21

Semester -V

### Theory Courses

Course code	Name of Theory Course	Hrs./week				Credits	Examination Scheme			
		L	T	P	D		ISE	ESE	ICA	Total
ME311	Machine Design -I	3	-	-	-	3	30	70	-	100
ME312	CAD-CAM & CAE	3	-	-	-	3	30	70	-	100
ME313	Metallurgy	3	-	-	-	3	30	70	-	100
ME314	Industrial Engineering and Operation Research	3	-	-	-	3	30	70	-	100
ME315	Professional Elective -III	3	-	-	-	3	30	70	-	100
SLH	<i>Self Learning: HSS</i>					2#		50		50
	<b>Sub Total</b>	<b>15</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>15</b>	<b>150</b>	<b>400</b>	<b>-</b>	<b>550</b>

### Semester5 Laboratory / Tutorial Courses

Course code	Name of Laboratory /Tutorial Course	Hrs./week				Credits	Examination Scheme					
		L	T	P	D		ISE	ESE		ICA	Total	
								POE	OE			
ME311	Machine Design -I	-	-	2	-	1	-	-	-	25	25	
ME312	CAD-CAM & CAE	-	-	2	-	1	-	25	-	25	50	
ME313	Metallurgy	-	-	2	-	1	-	-	25	25	50	
ME314	Industrial Engineering and Operation Research	-	-	2	-	1	-	-	-	25	25	
ME315	Professional Elective -III	-	-	2	-	1	-	-	-	25	25	
ME316	Advanced Programming Concepts	1		2		2	-	-	-	50	50	
ME317	Mechanical Workshop -II	-	-	2	-	1	-	-	-	25	25	
	<b>Sub Total</b>	<b>01</b>	<b>-</b>	<b>14</b>	<b>-</b>	<b>08</b>	<b>-</b>	<b>50</b>	<b>200</b>	<b>250</b>		
	<b>Grand Total</b>	<b>16</b>	<b>-</b>	<b>14</b>	<b>-</b>	<b>23</b>	<b>150</b>	<b>450</b>	<b>200</b>	<b>800</b>		

Abbreviations: L-Lectures, T-Tutorials, P-Practicals, D-Drawing, ISE- In-Semester Exam, ESE- End Semester Exam, ICA- Internal Continuous Assessment

Professional Elective -III: A. Gas turbines B. Industrial Hydraulics and Pneumatics C. Non Conventional Machining D. Tool Engineering  
# indicates credits over and above.

# Action Taken Report of the Institution on Feedback Report

Punyashlok Ahilyadevi Holkar Solapur University, Solapur

Faculty of Science & Technology

Credit System **MODIFIED** structure of T.Y. B. Tech. Mechanical Engineering W.E.F. 2020-21

Semester -VI

## Theory Courses

Course code	Name of Theory Course	Hrs./week				Credits	Examination Scheme			
		L	T	P	D		ISE	ESE	ICA	Total
ME321	Machine Design -II	3	-	-	-	3	30	70	-	100
ME322	Instrumentation & Control	3	-	-	-	3	30	70	-	100
ME323	Heat Transfer	3	-	-	-	3	30	70	-	100
ME324	Industrial & Quality Management	3	-	-	-	3	30	70	-	100
ME325	Professional Elective -IV	3	-	-	-	3	30	70	-	100
ME326	Mini Project	-	-	-	-	-	-	-	-	-
ME327	Metrology	-	-	-	-	-	-	-	-	-
SLH 32	Self-Learning Technical	-	-	-	-	2#	-	50	-	50
<b>Sub Total</b>		<b>15</b>	-	-	-	<b>15</b>	<b>150</b>	<b>400</b>	-	<b>550</b>

## Semester 6 Laboratory / Tutorial Courses

Course code	Name of Laboratory / Tutorial Course	Hrs./week				Credits	Examination Scheme					
		L	T	P	D		ISE	ESE		ICA	Total	
								POE	OE			
ME321	Machine Design -II	-	-	2	-	1	-	-	--	25	25	
ME322	Instrumentation & Control	-	-	2	-	1	-	-	-	25	25	
ME323	Heat Transfer	-	-	2	-	1	-	25	-	25	50	
ME324	Industrial & Quality Management	-	1	-	-	1	-	-	-	25	25	
ME325	Professional Elective -IV	-	-	2	-	1	-	-	-	25	25	
ME326	Mini Project	-	1	-	-	1	-	-	-	25	25	
ME327	Metrology	-	-	2	-	1	-	25	25	50		
ME328	Mechanical Workshop -III	-	-	2	-	1	-	-	-	25	25	
<b>Sub Total</b>		<b>-</b>	<b>02</b>	<b>12</b>	<b>-</b>	<b>08</b>	<b>-</b>	<b>50</b>	<b>200</b>	<b>250</b>		
<b>Grand Total</b>		<b>15</b>	<b>02</b>	<b>12</b>	<b>-</b>	<b>23</b>	<b>150</b>	<b>450</b>	<b>200</b>	<b>800</b>		

Abbreviations: L-Lectures, T-Tutorials, P-Practical, D-Drawing, ISE-In-Semester Exam, ESE-End Semester Exam, ICA-Internal

Continuous Assessment, Professional Elective -IV: A. Project Management B. Industrial Product Design C. Plastic Engineering D. Mechanical Vibrations E. Railway Transportation. # indicates credits over and above

# Action Taken Report of the Institution on Feedback Report

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**Punyashlok Ahilyadevi Holkar Solapur University, Solapur**  
**T.Y. B.Tech (Mechanical Engineering) Semester- V w.e.f Year 2020-2021**

## **ME 316 ADVANCED PROGRAMMING CONCEPTS**

### **Teaching Scheme**

**Lectures – 1 Hours/week**  
**Practical – 2 Hour/week**

### **Examination Scheme**

**ICA - 50 Marks**

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#### **Course Introduction**

By the end of this course, students will have gained a fundamental understanding of programming in **Python** by creating a variety of scripts and applications for the Web and for systems development. Python is a versatile programming language, suitable for projects ranging from small scripts to large systems. The course emphasizes best practices such as version control, unit testing and recommended styles and idioms. Students will explore the large standard library of Python, which supports many common programming tasks.

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#### **Course Prerequisites**

This course is intended for absolute beginners in programming, but includes review of elementary features. Students are expected to be able to open command prompt window or terminal window, edit a text file, download and install software, and understand basic programming concepts.

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#### **COURSE OBJECTIVES:**

1. Introduce procedural and object-oriented style for writing Python scripts.
2. Introduce standard library packages and modules in Python.
3. To teach debugging and profiling of Python scripts.

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#### **COURSE OUTCOME:**

##### **At the end of this course, students will be able to**

1. Use Python standard library modules in writing Python scripts for problem solving.
2. Write Python scripts in procedural and object-oriented style.
3. Write Python scripts to perform database, network and web related operations.
4. Debug and profile Python scripts.

# Action Taken Report of the Institution on Feedback Report

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## SECTION I

### Unit 1 - Introduction to Python and Computer Programming

- 1.1 What is Python?
- 1.2 Types of Python
- 1.3 A basic program in python

### Unit 2 - Data Types, Variables, Basic Input-Output Operations, Basic Operators

- 2.1 Sample python program
- 2.2 Python literals
- 2.3 Operators - data manipulation tools
- 2.4 Variables - data-shaped boxes
- 2.5 How to talk to computer?

### Unit 3 - Boolean Values, Conditional Execution, Loops, Lists and List Processing, Logical and Bitwise Operations

- 3.1 Making decisions in Python
- 3.2 Python's loops
- 3.3 Logic and bit operations in Python
- 3.4 Lists - collections of data
- 3.5 Sorting simple lists - the bubble sort algorithm
- 3.6 Lists - some more details
- 3.7 Lists in advanced applications

## SECTION II

### Unit 4 - Functions, Tuples, Dictionaries, and Data Processing

- 4.1 Writing functions in Python
- 4.2 How functions communicate with their environment?
- 4.3 Returning a result from a function
- 4.4 Scopes in Python
- 4.5 Tuples and dictionaries

### Unit 5 - Modules, Packages, String and List Methods, and Exceptions

- 5.1 Using modules
- 5.2 Some useful modules
- 5.3 What is package?
- 5.4 Errors
- 5.5 The anatomy of exception
- 5.6 Some of the most useful exceptions
- 5.7 Characters and strings vs. computers
- 5.8 Python's nature of strings
- 5.9 String methods

# Action Taken Report of the Institution on Feedback Report

Punyashlok Ahilyadevi Holkar Solapur University, Solapur

Faculty of Science & Technology

Credit System MODIFIED structure of T.Y. B. Tech. Mechanical Engineering W.E.F. 2020-21

Semester -VI

## Theory Courses

Course code	Name of Theory Course	Hrs./week				Credits	Examination Scheme			
		L	T	P	D		ISE	ESE	ICA	Total
ME321	Machine Design –II	3	-	-	-	3	30	70	-	100
ME322	Instrumentation & Control	3	-	-	-	3	30	70	-	100
ME323	Heat Transfer	3	-	-	-	3	30	70	-	100
ME324	Industrial & Quality Management	3	-	-	-	3	30	70	-	100
ME325	Professional Elective –IV	3	-	-	-	3	30	70	-	100
ME326	Mini Project	-	-	-	-	-	-	-	-	-
ME327	Metrology	-	-	-	-	-	-	-	-	-
SLH 32	Self-Learning Technical	-	-	-	-	2#	-	50	-	50
<b>Sub Total</b>		<b>15</b>	-	-	-	<b>15</b>	<b>150</b>	<b>400</b>	-	<b>550</b>

## Semester 6 Laboratory / Tutorial Courses

Course code	Name of Laboratory / Tutorial Course	Hrs./week				Credits	Examination Scheme			
		L	T	P	D		ISE	ESE	ICA	Total
							POE	OE		
ME321	Machine Design –II	-	-	2	-	1	-	-	-	25
ME322	Instrumentation & Control	-	-	2	-	1	-	-	-	25
ME323	Heat Transfer	-	-	2	-	1	-	25	-	25
ME324	Industrial & Quality Management	-	1	-	-	1	-	-	-	25
ME325	Professional Elective –IV	-	-	2	-	1	-	-	-	25
ME326	Mini Project	-	1	-	-	1	-	-	-	25
ME327	Metrology	6	-	-	2	1	-	25	25	50
ME328	Mechanical Workshop –III	-	-	2	-	1	-	-	-	25
<b>Sub Total</b>		<b>-</b>	<b>02</b>	<b>12</b>	<b>-</b>	<b>08</b>	<b>-</b>	<b>50</b>	<b>200</b>	<b>250</b>
<b>Grand Total</b>		<b>15</b>	<b>02</b>	<b>12</b>	<b>-</b>	<b>23</b>	<b>150</b>	<b>450</b>	<b>200</b>	<b>800</b>

Abbreviations: L-Lectures, T-Tutorials, P-Practical, D-Drawing, ISE- In-Semester Exam, ESE- End Semester Exam, ICA- Internal Continuous Assessment , Professional Elective –IV: A. Project Management B. Industrial Product Design C. Plastic Engineering D. Mechanical Vibrations E. Railway Transportation. # indicates credits over and above

# Action Taken Report of the Institution on Feedback Report

**Punyashlok Ahilyadevi Holkar Solapur University, Solapur**

**T.Y. B.Tech (Mechanical Engineering) Semester- V w.e.f Year 2020-2021**

**ME 317 MECHANICAL WORKSHOP – III**

**Teaching Scheme:**

**Practical: 2 Hours / week**

**Examination Scheme:**

**ICA: 25 marks**

## **Course Prerequisite**

This course is important to understand fundamentals of machine shop starts from safety measures, practical use of measuring tools, use of all conventional machine tools, operations of all conventional machines, use of tolerances, fits and finally their practical use and applications.

## **Course Objectives**

1. To learn and understand different machining operations practically studied in theory subjects.
2. To get hands on experience of machining operations such as grinding, drilling, shaping, turning etc.
3. To develop skills to operate different machine tools.

## **Course Outcomes**

At the end of this course, the student will be able

1. To grind the tools.
2. To operate different machine tools such as grinders, lathes, milling, drilling machines etc.
3. To machine the component as per specified dimensions.

## **ICA**

### **Course Contents**

1. Tool Grinding Demonstration and actual grinding to understand the tool geometry (01 turns)
2. One composite job in M.S. consisting of one component and inclusive of following operation shall be performed by students (Any 5 Operations)  
Facing, Turning, Step turning, Chamfering, Grooving, drilling, Knurling. At least one dimension of the job shall carry close tolerance (04turns)
4. Preparation of process sheet for the above job (01 turns)

# Action Taken Report of the Institution on Feedback Report

PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR

## Faculty of Engineering & Technology

Credit System structure of S.Y. B. Tech. Mechanical Engineering W.E.F. 2019-20

Semester 3

### Theory Courses

Course code	Name of Theory Course	Hrs./week				Credits	Examination Scheme			
		L	T	P	D		ISE	ESE	ICA	Total
ME211	Applied Thermodynamics	3	-	-	-	3	30	70	-	100
ME212	Mechanics of Materials	3	-	-	-	3	30	70	-	100
ME213	Manufacturing Processes	3	-	-	-	3	30	70	-	100
ME214	Machine Drawing & CAD	3	-	-	-	3	30	70	-	100
ME215	Professional Elective-I	3	-	-	-	3	30	70	-	100
	<b>Sub Total</b>	<b>15</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>15</b>	<b>150</b>	<b>350</b>	<b>-</b>	<b>500</b>
MEV21	Environmental Sciences	1	-	-	-	-	-	-	-	-

### Semester 3: Laboratory / Tutorial Courses

Course code	Name of Laboratory / Tutorial Course	Hrs./week				Credits	Examination Scheme			
		L	T	P	D		ISE	ESE		Total
							ISE	POE	OE	ICA
ME211	Applied Thermodynamics	-	-	-	-	-	-	-	-	-
ME212	Mechanics of Materials	-	1	-	-	1	-	-	-	25
ME213	Manufacturing Processes	-	-	2	-	1	-	-	25	25
ME214	Machine Drawing & CAD	-	-	-	4	2	-	50	-	50
ME215	Professional Elective-I	-	-	2	-	1	-	-	-	25
	<b>Sub Total</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>5</b>	<b>-</b>	<b>50</b>	<b>25</b>	<b>125</b>
	<b>Grand Total</b>	<b>15</b>	<b>01</b>	<b>04</b>	<b>04</b>	<b>20</b>	<b>150</b>	<b>425</b>	<b>125</b>	<b>700</b>

Abbreviations: L - Lectures, P -Practical, T- Tutorial, ISE - In Semester Examination, ESE - End Semester Examination (University Examination for Theory & / POE & / Oral), ICA- Internal Continuous Assessment.

Professional Elective-I: A. Microprocessors in Automations B. Internal Combustion Engines C. Composite Materials

# Action Taken Report of the Institution on Feedback Report

## PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR Faculty of Engineering & Technology

Credit System structure of S.Y. B. Tech. Mechanical Engineering W.E.F. 2019-20

Semester 4

Course code	Name of Theory Course	Hrs./week				Credits	Examination Scheme			
		L	T	P	D		ISE	ESE	ICA	Total
ME221	Engineering Mathematics -III	3	-	-	-	3	30	70	-	100
ME222	Manufacturing Technology	3	-	-	-	3	30	70	-	100
ME223	Fluid Mechanics & Fluid Machines	3	-	-	-	3	30	70	-	100
ME224	Kinematics & Theory of Machines	3	-	-	-	3	30	70	-	100
ME225	Professional Elective-II	3	-	-	-	3	30	70	-	100
	<b>Sub Total</b>	<b>15</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>15</b>	<b>150</b>	<b>350</b>	<b>-</b>	<b>500</b>
MEV22	Environmental Sciences	1	-	-	-	-	-	-	-	-

### Semester 4: Laboratory / Tutorial Courses

Course code	Name of Laboratory / Tutorial Course	Hrs./week				Credits	Examination Scheme					
		L	T	P	D		ISE	ESE	POE	OE	ICA	Total
ME221	Engineering Mathematics -III	-	1	-	-	1	-	-	-	-	25	25
ME222	Manufacturing Technology	-	-	2	-	1	-	-	-	-	25	25
ME223	Fluid Mechanics & Fluid Machines	-	-	2	-	1	-	-	-	-	25	25
ME224	Kinematics & Theory of Machines	-	-	2	-	1	-	-	25	25	50	
ME225	Professional Elective-II	-	-	2	-	1	-	-	-	-	25	25
ME 226	Mechanical Workshop-I	-	-	2	-	1	-	-	-	-	50	50
ME 227	Electrical Technology	-	-	2	-	1	-	-	25	25	50	
	<b>Sub Total</b>	-	<b>01</b>	<b>12</b>	-	<b>07</b>	-	<b>50</b>	<b>200</b>	<b>250</b>		
	<b>Grand Total</b>	<b>15</b>	<b>01</b>	<b>12</b>	-	<b>22</b>	<b>150</b>	<b>400</b>	<b>200</b>	<b>750</b>		

Abbreviations: L- Lectures, P -Practical, T-Tutorial, ISE- in Semester Examination, ESE - End Semester Examination (University Examination for Theory & / POE & / Oral), ICA- Internal Continuous Assessment.

Professional Elective-II: A. Mechatronic Systems B. Power Plant Engineering C. Solid Mechanics

# Action Taken Report of the Institution on Feedback Report



Punyashlok Ahilyadevi Holkar Solapur University, Solapur

S.Y. B. Tech.-(MechanicalEngineering) Semester-III

## ME212- MECHANICS OF MATERIALS

### Teaching Scheme Examination Scheme

Theory/Lectures – 3 Hrs. /Week  
Tutorial- 1Hr. /Week

ESE: 70 Marks  
ISE: 30 Marks  
ICA: 25 Marks

**Course Introduction:** This course consists of topics from the course Strength of Materials which are helpful for mechanical engineers. It consists of basic concepts of stresses & strains induced due to various types of loads which are vital in Design engineering. It includes the topics of simple stresses & strains, strain energy and impact load, Principal stresses & strains and torsion of circular shafts, in the first section. In second section, the topics covered are SFD & BMD for beams, bending stresses in beams, shear stresses in beams and slope & deflection of beams. This course emphasizes the fundamentals of various topics under strength of materials necessary for practicing mechanical engineers in design and inculcates problem solving skill amongst the students.

### Course Objectives:

After successfully completion of this course, student will have an ability to:

1. Understand concepts of various types of stresses & strains, elastic constants & their relations.
2. Understand concept of strain energy and its significance.
3. Determine principal stresses, shear stresses on structural member under various loading combination analytically and graphically using Mohr's circle method.
4. Calculate the stresses and strains in circular torsion members, and members subject to flexural loadings.
5. Draw shear force and bending moment diagram for supported beam under various types of transverse loading.
6. Calculate bending and shear stresses in beam and determine distribution at any location along the section of beam.
7. Analyze simple bars, beams, and circular shafts for allowable stresses and loads.

### Course Outcomes:

At the end of course students will be able to:

- ME212.1 Determine the stresses, strains and deformation under various axial, torsional and flexural loading
- ME212.2 Determine strain energy in axially loaded members
- ME212.3 Calculate principal stresses & position planes in a member subjected to various types of stress system by analytical & graphical method.
- ME212.4 Determine torsional shear stress, angle of twist & design dimensions of shaft.
- ME212.5 Draw S.F.D, B.M.D and determine shear & bending stresses, slope and

# Action Taken Report of the Institution on Feedback Report

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## SECTION – I

<b>Unit No 01: Simple Stresses and Strains</b>	<b>No. of lectures-06</b>
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- Unit content: Concept of stress and strain (tensile, compressive & shear), linear & lateral strains, Volumetric strain, Hooke's law, Elastic constants and their relationships, stresses and strains in three dimensions (only numerical treatment), Stress-Strain diagram for ductile and brittle materials, Stresses and deformation in homogeneous and composite bars under concentrated loads.

<b>Unit No 02: Strain Energy and Impact Load</b>	<b>No. of lectures-04</b>
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Unit content-Concept of strain energy or resilience, proof resilience and modulus of resilience, determination of strain energy in tension and compression for axially loaded members due to gradual, sudden and impact loads.

<b>Unit No 03: Principal Stresses and Strains</b>	<b>No. of lectures-06</b>
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- Unit content: Normal and shear stresses on any oblique planes, concept of principal planes, principal stresses and maximum shear stress (2-D cases only), positions of principal planes and planes of maximum shear for various cases of loading (2-D only), maximum shear stress, Use of graphical method (Mohr's circle) for determination of principal stresses and maximum shear stresses.

<b>Unit No 04: Torsion of Circular Shafts</b>	<b>No. of lectures-04</b>
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- Unit content: Theory of torsion of circular shafts, assumptions, derivation of torsion equation, determination of torsional shear stress and angular twist for solid and hollow shafts in power transmission applications.

## SECTION II

<b>Unit No 05: Shear Force and Bending Moment Diagrams for Beams</b>	<b>No. of lectures-06</b>
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- Unit content: Concept of shear force and bending moment in determinate beams due to concentrated loads, UDL, UVL and couples (analytical method only for cantilevers, simply supported and overhanging beams), determination of points of contra shear and contra flexure.

<b>Unit No 06: Bending Stresses in Beams</b>	<b>No. of lectures-05</b>
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- Unit content: Introduction, theory of pure bending of beams, assumptions and sign Conventions, bending stress distribution diagram, Flexure's formula derivation, moment of resistance and section modulus, determination of bending stresses for commonly used cross sections (rectangular, I-sections and T-sections ).

<b>Unit No 07: Shear Stresses in Beams</b>	<b>No. of lectures-04</b>
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# Action Taken Report of the Institution on Feedback Report



Punyashlok Ahilyadevi Holkar Solapur University, Solapur  
S.Y.B. Tech.(Mechanical Engineering) Semester-III

ME214 MACHINE DRAWING & CAD

## Teaching Scheme

Lectures – 3 Hours/week

Practical – 4 Hour/week

## Examination Scheme

ESE – 70 Marks

ISE – 30 Marks

ICA – 50 Marks

OE – 50 Marks

**Course Introduction:** Drawing is called as language of engineers. This course emphasizes the fundamentals of various topics under machine drawing necessary for practicing mechanical engineers and inculcates problem solving skill amongst the students. Machine drawing on the other hand is the scientific representation of an object, according to certain national and international standards of practice. This course consists of selected topics from the subject Machine Drawing and Engineering Graphics which are helpful for mechanical engineers. It contains BIS convention, free hand sketching & Production drawing which are vital in Design engineering. It covers the topics of BIS conventions, free hand sketching, Production drawing, isometric projections along with assembly and details drawing. Also a very basic step in the process is to model the machine component accurately in the available CAD software packages. This course introduces the commands, procedures, for 2D as well 3D drawing used in such software. Use of software in the engineering design & manufacturing increases the productivity of the designer, improves the quality of design, improves communications through documentation, and creates a database for manufacturing. The course helps in skill development as per the need of the modern day industry & thus, enhances the employability.

**Course Prerequisite:** For this course, student is expected to have-

Knowledge of Engineering Drawing.

Knowledge of geometry.

Basic knowledge of computer operating

**Course Objectives:** During this course, student is expected to

- 1 To understand & use the principles and requirements of drawing practices as per BIS standards
- 2 To interpret and apply technique for making assembly from the detail/components
- 3 To interpret and apply, limits, fits and tolerances to the various machine elements
- 4 To operate the drafting software

**Course Outcomes:** At the end of this course, student will be able to

At the end of this course, the student will be

1. Able to create drawings as per BIS standards

2. Able to apply technique for assembly drawing from the detail/components

# Action Taken Report of the Institution on Feedback Report

Related Features such as Parallelism, Perpendicularity, Angularity, Concentricity, Tolerance Symbol and Value, Indicating Geometrical Tolerances on drawings.

**Surface Finish:-** Surface Texture, Surface Roughness Number, Roughness Symbols, Range of Roughness obtainable with different manufacturing processes.

*(Note : Numerals /calculations/problems/tasks/examples/theoretical questions on UNIT NO.3)*

## Unit 4— Details and Assembly Drawing

No of lectures – 6

To prepare detail drawings from given assembly drawing. To prepare assembly drawing from given drawing of details. Preparation of detailed drawing from the given details such as: Tools post of center lathe, Tail stock, Cross head Assembly, Jigs and fixtures, connecting rod and piston of I.C. Engines, Gland and stuffing box and many more suitable/considerations with moderate difficulty level, etc.

- Selection and showing of all the symbols & surface finish symbols, fits, tolerances for dimensions to details and assembly drawings.

## Section II

### Unit 5— Introduction to Computer Aided Drafting

No of lectures – 7

**(To be completed using suitable drafting package)**

The treatment on 2D Drawing with-

1. Basic commands to draw 2-D objects like line, circle, arc, ellipses, polygon etc
2. Edit & Modify commands: Erase, extension, break, fillet, chamfer, trim, scale, hatching etc.
3. Dimensioning & text commands
4. Viewing and other : Zoom , pan, block etc.

### Unit 6— 2D drafting – Part Drawing & Isometric Drawing

No of lectures – 4

Introduction to Computer aided drafting for Isometric Drawing. All necessary draw and edit and modify commands. Computer aided drafting (2D) of simple component part drawing & Isometric Drawing of machine components and plotting of drawings (printing process).

### Unit 7— 2D drafting – Assembly & part Drawing

No of lectures – 4

Commands required for Computer aided drafting (2D) and print out of –to draw details drawing from given assembly & assembly drawing from the given details drawing (With limits, fits, tolerances)

### Unit 8— Computer aided drafting (3D)

No of lectures – 5

Introduction to Computer aided drafting (3D). Introduction to modeling: Wireframe, Solid, Surface Modeling. Three dimensional drawing: UCS & three dimensional co-ordinates, Viewing in three dimensions, Solid modeling commands: primitive solids, extrude, revolve, sweep, loft, press pull, etc. Solid editing commands: 3D-rotate, 3D-Move, 3D-Scale, Boolean operations, Slice, Sections, etc.

# Action Taken Report of the Institution on Feedback Report



**Punyashlok Ahilyadevi Holkar Solapur University, Solapur**  
**S.Y.R.Tech (Mechanical Engineering) Semester-IV**  
**ME221 ENGINEERING MATHEMATICS-III**

## Teaching Scheme

**Lectures** – 3 Hours/week  
**Tutorials** – 1 Hour/week

## Examination Scheme

**ESE** – 70 Marks  
**ISE** – 30 Marks  
**ICA** – 25 Marks

### Course Objectives:

1. To introduce partial differential equations of first order
2. To introduce to students Fourier series of periodic functions
3. To introduce numerical methods for evaluating definite integrals.
4. To introduce numerical methods for solving linear and non-linear equations.
5. To introduce concepts of Probability distribution.

### Course Outcomes:

1. Student can solve partial differential equation of first order
2. Student can express a function in terms of sine and cosine components so as to model simple periodic functions.
3. Student can use numerical methods for evaluating definite integrals.
4. Student can use numerical methods for solving linear and non-linear equations.
5. Student can sketch and explain various probability distribution functions.

## SECTION – I

### Unit 1: First Order Partial Differential equations No. of lectures- 07 Hrs

Non-linear partial differential Equations of Type  $I f(p, q)=0$ , Type  $II f(p, q, z)=0$ , Type  $III f_1(p, x) = f_2(q, y)$ , Linear partial differential equations – Lagranges method, Solution of partial differential equation by method of separation of variables.

### Unit 2: Fourier series: No. of lectures- 06 Hrs

Introduction, Definition, Euler's formula, Fourier series of periodic functions with period  $2\pi$  and  $2L$ , Dirichlet's theorem (only statement), even and odd functions, half range sine and cosine series.

### Unit 3: Numerical Integration: No. of lectures- 07 Hrs

Newton Cotes Integration Formula: Trapezoidal rule, Simpson's Rule (1/3rd and 3/8th), Double integration, Integration of Equation: Gauss Quadrature 2 point and 3 point method.

## Section II

### Unit 4: Solution of Algebraic and Transcendental Equations: No. of lectures- 08 Hrs

Introduction, Basic properties of equations. Bisection Method, False position Method, Newton-Raphson Method, Multiple Roots, Newton's iterative formula for obtaining square root, Muller's Method. System of non linear equations by Newton Raphson

# Action Taken Report of the Institution on Feedback Report



**Punyashlok Ahilyadevi Holkar Solapur University, Solapur**  
**S. Y. B. Tech. (Mechanical Engg.) Semester-IV**  
**ME223 FLUID MECHANICS & FLUID MACHINES**

## Teaching Scheme

**Theory** – 3 Hrs. /Week

**Laboratory** – 2 Hrs. /Week

## Examination Scheme

**Theory** – ESE -70 Marks

**ISE** – 30 Mark

**ICA** – 25 Marks

**Course outcomes:** At the end of course, students will be able to

- Solve issues related to fluid statics & kinematics
- Apply Bernoulli's theorem in real world situations
- Perform dimensional analysis for research problems in fluid mechanics
- Solve problems related to drag, lift, drag & lift
- Select / design Pelton, Francis & Kaplan turbines
- Select/design centrifugal pump

## Section - I

### Unit No. 01: Fluid statics

**No. of lectures-05**

• Center of pressure, Total pressure on immersed surfaces – horizontal, vertical & inclined  
The principle of buoyancy, Archimedes' principle, conditions of equilibrium for submerged & floating bodies, discussions on stability, Meta-center & metacentric height.  
(No numerical treatment to Metacentric height)

### Unit No. 02: Fluid kinematics

**No. of lectures-05**

• Langrangian & Eulerian method of description of fluid flow, Types of flow with examples, Streamlines, path lines & streak lines, velocity components, local & convective acceleration, velocity potential function, equi-potential lines, Laplace equation governing potential flow, stream function, continuity equation in Cartesian co-ordinates

### Unit No. 03: Fluid dynamics

**No. of lectures-05**

• Euler's equation along a stream line & Bernoulli's equation, applications of Bernoulli's Theorem: Venturi meter, Orifice meter & Pitot tube, Flow through sharp edged small circular orifices, Determination of hydraulic coefficients of an orifice. (No numerical treatment to Orificemeter & Pitot tube)

### Unit No. 04: Flow through pipes

**No. of lectures-05**

Major & minor Energy losses, Darcy-Weisbach equation, loss of head in pipe connections & fittings, equivalent pipe, Hydraulic Gradient Line (HGL) & Total Energy Line (TEL), Siphon (No numerical treatment to HGL, TEL & Siphon), flow through pipes in series & parallel, efficiency of power transmission, maximum transmission of fluid power through

# Action Taken Report of the Institution on Feedback Report

## Section - II

### **Unit No. 05: Dimensional Analysis, Similitude and Forces on Immersed Bodies.**

**No. of lectures-05**

Dimensions of Commonly Encountered Fluid Properties , Dimensional Analysis, Rayleigh Theorem , Buckingham's  $\Pi$  theorem, similitude, modeling, Drag & Lift on immersed bodies, Drag & Lift forces on stationary body.

### **Unit No.6: Impulse Water Turbines**

**No. of lectures – 05**

Euler's equation for rotodynamic machines, Classification of water turbines, Pelton wheel, Work done and efficiencies of Pelton wheel, working proportions of Pelton wheel, Design of Pelton Turbine runner, governing of Pelton turbine.

### **Unit No.07: Reaction Water Turbines:**

**No of lectures – 05**

Construction and Working of Francis, Kaplan turbine. Work done and efficiencies of Francis & Kaplan turbine, Working Proportions of Francis & Kaplan turbine, Draft tube (Theoretical treatment only for draft tube), Types and function, governing of reaction turbines.

### **Unit No. 8: Centrifugal Pumps**

**No of lectures – 05**

Working principle, construction, types, various Heads, multistage pumps, Velocity triangles, Minimum starting speed, Maximum Suction Height & Net Positive Suction Head, Methods of priming, Calculations of efficiencies, Discharge, blade angles, Heads, Power required, impeller dimensions, specific speed of pumps, Performance characteristics of pumps.

### **Internal Continuous Assessment (ICA)**

#### **Compulsory:**

1. Numerical & theoretical assignments on basics of fluid mechanics (Properties of fluids & related laws)
2. Numericals on Piezometer, Simple & inverted U tube manometer

Any seven out of the following

1. Determination of meta centric height for a ship
2. Determination of Coefficient of friction for Pipes
3. Verification of Bernoulli's theorem.
4. Calibration of Venturimeter / Orifice meter.
5. Determination of Hydraulic Coefficient of an Orifice.
6. Trial on a Pelton wheel.
7. Trial on a Francis/ Kaplan turbine.
8. Trial on a centrifugal pump.
9. Two problems using CFD software

**SVERI's**

**College of Engineering, Pandharpur**

**Department of Civil Engineering**

**Action Taken Report of the**

**Institution on Feedback Report**

## Action Taken Report of the Institution on Feedback Report

➤ Letter to the Director, Punyashlok Ahilyadevi Holkar Solapur University about incorporating different suggestions collected from various stakeholders regarding curriculum.

**Shri Vitthal Education & Research Institute's  
COLLEGE OF ENGINEERING, PANDHARPUR**

P.B No.54, Gopalgupur - Ranjan Road, Gopalgupur, Pandharpur - 413304, District: Solapur (Maharashtra)  
Tel.: (021861) 216063/ 0503100757, Toll Free No.: 1800-3000-4131 e-mail: [coep@sveti.ac.in](mailto:coep@sveti.ac.in)  
Website: [www.sveti.ac.in](http://www.sveti.ac.in) (Approved by A.I.C.T.E., New Delhi and Affiliated to Solapur University, Solapur)  
NSA Accredited all eligible UG Programmes, NAAC Accredited Institute ISO 9001:2008 Certified Institute  
Accredited by The Institution of Engineers (India), Kolkata and TCS, Pune

Ref.: COEP/R/2019-20/658 (1) Date: [14/12/2019]

To  
The Director,  
Punyashlok Ahilyadevi Holkar Solapur University,  
Dnyanteerth Nagar, Kegnaw,  
Solapur-Pune National Highway,  
Solapur - 413255.

Sub:- About Major Curriculum Gaps under Civil Engineering.

Respected Sir,

As per the requirement of National Board of Accreditation (NBA), it is required to identify the Curriculum Gaps for all Courses (Subjects), which are to be taught by subject teachers as content beyond syllabus. Accordingly, we have identified Curriculum Gaps for various Subjects under Civil Engineering Programme. We are submitting these identified Curriculum Gaps for your kind perusal and necessary action.

You are requested to kindly do further needful and oblige.

Thank you,

Punyashlok Ahilyadevi Holkar  
Solapur University, Solapur  
Inward No. ....  
1669 BM  
10 DEC 2019  
Asst. Registrar (Dy. Registrar HR & I)

Yours faithfully,  
B. P. Ronge  
(Dr. B. P. Ronge)  
PRINCIPAL

Encl.: Details of Major Curriculum Gaps for (Civil Engineering)

*87-0610  
Vatal  
19-12-2019*

# Action Taken Report of the Institution on Feedback Report

## Civil Engineering Department

### **CURRICULUM**

#### **G1. Interior Design and Architectural Aspects**

In the modern era, it is having more importance to interior design & architecture. By introducing this topic will make students more skillful and updated to modern techniques of aesthetic appearance, fascinating interior design and astonishing architectural drawing/design.

#### **G2. Structural Health Auditing and Repair**

With aging structures there will be great demand of structural health auditing experts. Based on their audit, there is need for suggesting repair strategies. This topic will cover various approaches of Non-Destructive tests of civil engineering structures which further involve damage identification, sizing, localization and characterization of damage. This identification becomes useful for predicting the criticality of damage and assessing remaining life of structure.

#### **G3. Civil Engineering Related Softwares**

Most of the detailed analysis & design work for moderate and large structures is being performed using commercially available software. The efforts will be taken to introduce most frequently used softwares by industries in various domains of drawing, structural design, water resources etc.

#### **G4. Practical Aspects of Construction Management**

In the curriculum various sub courses of construction management viz. drawings, design, estimation, concrete technology, surveying etc are structured separately. However utilization of all these tools for completing a single project need to be introduced from stage one to final stage.

#### **G5. Advanced Topics in Civil Engineering**

In the curriculum stress is mainly given on fundamentals of Civil engineering topic. However for onsite implementation of mega projects its essential to get introduced with advanced topics like advanced construction processes and equipments, advanced materials, prefabricated structures etc.



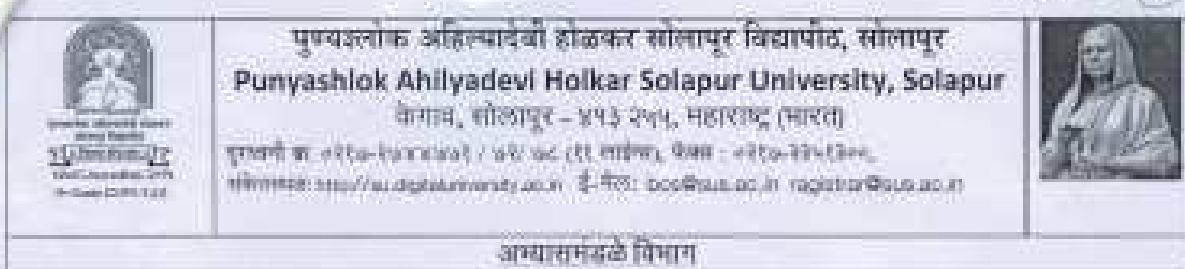
(Dr. B. P. Ronge)  
PRINCIPAL

## **Action Taken Report of the Institution on Feedback Report**

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**Minutes of the meeting of the Board of Studies in the  
Subject of Civil Engineering was held in the  
University office on 04/02/2020**

# Action Taken Report of the Institution on Feedback Report



पात्रा युवाराजीमेती/अग्रिमी/2020/

दिनांक:

## Minutes

Minutes of the meeting of the Board/Ad-hoc Board Studies in the Subject of CIVIL ENGINEERING was held in the University office, on 4 / 2 /2020 at 11.30 A.M. P.M.

The following members were present:

Sr. No.	Name	Sign.
1)	Dr. S. A. Halkude	
2)	Dr. Prashant Maruti Pawar	
3)	Dr. S. S. Patel	
4)	Dr. S. S. Koshti	
5)	Dr. Rajendra Kumar Harshav	
6)	Dr. M. G. Kalyanbhatt	
7)	Dr. Ms. V. S. Kshirsagar	
8)	Dr. C. P. Pise	
9)		
10)		
11)		

The following business was transacted at the Meeting.

Item No. 1:- Confirmation of the last meeting minutes of the Board of Studies in Subject of Civil Engg. was held in the University office,

on 4 / 2 /2020 . The following members - (i) Mr. S. H. Patil, (ii) Mr. S. P. Mukherjee, (iii) Dr. A. D. Dange, (iv) Dr. C. S. Kshirsagar

Resolution:- requested for leave of absence, and it is granted to them.

Chairman

## Action Taken Report of the Institution on Feedback Report

गारीबी विवाहीचे इतिहासकाढून वाचाय करावा.

१६. १९/८/२०१९ रोजी इतिहास

मार्गील विवाहीचे इतिहासकाढून वाचाय काढाय १६/१९/२०१९

(2)

संग्रहीत

३. विज्ञिन वर्ष २०२०-२१ याच्या B.Tech Part- II Information Technology या पाठ्यक्रमाचा निवड आवश्यित असावा म्हणालीनुसार (S.Y.B.Tech) अभ्यासक्रम विभागाला विभागाचीकडे विभागाचे कारण्याची याच विचारावा.

सांगेतिक ठेठावे

मोहन रोडकी, काढे

Page No:-

४. एविएशनी प्राणिक, परीक्षक व विद्यार्थक कामा नीच्यातील करिता ग्राहाराट सांगेतिक अविनियम, २०१८ काढाय १६/१९/२०१९ अव्यापकाच्या वागाची याची तपार करून परीक्षक व विद्यार्थक संक्षेपातूले विभागात सरायाची याच विचारावा.

सांगेतिक वाचा B.O.T. विभागाकडे १३ सप्टेंबर २०१९  
रोजी राज्याचे संवादी केलया आहेत

५. S.E., M.E. Part-I या युनियन अभ्यासक्रमाची नवीन अभ्यासक्रमानुसार (S.Y. B.Tech, M.Tech- Part-I) समर्थक (Equivalence) निवड तपार कारण्याची याच विचारावा.

सांगेतिक वाचा B.O.T. विभागाकडे १३ सप्टेंबर २०१९  
रोजी राज्याचे संवादी केलया आहेत

## Action Taken Report of the Institution on Feedback Report

५. कोलेज अस्पताली पठारपुर माले १८/१२/२०१९ रोपन  
पत्र विवराय - COEP/R/2019-20/858(1) - १५.१२.  
१२८. पत्रातील अस्पताली योग्यता नी नोंद नेव्ही आहे.

६३. Ph. D. स्नातीक अन्यान्यका उपलब्धिका गतीन कर्ता वाचा.

पी.एस.टी. कोर्टिक आमवास्तुम सामिती (एक्सीज्युज़िन)

### ३ गांधीजी वरस्यात् उगाली

- 1) प्रा.डॉ. शत्रुघ्नीकुमार रा. काशीद
- 2) प्रा.डॉ. प्रशांत पकार
- 3) प्रा.डॉ. रातेडकुमार देवस्थान

માન માનિયીને પ્રદૂષણ (P.H.D. course work)  
એમારુ કરામતા બિલ્ડિંગ પ્રદૂષણ - પુરુષ  
B.O.S. સ્પોર્ટ્સ માટ્ટે બિલ્ડિંગ પ્રદૂષણ દેખાના.

१८. ए. अस्त्रा योग्यता कुर्दिशलयानीने योग्यता अधिकार देखेगा तिथि।

(i) अग्रवाल अडिसनोलॉजीज की महाराष्ट्रातील इनोवेशन्स एवं प्रौद्योगिकी परिषद ने  
WIT/2019/2019-20/1308 नं. फॉर्म एम्प्रेयर्स एवं नोटरी नं.  
हराव : 20 पराम्परील मंगळवारी नोटरी घेतला एम्प्रेयर्स एवं नोटरी ने  
वर्धन अस्थायिकान केले आहेत.

(ii) IETE Journals संस्कारितात वाढत आलेली E-mail  
ठार - अलेक्सांड्रा मेल एवं नोटरी घेतला.

## Action Taken Report of the Institution on Feedback Report

प्रिया (2) दिनांक 2020-21 मार्ग  
B.Tech. पाठ्यक्रम एवं अधिकारी विभाग के लिए याचिका

Page-44

B.Tech. पाठ्यक्रम एवं अधिकारी विभाग के लिए याचिका  
याचिका (कार्य) एवं विवरण विवरण विवरण  
विवरण विवरण

**प्रति**  
The 'Board of Studies' have received various  
suggestions from, affiliated institutions,  
representatives of Industry on B.O.S., Other  
Industry experts and various employees of  
graduates of the University. The Institute  
suggestions also includes suggestions received  
from Industry Experts.

A detailed discussion on suggestions received  
from the various stakeholders was done in  
depth and its impact on attainment of  
POs/PSOs was made discussed. Accordingly  
the B.O.S. has come to a conclusion for  
inclusion of suggestions on course content  
in T.Y.B.Tech. Civil Engg from A.Y. 2020-21.

Accordingly, the structure of T.Y.B.Tech. is  
revised from assessment perspective.

Upon inclusion of suggestions as discussed,  
the Chairman B.O.S. shall submit 'structure  
and syllabus' for T.Y.B.Tech. Civil Engg from  
Academic year 2020-21, within week time  
with the recommendations for further  
action to University authorities.

## **Action Taken Report of the Institution on Feedback Report**

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**Minutes of the meeting of the Board Studies in the  
Subject of Civil Engineering was held in the  
University office on 11/09/2019**

# Action Taken Report of the Institution on Feedback Report

	<p>पुण्यश्लोक अहिल्यादेवी होळकर सोलापुर विश्वविद्यालय, सोलापुर Punyeshlok Ahilyadevi Holkar Solapur University, Solapur कागांव, सोलापुर - 41913, महाराष्ट्र (मासांड) पुस्तकालय: <a href="http://solapuniversity.ac.in">solapuniversity.ac.in</a>   <a href="http://solapuniversity.ac.in">solapuniversity.ac.in</a> अन्यासांगीकृत विषयां</p>	
वार्षिक युक्तिवाचक विवरण/मान्यता/उत्तरायण	दिनांक:	
<p><i>B.O.S. Section</i> Date :- 13/07/2019</p>		
<p><u>SUBMITTED</u></p>		
<p>Placed below herewith the minutes of the <i>Board of Studies / Ad-hoc Board/Sub-Committee/Faculty</i> in the subject of <u>Civil Engineering</u>.....held on 11/07/2019 at 12.00 am/pm for information.</p>		
 S.S. Chavare Sr. Clerk	<p>मिनीट्स अधिकारी, Civil Engg. विभागातील, विद्यकालीन संस्थान मिनीट्स अधिकारी, विद्यकालीन संस्थान (V.S. Patil) 13/07/19</p>	
	<p>Section officer</p>	
	<p>(Dr. S. N. Karkhile) Dy Registrar</p>	
	<p>(Pro. Dr. S. I. Patil) Hon. Pro-Vice Chancellor</p>	

# Action Taken Report of the Institution on Feedback Report



पुण्यशळोक अहिल्यादेवी होळकर सोलापुर विश्वविद्यालय, सोलापुर  
Punyashlok Ahilyadevi Holkar Solapur University, Solapur  
केगांव, सोलापुर - 413 745, महाराष्ट्र (भारत)  
फ़ॉकल वेबसाईट: [www.solapuruniversity.ac.in](http://www.solapuruniversity.ac.in) ई-मेल: [info@solapuruniversity.ac.in](mailto:info@solapuruniversity.ac.in)



आगामी बैठक के विषय

आगामी बैठक का तिथि/महीना:

Date: 12-3-2019  
11/03/2019

## Minutes

Minutes of the meeting of the Board/Ad-hoc Board in the Subject of  
Civil Engineering..... was held in the University office,  
on 12/3/2019 at 12 <sup>PM</sup> A.M./P.M.

The following members were present:

Sr. No.	Name	Signature
1.	Dr. S. A. Holkade	
2.	Dr. S. S. Patil	
3.	Dr. S. S. Kothad	
4.	Dr. M. C. Kalyanashetti	
5.	Dr. P. M. Pawar	
6.	Mr. S. P. Maholikar	
7.		
8.		
9.		
10.		

The following business was transacted at the Meeting.

Item No. 1: Confirmation of the last meeting minutes of the Ad-hoc Board in the Subject of Civil Engg..... was held in the University office, on 1/3/2019.

Resolution:- Above minutes of previous meeting were read and confirmed

Chairman

## Action Taken Report of the Institution on Feedback Report

(2)

विषय क्र. 2. इंडियन हाईकॉलेजिङ नियाइचिंह  
दिल्ली पर नियागर्भी.

उत्तर: सदरहु पत्राची नोंदधीतली.

इंडियन हाईकॉलेजिङ ऑफिनलस (डी.टी.इ.डी.ए) मांगन्हुए  
एन सोलागूर भुविलामेटी इंडियनल संबर- २५ प्रभाले  
कामिनाही करावी असे संतुष्टते ठरले.

विषय क्र. 3

डी. ब. टेक, म. टेक, पार्ट-१ व ब. इ. मा. शुल्क  
अंत्यासामुक मातील नवीन अंत्यासामुक नियावीन  
अंत्यासामुक मातील असमिक्षण (Equivalence)  
विषय तमाट करूयाची नाव विचारायी

उत्तर:

डी. ब. टेक, म. टेक, पार्ट-१ व ब. इ. मा. शुल्क  
अंत्यासामुक मातील नवीन अंत्यासामुक मातील  
समिक्षण (Equivalence) विषयाची आठी  
स्वीकृत जौडली आहे.

## Action Taken Report of the Institution on Feedback Report

हरिहर- वर्गीकृत सर्व मानवियावयोंनी- शैक्षणिक एवं १०.१०  
भवयों शैक्षणिक (शैक्षणिक-प्रवर्णन) वर्गों  
नामानुसार लोकन् ३५.२० लाखों शैक्षणिक (शैक्षणिक-  
प्रवर्णन) वर्गीकृत मिशनावाचिक- ग्रन्थालय  
नियन्त्रकवर वर्गों नमूद वेत्तेवान मानवियावय वर्गों  
मध्ये अप्रेत-

For this reason, the following guidelines are fundamental:

(1) These students shall offer all T.E. Civil Part-A and T.E. Civil Part-B subjects according to prevailing T.E. Civil Curriculum in 2017-18 and complete "Third Year Civil Engineering" in 2018.

(2) These students shall offer all T.E. Civil Part-A and T.E. Civil Part-B subjects according to current T.E. Civil Curriculum and complete "Final year Civil Engineering" in 2018.

(3) In view of the subject "Water Resources Engineering" will be CPEA missed by these repeat students (admitted in T.E. in or before 2017-18) due to change in syllabus structure from 2018-19 the T.E. shall be the maximum for

## Action Taken Report of the Institution on Feedback Report

Institute shall organize teaching of the same subject, carry out appropriate ISE and ICA from the students. Finally the Institute shall conduct examination at college level and communicate the results to the University at the end of the semester.

Upon completion and confirmation by the student, as mentioned in (3), University shall issue a certificate to the student stating clearly he has completed the course in **Water Resources Engineering**, as recorded in the **POST**.

2023-03-26 16:59

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विषय (स) संस्कृत भाषा क्रमसंख्या १०३ प्रत्यक्षावली (ने)  
प्रत्यक्ष भाषावाक्यों के लिए

दृष्टव्य = उपर्युक्त विवरण से लेने वाली विषय वाक्यात्

## **Action Taken Report of the Institution on Feedback Report**

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**Minutes of the meeting of the Board Studies in the  
Subject of Civil Engineering was held in the  
University office on 10/05/2019**

# Action Taken Report of the Institution on Feedback Report



पुण्यश्लोक अहिल्यादेवी होळकर सोलापूर विद्यापीठ, सोलापूर  
Punyashlok Ahilyadevi Holkar Solapur University, Solapur

B.O.S. Section  
Date :- 11/05/2019

## SUBMITTED

Placed below herewith the minutes of the Board of Studies/Ad-hoc Board/Sub-Committee/Faculty in the subject mentioned in the following table.

Sr. No.	Name of BOS / Ad-hoc BOS/Sub-Committee	Date of Meeting
1	Civil Engineering B.O.S	10/05/2019
2	General Engineering B.O.S	10/05/2019
3	B.Sc., B.A., B.Com- I Geography B.O.S	28/03/2019
4	B.Sc., B.A- I I Geography (S.T.D.) Sub-committee	11/05/2019

Dr. S. S. Patil  
Vice-Chancellor

Dr. S. S. Patil  
Vice-Chancellor  
Date: 11.05.2019

प्राचीन अहिल्यादेवी होळकर सोलापूर विद्यापीठ  
प्राचीन अहिल्यादेवी होळकर सोलापूर विद्यापीठ

Dr. S. S. Patil  
Vice-Chancellor

Dr. S. S. Patil  
Vice-Chancellor

# Action Taken Report of the Institution on Feedback Report



## Punyashlok Ahilyadevi Holkar Solapur University, Solapur Minutes

Minutes of the meeting of the Board/Ad-hoc Board in the Subject of Civil Engineering was held in the University office, on 10/ 5/2019 at, 11.30 A.M./P.M.

The following members were present:

Sr. No.	Name	Signature
1.	Dr. S. S. Patil	
2.	Dr. S. S. Rashad	
3.	Dr. C. S. Pise	
4.	Dr. M. G. Kalyanashetti	
5.	Mrs. S. P. Moholkar	
6.	Dr. Prashant M. Pawar	
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		

The following business was transacted at the Meeting.

Item No. 1: Confirmation of the last meeting minutes of the Ad-hoc Board in the Subject of Civil Engineering was held in the University office, on 10/5/2019, 28-12-18

Resolution: Minutes of last G.O.S meeting were read and confirmed

Chairman

## Action Taken Report of the Institution on Feedback Report

Principal Dr. S. P. Halkude, Chairman B.O.S. communicated his inability to attend this meeting due to some official work.

Hence Dr. S. S. Patil, Member B.O.S. was requested to chair this meeting. Hence he chaired this meeting.

(2) Submission of B.E.Civil Engineering syllabus (CBCS pattern) w.e.f 2019-20.

→ B.E.Civil Engineering syllabus (CBCS pattern) with effect from 2019-20 is submitted, and accepted. It is now recommended to Academic council for further process.

(3) Submission & acceptance of S.Y.B.Tech. Civil Engg syllabus (CBCS) w.e.f. 2019-20.

→ S.Y.B.Tech. Civil Engg (CBCS) syllabus w.e.f 2019-20 is submitted and accepted. It is now recommended to Academic council for further process.

(4) M.Tech - I, Semester-II - civil Engineering (CBCS pattern) structure & syllabus submission & acceptance.

→ M.Tech - I, Semester-II - Civil Engg meeting structure and syllabus is (CBCS pattern) submitted and accepted. It is recommended to Academic council for further process.

## Action Taken Report of the Institution on Feedback Report

(5) M.Tech.-Second year - Civil structural Engg  
(CBCS pattern) syllabus & structure to be submitted & accepted.

→ M.Tech. second year - Civil structural Engg  
(CBCS pattern) syllabus & structure has submitted and accepted.

It is now recommended to academic council for further process.

(6) Panel of examiners, moderators & paper-setters to be submitted.

→ panel of paper setters, examiners & moderators as per M.U.P. 2016-21(CS) is already submitted.

(7) Equivalence of new syllabus with old syllabus.

→ ~~Revised~~ The equivalence of revised course curriculum of previous course curriculum is submitted.

(8) Subject with permission of chairman.

~~None~~

→ There was no such subject.

Note: All subjects viz. B.E Civil (CBCS), M.Tech (CBCS) Civil structures

B.Tech. Civil Engg. are formulated based on feedbacks received from various stakeholders

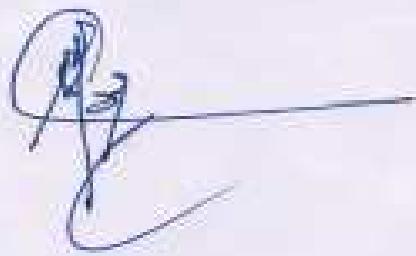
viz. Industry experts, subject experts from faculty, alumni, current students, parents etc.

## Action Taken Report of the Institution on Feedback Report

Signatures of members,

- 1) Dr. S.S. Patil — 
- 2) Dr. S.S. Kashid — 
- 3) Dr. S.P. Pise — 
- 4) Dr. M.G. Kalgankatti — 
- 5) Mr. S.P. Melolkar — 
- 6) Dr. P.M. Pawar — 

Read & Confirm



**Action Taken (New Content / Topic Added)  
in the Curriculum**

# Action Taken Report of the Institution on Feedback Report



**PUNYASHLOK AHILYADEVI HOLKARSOLAPUR UNIVERSITY, SOLAPUR**  
**Faculty of Science & Technology**  
**Credit System structure of S. Y. B. Tech. Civil Engg.- I, Semester- III, (W.E.F. 2019-2020)**

Course Code	Theory Course Name	Hrs./week				Credits	Examination Scheme			
		L	T	P	D		ISE	ESE	ICA	Total
CV211	Concrete Technology, Material Testing & Evaluation	3	-	-	-	3	30	70	-	100
CV212	Surveying & Geomatics	3	-	-	-	3	30	70	-	100
CV213	Building Construction & Drawing	2	-	-	-	2	30	70	-	100
CV214	Introduction to Fluid mechanics	3	-	-	-	3	30	70	-	100
CV215	Engineering Geology	2	-	-	-	2	30	70	-	100
CV216	Introduction to Solid Mechanics	3	1*	-	-	4	30	70	-	100
CV217	Energy Science & Engineering	1	-	-	-	1	25	-	-	25
	<b>Total</b>	<b>17</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>18</b>	<b>205</b>	<b>420</b>	<b>-</b>	<b>625</b>
	<b>Laboratory/Drawings</b>						<b>POE</b>	<b>OE</b>		
CV211	Concrete Technology, Material Testing & Evaluation	-	-	2	-	1	-	-	-	25
CV212	Surveying & Geomatics	-	-	2	-	1	-	25	-	50
CV213	Building Construction & Drawing	-	-	2	-	1	-	-	-	25
CV214	Introduction to Fluid mechanics	-	-	2	-	1	-	25	-	50
CV215	Engineering Geology	-	-	2	-	1	-	25	-	50
CV218	Lab practice	-	-	2	-	1	-	-	-	25
	<b>Total</b>	<b>-</b>	<b>-</b>	<b>10</b>	<b>-</b>	<b>6</b>	<b>-</b>	<b>75</b>	<b>150</b>	<b>225</b>
	<b>Grand Total</b>	<b>17</b>	<b>1</b>	<b>10</b>	<b>2</b>	<b>24</b>	<b>205</b>	<b>495</b>	<b>150</b>	<b>850</b>
	Environmental Science	1	-	-	-	-	-	-	-	-

**Abbreviations:** L- Lectures, P -Practical, T- Tutorial, D- Drawing, ISE -Internal Tests, ESE - University Examination (Theory & POE &/Oral examination), ICA- Internal Continuous Assessment.

# Action Taken Report of the Institution on Feedback Report



**PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR**

**Faculty of Science & Technology**

**Credit System structure of S. Y. B. Tech. Civil Engg., Semester – IV, W. E.F. 2019-2020**

Course Code	Theory Course Name	Hrs./week				Credits	Examination Scheme			
		L	T	P	D		ISE	ESE	ICA	Total
CV221	Water Supply Engineering	3	-	-	-	3	30	70	-	100
CV222	Building Planning & Design	3	-	-	-	3	15	35	-	50
CV223	Hydraulic Engineering	3	-	-	-	3	30	70	-	100
CV224	Open Elective-I: ICT for development	2	-	-	-	2	50	-	-	50
CV225	Structural Analysis	3	-	-	-	3	30	70	25	125
CV226	Engineering Mathematics-III	3	1	-	-	4	30	70	25	125
	<b>Total</b>	<b>17</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>18</b>	<b>185</b>	<b>315</b>	<b>50</b>	<b>550</b>
	<b>Laboratory/Drawings:</b>						<b>POE</b>	<b>OE</b>		
CV221	Water Supply Engineering	-	-	2	-	1	-	-	-	25
CV222	Building Planning & Design	-	-	-	2	1	-	75	-	50
CV223	Hydraulic Engineering	-	-	2	-	1	-	-	-	25
CV224	Open Elective- I: ICT for development	-	-	2	-	1	-	-	-	50
CV227	Computer Programming & Numerical Methods	2	-	2	-	3	-	50	-	25
	<b>Total</b>	<b>2</b>	<b>0</b>	<b>8</b>	<b>2</b>	<b>7</b>	<b>-</b>	<b>125</b>	<b>175</b>	<b>300</b>
	<b>Grand Total</b>	<b>19</b>	<b>1</b>	<b>8</b>	<b>2</b>	<b>25</b>	<b>185</b>	<b>415</b>	<b>225</b>	<b>850</b>
	Environmental Science	1	-	-		-	-	-	-	-

**Abbreviations:** L- Lectures, P -Practical, T- Tutorial, D- Drawing, ISE -Internal Tests, ESE - University Examination (Theory & POE &/Oral examination), ICA- Internal Continuous Assessment.

# Action Taken Report of the Institution on Feedback Report

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**PUNYASHLOK AHILYADEVI HOLKAR**

**SOLAPUR UNIVERSITY, SOLAPUR**

**S. Y. B. Tech. (Civil Engineering) – I, Semester- III**

**CV211: CONCRETE TECHNOLOGY, MATERIAL TESTING  
& EVALUATION**

**Teaching Scheme**

**Lectures – 3 Hrs/Week, 3 Credits**

**Practical – 2 Hr/Week, 1 Credit**

**Examination Scheme**

**ISE – 30 Marks**

**ESE – 70 Marks**

**ICA – 25 Marks**

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**Course Objectives:**

- 1) To acquaint students with properties of various ingredients of concrete
- 2) To introduce students to properties of fresh and hardened concrete
- 3) To educate students about admixtures in concrete & construction chemicals
- 4) To impart knowledge of various methods of concrete mix design.
- 5) To educate students about testing of various construction materials.

**Course Outcomes:**

On completion of the course students will be able to:

- 1) Carry out testing of various ingredients of concrete for mix design of concrete
- 2) Select appropriate type of concrete, admixture and chemicals for specific requirements.
- 3) Design a concrete mix of required strength and durability, for given field conditions, using suitable ingredients
- 4) To evaluate properties of construction materials viz. steel, bricks, timber, tiles etc. in laboratory for the quality assurance

**Unit 1: Ingredients of Concrete:- Cement**

**(5 Hrs)**

Hot and dry manufacturing process, significance of physical properties of cement such as fineness, consistency test, initial & final setting time, soundness, compressive strength, specific gravity. Hydration of cement, chemical compounds in cement & their properties. Types of cement- ordinary Portland, Portland pozzolana, rapid hardening Portland cement, quick setting cement, sulphur resisting cement.

# Action Taken Report of the Institution on Feedback Report

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## **Unit 7: Concrete Mix Design**

**(10 Hrs)**

Design Mix Concrete, nominal Mix Concrete, objectives of mix design, factors governing mix design, methods of expressing proportions ACI method, IS 10262:2009 code method, road Note No.4 method, trial mixes, and Acceptance criteria.

Quality control of concrete – Factors causing variations, field control.

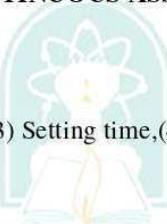
## **Unit 8: Testing of Materials**

**(5 Hrs)**

Tension test on Mild and Tor Steel, Compression test on Mild Steel & Cast Iron, Compression test on Timber (Parallel and across the grains), Shear test on Mild Steel, Brinell or Rockwell Hardness test on different metals. Flexural test & Abrasion test on flooring tiles, Water absorption, Efflorescence and Compression test on burnt Bricks

## **INTERNAL CONTINUOUS ASSESSMENT (ICA)**

### **A. Testing of cement**



- (1) Consistency, (2) Fineness, (3) Setting time, (4) Specific Gravity (5) Soundness
- (6) Strength

### **B. Testing of aggregates**

- 1. Specific Gravity & Water absorption of Coarse Aggregate & Fine Aggregate
- 2. Sieve analysis of Coarse Aggregate & Fine Aggregate
- 3. Bulk density of Coarse Aggregate & Fine Aggregate
- 4. Flakiness index of Coarse Aggregate
- 5. Elongation index of Coarse Aggregate
- 6. Bulking of Fine aggregate
- 7. Silt Content of Fine Aggregate

### **C. Tests on Concrete:**

#### **Workability tests:**

- (1) Slump test (2) Compaction Factor test (3) Vee-bee test (4) Flow table test

#### **Strength tests:**

- (1) Compressive strength test (2) Flexural strength test

# Action Taken Report of the Institution on Feedback Report

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b) **Computation of Coordinates:-** Transformation from Global to Local Datum , Geodetic Coordinates to map coordinates , G.P.S. Heights and mean sea level Heights. Applications of G.P.S.

## Unit 5: Remote Sensing Techniques (RST) (7 Hrs)

a) **Terrestrial and Aerial Photogrammetry:** Principles, Phototheodolite, Aerial Camera. Vertical aerial Photogrammetry: Scale, Relief Displacement, flight planning, Ground control Stereoscopy and photo interpretation: stereoscopes, Parallax Bar, Plotting instruments

b) **Unmanned Aerial Vehicle (Drone)-Introduction**

c) **Electromagnetic remote sensing:** Physics of radiant energy: Nature of Electromagnetic radiation, Electromagnetic spectrum. Energy sources and its characteristics. Atmospheric influences: Absorption, Scattering. Energy interaction with Earth Surfaces: Spectral reflectance Curve. Image Acquisition: Photographic sensors, Digital Data, Earth Resource satellites, Image resolution. Image Interpretation. Applications of Remote Sensing.

## Unit 6: Geographical Information System (GIS) and Project Survey (7 Hrs)

a) **Geographical Information System (GIS):** Information systems, spatial and non- spatial Information, geographical concept and terminology, advantages of GIS, Basic component of GIS.GIS hardware and software. Field data, statistical data, maps, aerial Photographs, satellite data, points , lines, and areas features, vector and raster data, data entry through keyboard, digitizer and scanners, preprocessing of data rectification and registration, interpolation techniques.

b) **Project Surveys**

- Building Lineout and layout
- Route Survey
- Culvert and Bridges
- Tunnel, Mine: Centre line transfer, Level transfer, Weisbach triangle

# Action Taken Report of the Institution on Feedback Report

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**PUNYASHLOK AHILYADEVI HOLKAR  
SOLAPUR UNIVERSITY, SOLAPUR  
S. Y. B. Tech. (Civil Engineering) – I, Semester- III  
CV213: BUILDING CONSTRUCTION AND DRAWING**

**Teaching Scheme**

Lectures – 2 Hours/week, 2 Credits  
Drawings – 2 Hour/week, 1 Credit

**Examination Scheme**

**ESE – 70 Marks**  
(Theory Paper of 4 Hours duration)  
**ISE – 30 Marks**  
**ICA- 25 Marks**

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**Course Objectives:**

- 1) To introduce students to functional requirements of buildings.
- 2) To introduce students to Scale and various types of Scale.
- 3) To impart knowledge of various building components such as door, windows, arches, floors etc along with its functions and method of construction.
- 4) To explain methodology adopted for design of various types of staircases.
- 5) To enable students to draw perspective view of a building.
- 6) To make the student conversant with various building finishes, ventilation and air conditioning principles

**Course Outcomes:**

After successful completion of this course the students will be able to:

- 1) Elucidate functional requirements of buildings and types of foundation and its suitability.
- 2) Draw neat drawings of different building components such as doors, windows, stairs etc with the suitable scale using CADD software.
- 3) Design different types of staircases commonly used in residential and public buildings.
- 4) Draw neat perspective view drawings of an object and given small residential building.
- 5) Select appropriate ventilation systems and building finishes.

# Action Taken Report of the Institution on Feedback Report

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## INTERNAL CONTINUOUS ASSESSMENT (ICA)

- For drawing session

(A) Sketching in sketchbook consisting of the following 9 drawing exercises:

1. Lettering, Symbols and line work.
2. Building structures (Load bearing & Framed structures)
3. Foundations- Isolated footing, combined footing, Strap footing and Pile footing.
4. Brick bonds
5. Arches and Roofs.
6. Doors
7. Windows
8. Staircases
9. Perspective drawing of object and one G+1 Residential building (Ready plan).

(B) Drawing using CADD software to be done:

1. Double leaf paneled doors
2. Double leaf paneled window
3. Open well staircase



Prints of these CADD drawings will form a part of 'Term work'.

- Site Visit for learning construction details of a residential building. A visit report to be drafted and submitted as a part of term work.

## TEXT BOOKS

- 1) A text book of Building Construction- Arora & Bindra- Dhanpat Rai Publication, New Delhi.
- 2) Building Construction- Sushil Kumar- Standard Publishers, Delhi.
- 3) Building Construction – Arora & Gupta –Satya Prakashan, New Delhi.
- 4) Principles of Building Drawing- M.G. Shah and C.M. Kale.
- 5) A course in Civil Engineering Drawing- V.B. Sikka – S.K.Katariya & Sons, Delhi.
- 6) Civil Engineering Construction Materials, S.K. Sharma, KBP House
- 7) Engineering Drawing + AutoCAD , by K.Venugopal , New Age International Publishers
- 8) Mastering AutoCAD 2019 and AutoCAD LT 2019, George Omura and Brian C. Benton, SYBEX Publishers.

# Action Taken Report of the Institution on Feedback Report

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**PUNYASHLOK AHILYADEVI HOLKAR**

**SOLAPUR UNIVERSITY, SOLAPUR**

**S. Y. B. Tech. (Civil Engineering) – II, Semester- IV**

**CV222: BUILDING PLANNING AND DESIGN**

## **Teaching Scheme**

**Lectures – 3 Hours/week, 3 Credits**

**Drawing – 2 Hour/week, 1 Credit**

## **Examination Scheme**

**ESE – 35 Marks**

**(Theory Paper of 2 Hours duration)**

**ISE – 15 Marks**

**ESE (POE) - 75 Marks**

**ICA- 50 Marks**

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## **Course Objectives:**

- 1) To impart knowledge of the principles of planning and building byelaws, rules and regulations
- 2) To enable students to draft 'Municipal building permission drawings' of a residential buildings
- 3) To impart knowledge of various building services.
- 4) To impart the knowledge of sustainable buildings, Green buildings, low cost housing and rain water harvesting techniques.
- 5) To introduce to the principles of acoustics, sound insulation and fire insulation

## **Course Outcomes:**

**After successful completion of the course the students will be able to:**

- 1) Plan residential and public buildings, according to the prevalent building byelaws
- 2) Prepare 'Municipal building permission drawings' of a residential buildings using CADD software tools.
- 3) Plan appropriate building services for a building
- 4) Design a rain water harvesting system for a building.
- 5) Plan appropriate acoustics, sound insulation and fire fighting arrangements for a building

# Action Taken Report of the Institution on Feedback Report

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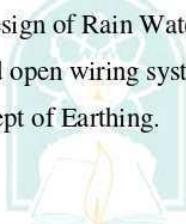
## **Unit 4: Building Permissions and its Procedure (5 Hrs)**

- Procedure and list of document for Building Permission and significance of various certificates (Commencement Certificate, Plinth Completion Certificate and Occupancy certificate).

## **SECTION II**

## **Unit 5: Building Services (5 Hrs)**

- Plumbing Systems:- Significance of Plumbing and Drainage plan and layout, Water Supply Requirements for Buildings, various types of traps, Fittings, Chambers and various type of materials like PVC, GI, AC, CI, HDPE, Stoneware, CPVC with various gauges and thickness, Water Closet Pan: Types and sizes.
- Introduction to Concept and Design of Rain Water Harvesting.
- Electrification: - Concealed and open wiring system, requirements and locations of various Electrical points, Concept of Earthing.



## **Unit 6: Green Buildings and Low Cost Housing (5 Hrs)**

- Computer aided design and drawing, Development of plan, Elevation and Section. Concepts of Green Building and energy efficient buildings.
- Low cost Housing, Materials & methods (Conceptual introduction only).

## **Unit 7: Acoustics and Sound Insulation (6 Hrs)**

- Acoustics:- Sound Frequency, Intensity, sound decibel rating, absorption of sound-Various materials. Sabine's formula, optimum reverberation time, conditions for good acoustics, effect of reflectors, flat ceiling, design of an auditorium, defects in auditorium and remedies, acoustics of various buildings such as Auditorium hall, Classrooms, broadcasting room etc.
- Sound insulation:- Acceptable noise level – Noise prevention at its source, transmission of noise, Noise control- general Consideration.

# Action Taken Report of the Institution on Feedback Report

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## **(B) Report of Planning & Design of a building, selected for a project work –**

The report shall include the Line plan, Principles of planning adopted, Byelaws, Rules and regulations followed while planning, Design calculations for Staircase, Sanitary requirements, etc.

## **END SEMESTER EXAMINATION**

### **(1) Theory examination (35 marks, 2 Hours)**

It will consist of theory and sketching questions based on full syllabus of the subject. However, it will **not** include development of residential/public building drawing on drawing sheets.

### **(2) Practical & Oral (50 marks)**

- a) Practical examination shall consist of planning of residential building and development of drawings using CADD drafting tool during practical examination. The assessment will be based on knowledge of student about building planning and CADD drafting skills depicted by the candidate during practical examination. Maximum two hours shall be allotted to the students to complete given task on CADD software tool during Practical examination.
- b) In addition Oral examination shall be based on CADD drawing developed during practical examination and term work.

## **TEXT BOOKS**

- 1) Building Design and Drawing: Y.S. Sane-Allies Book Stall, Pune
- 2) Building Design and Drawing : Shaha, Kale & Patki – T.M.H., New Delhi
- 3) Building Construction : Sushilkumar –Standard Publishers, Delhi
- 4) Building Construction : N.K.R. Murthy -Allies Book Stall, Pune
- 5) Building Construction: Arora and Gupta – Satya Prakash, New Delhi.
- 6) A Text book of building Construction: Bindra, Arora – Dhanpat Rai Publications.

# Action Taken Report of the Institution on Feedback Report

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PUNYASHLOK AHILYADEVI HOLKAR

SOLAPUR UNIVERSITY, SOLAPUR

S. Y. B. Tech. (Civil Engineering) – II, Semester- IV

**CV224: ICT for Development (Open Elective-I)**

## Teaching Scheme

Lectures – 2 Hrs/Week, 2 Credits

Practicals – 2 Hr/Week, 1 Credit

## Examination Scheme

ISE – 50 Marks

ICA-50 marks

---

### Course Objectives:

To make the students aware of Information Communication Technologies (ICT), E-services, Information processing tools, LaTex, Netiquettes & plagiarism.

### Course Outcomes:

Students will be able to

- 1) Use Learning Management system like MOODLE
- 2) Prepare documents and Presentations using information processing tools.
- 3) Use spreadsheets & databases for problem solving in civil engineering
- 4) Prepare reports using LaTex.
- 5) Create basic website using Wordpress.
- 6) Get acquainted with Netiquettes and plagiarism.

#### 1. Basics of ICT :

**(2 Hrs)**

Introduction to ICT, World Wide Web, Web servers, Web clients, Web sites, Web Pages, Web Browsers, Blogs, News groups, HTML, Web address, HTTP, FTP, downloading and uploading files from remote site, Web Services, Use of Google Drive, Docs and Forms, Free and open-source learning management system (e.g. - *Moodle*)

# Action Taken Report of the Institution on Feedback Report

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2. **e-Services:** (2 Hrs)

e-Commerce, e-Banking, e-Governance, ICT for sustainable development

3. **Information processing tools (MS-office/Libre Office)**

a. **Word processing:** (4 Hrs)

Creation/drafting of documents using shapes, smartart, charts, clipart, tables, equations etc. proofing and tracking changes in documents, mailmerge, inserting header, footer, page numbers, sections, watermarks etc.

b. **Spreadsheets:** (4 Hrs)

Collection and calculation of data, Use of functions (logical, mathematical, statistical etc.) Graphical Representation of data

c. **Presentation:** (3 Hrs)

Design of slides using shapes, table, smart art, clip art, charts, media clips, hyperlinks etc., Custom animations

d. **Database:** (4 Hrs)

Create database, create table, insert, update, delete records into tables, import/export data, Query execution

4. **Report writing (LaTeX):** (3 Hrs)

LaTeX on Windows using TeXworks, report writing, letter writing, mathematical typesetting, Equations, tables and figures, Beamer, Bibliography, Feedback diagram with Maths

5. **Netiquettes:** (3 Hrs)

Internet Etiquettes, Netiquette Basics: Core Rules of Netiquette, Introduction to Electronic Mail, Netiquette for Discussion Groups, Netiquette for Information Retrieval, Egregious Violations of Netiquette

6. **Website design:** (3 Hrs)

Word press for website creation, creating blogs

7. **Plagiarism:** (2 Hrs)

Importance, prevention and detection, Tools

# Action Taken Report of the Institution on Feedback Report

**Punyashlok Ahilyadevi Holkar Solapur University, Solapur**



**Name of the Faculty: Science & Technology**

**CHOICE BASED CREDIT SYSTEM**

## **Syllabus**

**T.Y. B. Tech (Civil Engineering)**

**w. e. f. Academic Year 2020-21**

# Action Taken Report of the Institution on Feedback Report



**PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR**

**Faculty of SCIENCE & TECHNOLOGY**

**Credit System structure of T. Y. B. Tech. Civil Engineering, Semester- I, (W.E.F. 2020-2021)**

Course Code	Theory Course Name	Hrs/week				Credits	Examination Scheme			
		L	T	P	D		ISE	ESE	ICA	Total
CV311	Design of Steel Structures	3	1	-	-	4	30	70	25	125
CV312	Geotechnical Engineering	4	-	-	-	4	30	70	-	100
CV313	Waste water Engineering & Air Pollution	3	-	-	-	3	30	70	-	100
CV314	Highway & Tunnel Engineering	4	-	-	-	4	30	70	-	100
CV315	Hydrology and Water Resources Engineering	3	1	-	-	4	30	70	25	<b>125</b>
CV316	Self Learning Module-I (H. S. S.)	-	-	-	-	2	-	50	-	50
	<b>Total</b>	<b>17</b>	<b>2</b>			<b>21</b>	<b>150</b>	<b>400</b>	<b>50</b>	<b>600</b>
	<b>Laboratory/Drawings</b>							<b>POE</b>	<b>OE</b>	
CV312	Geotechnical Engineering	-	-	2	-	1	-	25	-	25
CV313	Waste water Engg. & Air Pollution	-	-	2	-	1	-	-	25	25
<b>CV314</b>	<b>Highway &amp; Tunnel Engineering</b>	-	-	2	-	1	-	-	25	25
CV317	Planning & Design of Public Buildings	<b>1</b>	-	-	2	2	-	50	-	25
CV318	Mini Project *	-	-	2	-	1	-	-	50	50
	<b>Total</b>	<b>1</b>	<b>-</b>	<b>8</b>	<b>2</b>	<b>6</b>	<b>-</b>	<b>100</b>	<b>150</b>	<b>250</b>
	<b>Grand Total</b>	<b>18</b>	<b>2</b>	<b>8</b>	<b>2</b>	<b>27</b>	<b>150</b>	<b>500</b>	<b>200</b>	<b>850</b>

**Abbreviations:** L- Lectures, P -Practical, T- Tutorial, D-Drawing., ISE -Internal Tests, ESE- University Examination (Theory&/ POE &/Oral examination),

ICA- Internal Continuous Assessment.

\*The students shall carry out 'Mini Project' using suitable application software /Carry out suitable Experimental work/ Carry out variety of Civil Engineering Surveys and present a report. The Mini project shall be assessed by the respective guide for ICA.

# Action Taken Report of the Institution on Feedback Report



**Punyashlok Ahilyadevi Holkar Solapur University, Solapur**

**T.Y. B. Tech Civil – Part I**

**CV- 314 HIGHWAY & TUNNEL ENGINEERING**

## **Teaching Scheme**

**Lectures :-** 4 Hrs/Week, 4 Credits

**Practical :-** 2 Hrs/Week, 1 Credit

## **Examination Scheme**

**ISE:** 30 Marks

**ESE:** 70 Marks

**ICA:** 25 Marks

## **Course Outcomes:**

After completion of the course, students will be able to

1. Choose the ideal alignment for highways after thorough understanding of planning and different surveys.
2. Design various geometric elements of highway as per IRC standards.
3. Evaluate the pavement materials through various tests in the laboratory and design the crust thickness of pavements as per IRC standards.
4. Describe the different steps in highway construction and select appropriate drainage system.
5. Determine the highway economic cost by different methods of highway projects and explain highway financing.
6. Select appropriate method of tunnel construction in different types of soils.

## **SECTION- I**

### **Unit 1:**

**(10)**

**Introduction to Transportation engineering:** Modes of transports, their importance and limitations, the importance of highway transportation.

**Highway Development and Planning:** Principles of Highway planning, Road development in India, Classification of roads, road network patterns, Planning Surveys. Salient features of road development plan 2021 and present scenario of road development in India

**Highway Alignment and Surveys:** Requirements, Engineering Surveys.

# Action Taken Report of the Institution on Feedback Report

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## Unit 2: (10)

**Highway Geometric Design:** Cross Section elements, carriageways, camber, stopping and overtaking sight distances, Sight distance at uncontrolled intersection Horizontal alignment-

Curves, design of super elevation, extra widening, transition curves, Set back distance and design of vertical curves.

## Unit 3: (9)

**Highway Materials:** Properties of sub grade and pavement component materials, Tests on subgrade soils (CBR and Plate load tests), properties and requirements of road aggregates and bituminous materials, bituminous mix design by Marshall Method. Applications of Geosynthetics and Modified Binders in road construction.

## SECTION- II

## Unit 4: (8)

**Pavement Design:** Types of pavements, Design parameters, Axle and Wheel load, tyre pressure, ESWL concept, EWL factors, IRC method of flexible pavement design based on CSA method using IRC-37-2018. Analysis of wheel load and temperature stresses of rigid pavement, joints, Design of Rigid Pavement as per IRC-58-2015.

## Unit 5: (6)

**Highway Construction and Maintenance:** Specifications, construction steps and quality control tests for Granular sub base course, Water Bound Macadam, Wet Mix macadam, bituminous concrete pavement, Cement Concrete pavement.

## Unit 6: (5)

**Highway Maintenance:** Pavement failures (flexible and rigid), causes and remedies, Pavement evaluation, Functional and Structural evaluation.

**Highway drainage:** Surface and sub-surface drainage.

## Action Taken Report of the Institution on Feedback Report

## Unit 7:

(5)

**Highway Economics and Financing:** Highway user benefits – VOC using charts only – Highway costs – Economic analysis by annual cost method and benefit cost ratio methods. Highway financing – BOT, DBFOT, BOOT and Hybrid Annuity concepts.

## Unit 8:

(5)

**Tunnel Engineering:** Introduction to tunneling, size and shape of tunnel and suitability, tunneling through soils, soft and hard rocks, tunnel lining, drainage and ventilation.

## INTERNAL CONTINUOUS ASSESSMENT (ICA)

**Name of Tests:-**

## Test on Aggregates

1. Impact test on aggregate
2. Abrasion Test on aggregate
3. Crushing strength test on aggregate
4. Soundness test on aggregate
5. Shape test on aggregate

## Test on Soil

1. CBR test on soil
2. Compaction test on soil

## Test on Bitumen

1. Penetration test on bitumen
2. Ductility test on bitumen
3. Softening Point test on bitumen
4. Specific gravity test on bitumen
5. Flash and Fire point test on bitumen
6. Viscosity Test on Bitumen.

# Action Taken Report of the Institution on Feedback Report

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## Functional Evaluation of Pavement

1. Demonstration of Benkelman Beam Deflection Survey
2. Demonstration of road roughness survey by MERLIN and Bump Integrator

From the above tests, Minimum 10 Tests have to be performed and assignments on each unit based on syllabus.

Field visits to highway construction site, Hot Mix Plants, Pug Mill plants, RMC plants and quarry and crusher units

## TEXT BOOKS

1. Highway Engineering By C.E.G.Justo, A. Veeraragavan& S.K.Khanna., *Nemchand Bros.*
2. Harbour, Dock and Tunnel engineering By R. Srinivasan, *Charotar Publishing House.*
3. Transportation Engineering By Subramanian. K.P Scitech Publications, Chennai.
4. Principles of Transportation and Highway Engineering By Rao, G.V., McGraw – Hill Publishing Company Limited, New Delhi.
5. Highway Engineering, Kadiyali L.R, Khanna Publishers, New Delhi

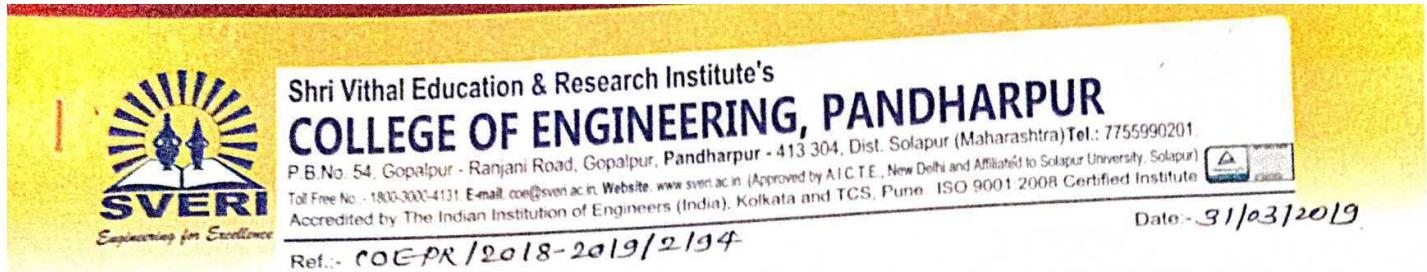
## REFERENCE BOOKS

1. Principles of Transportation Engineering, Partha Chakroborty and Animesh Das, PHI Publication.
2. Transportation Engineering – An Introduction, Khistry, C.J., PHI Publication.
3. Specifications of Road and Bridge Works (MoRTH) Publication – 5<sup>th</sup> Revision. New Delhi.
4. IRC: 37-2018, IRC: 58-2015 and other relevant IRC codes

**SVERI's  
College of Engineering, Pandharpur  
Department of Electronics & Tele-  
Communication Engineering  
Action Taken Report of the  
Institution on Feedback Report**

## Action Taken Report of the Institution on Feedback Report

**Letter to BOS in E&T Engineering, Punyashlok Ahilyadevi Holkar Solapur University about incorporating different suggestions collected from various stakeholders regarding curriculum.**



To,

The Director,

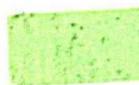
Board of University Examinations and Evaluation,

Solapur University, Solapur

Dnyanteerth Nagar, Kegaon,

Solapur-Pune National Highway,

Solapur-413255, Maharashtra (India)



**Subject:** About Curriculum Gaps under Electronics and Telecommunication Engineering

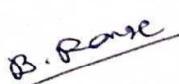
Dear Sir,

As per the requirement of National Board of Accreditation (NBA), it is required to identify the Curriculum Gaps for all Courses (Subjects), which are to be taught by subject teachers as content beyond syllabus. Accordingly, we have identified Curriculum Gaps for various Subjects under Electronics and Telecommunication Engineering Programme. We are submitting these identified Curriculum Gaps along with broader gap for your kind perusal and necessary action.

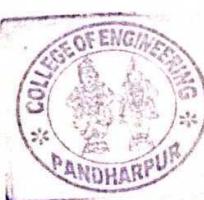
You are requested to kindly do further needful and oblige.

Thank You,

Yours faithfully,



(PRINCIPAL)



**Encl:** Details of Curriculum Gaps for S.E, T.E. and B.E. (Electronics and Telecommunication Engineering) Part -I& II.

## Action Taken Report of the Institution on Feedback Report



### Shri Vithal Education & Research Institute's COLLEGE OF ENGINEERING, PANDHARPUR

P.B.No. 54, Gopalpur - Ranjani Road, Gopalpur, Pandharpur - 413 304, Dist. Solapur (Maharashtra) Tel.: 7755990201.

Toll Free No.: 1800-3000-4131, E-mail: coe@sveri.ac.in, Website: www.sveri.ac.in (Approved by A I C T E , New Delhi and Affiliated to Solapur University, Solapur)

Accredited by The Indian Institution of Engineers (India), Kolkata and TCS, Pune. ISO 9001:2008 Certified Institute



Ref.: COEPR/2018-2019/2194

Date: 31/03/2019

To,

The Director,

Board of University Examinations and Evaluation,

Solapur University, Solapur

Dnyanteerth Nagar, Kegaon,

Solapur-Pune National Highway,

Solapur-413255, Maharashtra (India)

**Subject:** About Curriculum Gaps under Electronics and Telecommunication Engineering

Dear Sir,

As per the requirement of National Board of Accreditation (NBA), it is required to identify the Curriculum Gaps for all Courses (Subjects), which are to be taught by subject teachers as content beyond syllabus. Accordingly, we have identified Curriculum Gaps for various Subjects under Electronics and Telecommunication Engineering Programme. We are submitting these identified Curriculum Gaps along with broader gap for your kind perusal and necessary action.

You are requested to kindly do further needful and oblige.

Thank You,

Yours faithfully,

  
B. Range  
(PRINCIPAL)

**Encl:** Details of Curriculum Gaps for S.E, T.E. and B.E. (Electronics and Telecommunication Engineering) Part -I& II.

# Action Taken Report of the Institution on Feedback Report

## BROADER CURRICULUM GAP

### **G1 .CAD and EDA tools for Electronics Systems**

Electronic design automation (EDA) also referred to as electronic computer-aided design (ECAD), is a category of software tools for designing electronic systems such as integrated circuits and printed circuit boards.

Creation of a device or instrument involves many stages, right from inception of the idea to getting the final product in hand. Many of these devices have been made simpler by using the free or licensed EDA tools available. Inclusion of such tools for practical will be added advantage for students to perform more hands on practice enhancing their skill.

### **G2. Product Development**

Electronic Products is one of the most dynamic industries today. Products that were a distant dream few years ago are now changing rapidly with endless innovations getting added to them. Launching of new products in the market and gaining market share is the main strategy of every player in the industry.

Approach to create unique innovate designs include:

- Market research of end customer expectation and requirement
- Study of existing competition, if any
- Focus on end user experience
- Create a world class product design to make the product differentiate in the market

Syllabus doesn't take these factors into consideration, which is the need of hour.

### **G3. Advances in Network Communication**

As the world continues to move, so does the advancement of technology. Every year sheds light on improvements to yesterday's devices and new inventions appearing on the horizon. At the center of it all is a desire to speed up communication across the globe, with the intention of making inconveniences a thing of the past. Latest technologies should be part of syllabus as students what they learn theoretically n what industry is having there is a huge gap. To cope up with such gap units on advances in communications must be introduced

### **G4. Projects on contemporary issues / multidisciplinary issues**

Students should be encouraged to focus on getting real time projects viz. social or Industrial problems which will be solved through multidisciplinary/multifunctional approach. The need of society/ industry be indentified and put into problem solving approach from Second year onwards. Survey and literature review should be carried out at SE & TE level only, Design approach should be at TE & BE level.

## Action Taken Report of the Institution on Feedback Report

Name of Subject:		BBC
Unit No.	Title of Unit	Gap in Curriculum
1	X.25 and Frame relay	SS-7 protocol Archetecture
2	ISDN overview	Line codes and Modems
3	ISDN Interface and Functions	ARQ strategies
4	B-ISDN Architecture and Services	Introduction to Queuing model
6	ATM switching	CSMA
Name of Subject:		ES
Unit No.	Title of Unit	Gap in Curriculum
1	Introduction to ES	Cost estimation hw and sw
2	Interfacing and programming	Hw sw codesign
3	Real Time Operating System	Case study Linux
4	Case study of ES	Fault tolerant sytems
Name of Subject:		SC
Unit No.	Title of Unit	Gap in Curriculum
1	Introduction to satellite communications	Orbit Mechanism
Name of Subject:		VLSI DESIGN
Unit No.	Title of Unit	Gap in Curriculum
1	CMOS Design	CMOS logic families including static, dynamic and dual rail logic
2	Introduction to EDA tool and VHDL programming	VLSI Design: Floor planning, Integrated circuit layout; design rules, parasites.
Name of Subject:		CCN
Unit No.	Title of Unit	Gap in Curriculum
1	Data Communication	Physical Layer & Media
2	LAN Standards	Wireless Protocol 802.11, bluetooth
3	Network Security	Introduction, Encryption, Decription, Digital Signature,

## Action Taken Report of the Institution on Feedback Report

### Class-TE

Name of Subject:		DSP
Unit No.	Title of Unit	Gap in Curriculum
1	Introduction	Parametric and non-parametric spectral estimation. Introduction to multirate signal processing. Application of DSP to Speech and Radar signal processing.
2	Discrete Fourier Transform	Introduction to signal space, orthogonal basis and signal representation using unitary transforms like DFT,DCT, Haar and Walsh Hadmard transform,
3	Linear Filtering Method Based on DFT	Application of transform in speech, audio, image and video coding, Karhunen-Loeve Transform, DCT, JPEG and MPEG coding standards
4	FFT Algorithm	optimum approximations of FIR filters
5	IIR Filter Design:	Adaptive Wiener filter and LMS algorithm; Applications of adaptive filtering to echo cancellation and equalization

Name of Subject:		MCOM
Unit No.	Title of Unit	Gap in Curriculum
1	Introduction	Wireless network topologies, infrastructure and ad-hoc networks
2	Mobile Radio Propagation	impulse response model of multipath channel, simulation model
3	Multiple access Technique in Wireless Communications	GMSK; OQPSK and p/4 QPSK;
4	GSM	Access techniques for WLAN, Bluetooth and mobile data networks;
		Quality of service enabled wireless access, access methods for integrated services.
5	CDMA digital cellular standard (IS-95)	Mobile IP, power saving mechanisms, energy efficient designs; Security in wireless networks.
6	IMT – 2000	Wireless local loop technologies.

## Action Taken Report of the Institution on Feedback Report

Name of Subject:		EMER
Unit No.	Title of Unit	Gap in Curriculum
1	Electrostatic Field I	Plane Waves: Wave equation in an isotropic homogeneous medium and its solution, phasor notation, polarization of waves, reflection and refraction of plane waves at plane boundaries, Poynting vector.
2	Electrostatic Field I	Transmission Lines: Time-domain analysis of transmission lines; Bounce diagrams; Frequency-domain analysis of transmission lines; Standing waves; Smith chart; Transmission line matching: Single and double-stub matching, quarter-wave transformers
3	Magnetostatic Field I	Cavity Resonators: Electromagnetic fields in rectangular and cylindrical resonators, degeneracy of modes, quality factor
4	Maxwells Equation	Solution of Laplace's Equation and Poisson's Equation in 1-D.

Name of Subject:		MCA
Unit No.	Title of Unit	Gap in Curriculum
1	The 8051 Architecture and Instructions	Overview of 8096 16 bit microcontroller
2	Interfacing of following with microcontroller	Interfacing of 7 segment display

Name of Subject:		PDC
Unit No.	Title of Unit	Gap in Curriculum
1	Pulse Code Modulation Techniques	Low bit rate coding, and compression standards for speech signals; Emerging digital & communication techniques including video compression and HDTV.
2	Optimum receiver for digital Modulation	Concept of probability, random variable and its characterization, probability density functions, transformations of random variables, statistical averages.

## Action Taken Report of the Institution on Feedback Report

Unit No.	Name of Subject: Title of Unit	RME
		Gap in Curriculum
1	Rectangular waveguide	Study of excitation techniques for waveguides
2	Microwave Components	Study of two hole directional coupler
3	Microwave Solid State Devices	Study of Schottky barrier diode
4	Microwave Measurements	Study of multicavity klystron amplifier
5	Microwave Tubes	measurement of Q of Cavity resonator
6	Radar Fundamentals	Modern Techniques used in RADAR

Unit No.	Name of Subject: Title of Unit	OC
		Gap in Curriculum
1	Introduction	More details about ray theory
2	Transmission Characteristics of optical fiber	Dispersion Details
3	Optical fibers & joints	More Types of glass
4	Optical Sources (LASER)	LASER Types
5	Fibre Optics Communication System	Instruments in system
6	Optical Fiber Measurements	Meaurement of more losses

Unit No.	Name of Subject: Title of Unit	AC
		Gap in Curriculum
1	Introduction	Introduction to modern communication systems
2	Amplitude modulation Demodulation	Effect of noise on AM
3	Frequency modulation demodulation	PLL and its applications in carrier acquisition and FM demodulation;

## Action Taken Report of the Institution on Feedback Report

Unit No.	Name of Subject: Title of Unit	DS
		Gap in Curriculum
1	Stack and Queue	Abstract data types, sequential and linked implementations, exception handling in classes, towers of Hanoi, wire routing in a circuit, finding path in a maze, simulation of queuing systems, equivalence problem.
2	Linked List	Comparison of insertion, deletion and search operations for sequential and linked lists, list and chain classes, exception and iterator classes for lists, linked lists through simulated pointers, lists in STL, skip lists, applications of lists in bin sort, radix sort, sparse tables.
3	Tree	Search efficiency, importance of balancing, AVL trees, searching insertion and deletions in AVL trees, red-black trees, comparison with AVL trees, search insert and delete operations, m-way search trees, B-trees, search insert and delete operations, height of B-tree, 2-3 trees, sets and multisets in STL, implementation—adjacency matrix and linked adjacency chains.
4	Searching Techniques	uses of hash tables in text compression, LZW algorithm,
5	Sorting Techniques	Heaps as priority queues, heap implementation, insertion and deletion operations, heap sort, heaps in Huffman coding, leftist trees, tournament trees, use of winner trees in merge sort as an external sorting algorithm, bin packing.

## Action Taken Report of the Institution on Feedback Report

<b>Name of Subject:</b>		<b>DS</b>
<b>Unit No.</b>	<b>Title of Unit</b>	<b>Gap in Curriculum</b>
1	Codes and Simplification technique	Quine – Mc Cluskey method; Prime implicants,
2	Combinational Circuit Design	Ripple carry. -
3	Counters and State machines	Designing state machine using ASM charts.
4	PLDs	Sequential PLDs and their applications;
5	ntroduction to VHDL	Introduction to FPGA

<b>Name of Subject:</b>		<b>ECAD-I</b>
<b>Unit No.</b>	<b>Title of Unit</b>	<b>Gap in Curriculum</b>
1	PN Junction Diode	Schottkey Barrier Diode
2	Diode Application	Detector Circuit
3	Filter	Transient Protection Circuit
4	Design of Unregulated Power Supply	Analysis of Shunt Regulator using Zener Diode, Voltage Magnifier
5	Bipolar Junction Transistor	PNP Transistor
6	Field Effect Transistor	Inverter Using MOSFET

<b>Name of Subject:</b>		<b>ECAD-II</b>
<b>Unit No.</b>	<b>Title of Unit</b>	<b>Gap in Curriculum</b>
1	Multistage Transistor Amplifiers	BJT cascode amplifiers
2	Feed Back Amplifier	Stability in feedback amplifiers
3	Sinusoidal Oscillators	Ring Oscillator
4	IC Regulator	IC 723 Voltage Regulator
5	Multivibrators using Transistors	Emitter coupled Aastable Multivibrator

## Action Taken Report of the Institution on Feedback Report

Name of Subject:		M-III
Unit No.	Title of Unit	Gap in Curriculum
1	Linear differential equations with constant coefficients	Method of variation of parameters, Cauchy's And Euler's equations, Initial and boundary value Problems
2	Statistics	Moments and moment generating functions. Negative binomial, Geometric.(Continuous): Uniform, Exponential, Gamma, and Beta, Lognormal. Marginal, conditional distribution. Statistical independence, product moment.
3	probability	Sampling theorems, Conditional probability, Random sample, law of large numbers, central limit theorem Estimation: maximum likelihood estimation, unbiasedness and efficiency, interval estimation for normal population with normal, $t, \chi^2$ Distribution.
4	Numerical Methods:	Solutions of non-linear algebraic equations, single and multi-step methods For differential equations.

Name of Subject:		NTA
Unit No.	Title of Unit	Gap in Curriculum
1	Circuit Analysis and Network Theorem	Basic nodal and mesh analysis, Introduction to SPICE in circuit analysis.
2	Transient Response	Concept of Source free RL and RC circuits The phasor concept, sinusoidal steady state analysis;

## Action Taken Report of the Institution on Feedback Report

Name of Subject:		SS
Unit No.	Title of Unit	Gap in Curriculum
1	Signal and systems	No Gap
2	Contineous time system	power spectral density, signal bandwidth
3	Discrete time systems	Relationship of Laplace and Fourier transforms;

Name of Subject:		LIC
Unit No.	Title of Unit	Gap in Curriculum
1	Frequency Response of OP-AMP	Dominant Pole and Pole zero compensation
2	General linear applications of OP-AMP	Analog computers
3	OP-AMP as Comparators	Application of comparator as battery charger control circuit

**Action Taken (New Content / Topic Added)  
in the Curriculum**

# Action Taken Report of the Institution on Feedback Report

## Punyashlok Ahilyadevi Holkar Solapur University, Solapur

### Faculty of Science & Technology

**(Revised from 2018-19)**

**C.B.C.S. Structure of S.Y. B.Tech. Electronics & Telecommunication Engineering W.E.F. 2019-20**

**Semester I**

Course Code	Theory Course Name	Hrs./week			Credits	Examination Scheme			
		L	T	P		ISE	ESE	ICA	Total
ET211	Engineering Mathematics – III	3	1	--	4	30	70	25	125
ET212	Electronic Circuit Analysis and Design	4	--	--	4	30	70	25	125
ET213	Network Theory and Analysis	4	--	--	4	30	70	25	125
ET214	Digital Techniques	4	--	--	4	30	70	25	125
ET215	Analog Communication	3	--	--	3	30	70	25	125
<b>Sub Total</b>		18	1	--	19	150	350	125	625
ENV21	Environmental Science	1	--	--	--	--	--	--	--
Course Code	Laboratory Course Name								
						<b>ESE</b>			
						<b>POE</b>			
ET212	Electronic Circuit Analysis and Design	--	--	2	1	--	50*	--	--
ET213	Network Theory and Analysis	--	--	2	1	--	--	--	--
ET214	Digital Techniques	--	--	2	1	--	50	--	--
ET215	Analog Communication	--	--	2	1	--	25	--	--
E216	Electronics Software Lab-I	--	1	2	2	--	--	50	50
<b>Sub Total</b>		--	1	10	6	--	125	50	175
<b>Grand Total</b>		<b>19</b>	<b>2</b>	<b>10</b>	<b>25</b>	<b>150</b>	<b>475</b>	<b>175</b>	<b>800</b>

Abbreviations: L- Lectures, P –Practical, T- Tutorial, ISE- In Semester Exam, ESE-End Semester Exam, OE-Oral Examination, POE- Practical Oral Examination, ICA- Internal Continuous Assessment

**Note:** \*

- Practical and Oral Examination of Electronics Circuit Analysis and Design includes some of the practical from subject of Network Theory and Analysis

# Action Taken Report of the Institution on Feedback Report

## Punyashlok Ahilyadevi Holkar Solapur University, Solapur

### Faculty of Science & Technology

**(Revised from 2018-19)**

**C.B.C.S. Structure of S.Y. B. Tech. Electronics & Telecommunication Engineering W.E.F. 2019-20**

**Semester II**

Course Code	Theory Course Name	Hrs./week			Credits	Examination Scheme			
		L	T	P		ISE	ESE	ICA	Total
ET221	Control System	3	--	--	3	30	70	25	125
ET222	Analog Integrated Circuits	4	--	--	4	30	70	25	125
ET223	Principles of Digital Communication	4	--	--	4	30	70	25	125
ET224	Signals and Systems	3	1	--	4	30	70	25	125
ET225	Data Structures	4	--	--	4	30	70	25	125
<b>Sub Total</b>		18	1	--	19	150	350	125	625
ENV22	Environmental Science	1	--	--	--	--	--	--	--
Course Code	Laboratory Course Name								
						ESE			
						POE	OE		
ET221	Control System	--	--	2	1	--	--	--	--
ET222	Analog Integrated Circuits	--	--	2	1	--	50	--	50
ET223	Principles of Digital Communication	--	--	2	1	--	25	--	25
ET225	Data Structures	--	--	2	1	--	50	--	50
ET226	Electronic Software Lab-II	--	1	2	2	--	--	50	50
<b>Sub Total</b>		--	1	10	6	--	125	50	175
<b>Grand Total</b>		<b>19</b>	<b>2</b>	<b>10</b>	<b>25</b>	<b>150</b>	<b>475</b>	<b>175</b>	<b>800</b>

Abbreviations: L- Lectures, P –Practical, T- Tutorial, ISE- In Semester Exam, ESE - End Semester Exam, OE-Oral Examination, POE- Practical Oral Examination, ICA- Internal Continuous Assessment

# Action Taken Report of the Institution on Feedback Report

## Punyashlok Ahilyadevi Holkar Solapur University, Solapur

S.Y. B.Tech (Electronics and Telecommunication Engineering) Part-I

ET211-Engineering Mathematics-III

### Teaching Scheme:

Lecture- 3 Hours / week, 3 Credits

Tutorial - 1 Hours / week, 1 Credit

### Examination Scheme:

ESE- 70 Marks

ISE - 30 Marks

ICA- 25 Marks

### Course Objectives:

1. To introduce to student method of solving higher order linear differential equations
2. To introduce to student Fourier series.
3. To introduce to student various probability distributions
4. To introduce to student Laplace and inverse Laplace transforms and their properties.
5. To make student understand Z transform and its properties
6. To introduce to student Fourier Transform.

### Course Outcomes:

1. Student can solve higher order linear differential equation related to electrical circuit theory
2. Student can express a function in terms of sine's and cosines components so as to model simple periodic functions
3. Student can find the relation between two variables for the given data using regression and can explain various probability distribution functions.
4. Student can apply Laplace and inverse Laplace transforms for analysis of simple electrical circuits.
5. Student can solve problems on Z transform and explain its properties
6. Student can solve the problems of Fourier integral and Fourier transform

### Course Prerequisite:

Fundamentals of trigonometry, method of finding roots of algebraic equations, differentiation, integration, partial fraction, sum of sequence and methods of solving definite integrations, basics of statistics and probability theory

### SECTION – I

#### Unit 1: Higher order linear differential equations and applications

[07 Hrs]

Basic definition, differential operator, complimentary functions, particular integral, Shortcu methods for standard functions like  $e^{ax}$ ,  $\sin(ax+b)$ ,  $\cos(ax+b)$ ,  $x^m$ ,  $e^{ax}V$  and  $xV$ , particular integral by general method (without method of variation of parameters) for other functions. Electrical Engineering Applications

#### Unit 2 : Fourier series

[06 Hrs]

Introduction, Definition, Euler's formula, Fourier series of periodic functions with period  $2\pi$  and  $2L$ , Dirichlet's theorem (only statement), even and odd functions, half range sine and cosine series.

# Action Taken Report of the Institution on Feedback Report

## **Unit 3: Statistics and Probability:**

**[08 Hrs]**

Coefficient of correlation by Karl Pearson's method and lines of regression of bivariate data. Random variable, discrete and continuous random variable, Probability density function, Binomial, Poisson and Normal distributions.

## **SECTION II**

### **Unit 4:Laplace transform:**

**[09Hr]**

Definition, Laplace transform of standard functions, properties- first shifting, change of scale, multiplication of power t and division by t, Laplace transform of derivative and integral, Laplace transform of periodic functions, unit step functions and unit impulse functions.

Definition, Inverse Laplace transform of standard functions, Properties of inverse Laplace transforms- linear property, first shifting theorem, partial fraction, inverse transform of logarithmic & inverse trigonometric functions and convolution theorem, solution of differential equations by Laplace transform.

### **Unit 5 Z-Transform:**

**[06Hr]**

Introduction, Z-Transform of standard sequence, properties of Z-transform – linearity, change of scale, shifting property, multiplication by k, division by k, inverse Z-transform –power series method, partial fraction method.

### **Unit 6: Fourier Transform:**

**[06Hr]**

Fourier integral, Fourier sine and cosine integral, Complex form of Fourier integral. Fourier Transform, Fourier sine and cosine transform and Inverse transform.

- Internal Continuous Assessment (ICA):  
ICA shall consist of minimum six to eight assignments based on entire curriculum
- Text books:
  1. A textbook of Applied Mathematics Vol. II and Vol. III, J.N. and P.N. Wartikar, Vidyarthi Grah Prakashan, Pune.
  2. Higher Engineering Mathematics, Dr.B.S.Grewal, Khanna Publications, Delhi.
  3. Numerical Methods, Dr.B.S.Grewal, Khanna Publications, Delhi
  4. A Textbook of Applied Mathematics, N.P. Bali, Ashok Saxena and N.Ch. S.N. Iyengar, Laxmi Publications, Delhi.
  5. Advanced Engineering Mathematics, Kreyzig-John Wiley & SMS, New York.
- Reference Books:
  1. Advanced Engineering Mathematics, Peter O'Neil, Cengage Learning.
  2. Engineering Mathematics, Srimanta Pal, Subodh Chandra Bhunia, Oxford University Press

# Action Taken Report of the Institution on Feedback Report

## Punyashlok Ahilyadevi Holkar Solapur University, Solapur

S.Y. B.Tech (Electronics and Telecommunication Engineering) Part-I

### ET212: Electronic Circuit Analysis And Design

#### Teaching Scheme:

Lecture : 4 Hrs/Week  
Practical :2Hrs/Week

#### Examination Scheme:

ISE:30 Marks  
ESE:70 Marks  
ICA:25 Marks  
POE: 50Marks

#### • Course Objectives:

1. To introduce to student working of FET and MOSFET and its applications.
2. To make student analyze transistorized multistage amplifier.
3. To make student design and analyze feedback amplifiers.
4. To make student analyze power amplifiers.
5. To make student design and analyze oscillators.

#### • Course Outcomes: At the end of the course;

1. Students will be able to analyze the working of JFET, MOSFET and applications of these devices.
2. Student can analyze multistage amplifier.
3. Student can analyze and design feedback amplifier.
4. Student can analyze power amplifiers.
5. Student can analyze and design oscillators.

## SECTION- I

### Unit 1: JFET:

[09Hrs]

Introduction, Construction and working, JFET characteristics (Transfer and Drain), Schockley's equation, JFET biasing and DC analysis, JFET as amplifier and its configurations (CS/CD(CG) and comparison, CS amplifier analysis. Designing of JFET CS Amplifier.

### Unit 2: MOSFET:

[10Hrs]

Two terminal MOS structure, EMOSFET-construction, symbols, EMOSFET V-I characteristics, additional MOSFET structures (DMOSFET and CMOS), V-I characteristics of EMOSFET (finite output resistance, body effect, break down effect, temperature effect, short channel effects), MOSFET biasing and DC circuit analysis, MOSFET small signal amplifier (CS configuration).

### Unit 3: Multistage Transistor Amplifiers:

[05Hrs]

Need of cascading, different coupling schemes with frequency response, h-model of BJT, Analysis of two stage RC coupled Amplifier, square wave testing for RC coupled amplifiers. Designing of two stage RC coupled Amplifier

# Action Taken Report of the Institution on Feedback Report

## SECTION-II

### **Unit 4: Feedback Amplifiers:**

[08Hrs]

Classification of amplifiers, feedback concept, General characteristics of negative feedback amplifiers, Feedback Topologies and analysis (with numerical examples), Effect of negative feedback on stability, Band width, noise, distortion, i/p resistance and o/p resistance. Darlington pair amplifier and its analysis.

### **Unit 5: Oscillators:**

[08Hrs]

Oscillator startup mechanism, Barkhausen's criteria, sinusoidal oscillators- RC phase shift Oscillator, Wein bridge oscillator, Colpits oscillator, Hartley oscillator Derivations for frequency of oscillations of above oscillators. Crystal oscillator- Piezo electric effect, electrical equivalent circuit of a crystal, UJT Relaxation oscillator. Designing of RC phase shift oscillator.

### **Unit 6: Power Amplifiers:**

[08Hrs]

Types (Class A, B, AB and C) and their comparison, crossover distortion, Second Harmonic distortion, Analysis of Class A, Class B and Class AB amplifiers, complementary symmetry push pull amplifier, Introduction to Class C amplifiers. Design of Class A& Class-B amplifier.

**Note:** For selection of components in design **Data Sheet** should be referred.

### **Internal Continuous Assessment (ICA):**

#### **Experiments: -**

Minimum eight experiments from the following.

1. Frequency response of two stage RC coupled CE amplifier.
2. Effect of negative feedback on amplifiers.
3. V-I Characteristics of MOSFET
4. RC Phase shift oscillator.
5. Application of MOSFET as a switch.
6. V-I characteristics of JFET.
7. Implement JFET CS Amplifier and calculate  $A_v$ ,  $R_i$  and  $R_o$ .
8. Analysis of Class A power amplifier
9. Analysis Class B push pull Amplifier
10. Simulate two stage RC coupled CE amplifier with feedback
11. Simulate LC oscillator
12. Simulate MOSFET amplifier

#### **Text books:**

1. Electronic Devices and Circuits Allen Mottershed PHI Publication.
2. Electronic Devices and Circuits- J.B.Gupta 3rd Edition KATSON Books.
3. A Practical approach to Electronic Circuit Design -D S Mantri& G P Jain,Nikita Publication
4. Electronics Devices and Circuits-S. Shalivahanan,N. SureshKumar, TMH Publication.

#### **Reference Books:**

1. Electronic Devices Floyd Pearson Education
2. Microelectronics : Digital and Analog Circuits and Systems- Jacob Millman
3. Electronic Devices and Circuit Theory Boylestad Pearson Education
4. "Microelectronics Circuit" by Sedra Smith, Oxford University Press, 4thEdition.

# Action Taken Report of the Institution on Feedback Report

## Punyashlok Ahilyadevi Holkar Solapur University, Solapur

S.Y. B.Tech (Electronics and Telecommunication Engineering) Part-I

### ET214: Digital Techniques

#### Teaching Scheme:

Lecture : 4 Hrs/Week  
Practical : 2 Hrs/Week

#### Examination Scheme:

ISE:30 Marks  
ESE:70 Marks  
ICA:25 Marks  
POE: 50Marks

#### • Course Objectives:

1. To understand principles, characteristics and operations of combinational and sequential Logic circuits.
2. To develop design and implementation skills of combinational logic circuits.
3. To design, implement and analyze, asynchronous and synchronous sequential circuits using flip flops.
4. To design and verify VHDL modules for combinational logic circuits.

#### • Course Outcomes: At the end of the course:

1. Students will be able to design and realize combinational logic circuits using logic gates, MSI circuits and PLDs.
2. Students will be able to design, implement and analyze asynchronous and synchronous Sequential circuits using flip flops.
3. Students will be able to apply digital concepts in industrial applications.

## SECTION-I

### Unit 1: Codes and Simplification technique:

[05Hrs]

Codes- BCD and Gray codes, Seven segment, Principles of combinational logic: Standard representation for Logical Function, canonical forms, don't care conditions, minimization techniques (using K-map up to 4 variables only), static and dynamic Hazards.

### Unit 2: Combinational Circuit Design:

[09Hrs]

Adder, Subtractor, Code converters (binary to gray and gray to binary, BCD to 7 segment), IC 7447, MUX, DEMUX, encoder, priority encoder, decoder, Multiplexer (Tree) and Demultiplexer (Tree), magnitude comparator, adder with look ahead carry generator, Parallel adder (IC 7483), parity generator and checker.

### Unit 3: Logic Families and flip flop:

[10Hrs]

Logic Family-Introduction to logic families, Characteristics/Parameters of Digital ICs. Flip flop NAND Latch, Flip-Flop: D, SR, JK and T (Characteristic table, excitation table and characteristic equation), Race around condition, Master Slave J-K flip-flop, flip-flop conversion.

## SECTION-II

### Unit 4: Registers:

[07Hrs]

Asynchronous and synchronous sequential circuits, Shift register (modes of operation), 4-bit bidirectional shift register, universal shift registers, Ring counter, Johnson counter, IC7495.

# Action Taken Report of the Institution on Feedback Report

## **Unit 5: Counters and State machines:**

**[10Hrs]**

Design of ripple counter using flip-flop, 4 bit up/down counter, mod -N counter, Design of Synchronous counter using Flip-Flop, 4 bit up/down counter, mod -N counter, IC 7490, Moore and Mealy machines, representation techniques, state diagram, state assignment, state reduction, implementation using flip flops.

## **Unit 6: PLDs and VHDL:**

**[07Hrs]**

PLDs- PROM, PAL and PLA Architecture, CPLD, Implementing combinational circuits using PLDs. VHDL -Library, Entity, Architecture, VHDL code for adder, Subtractor and comparator.

## **Internal Continuous Assessment (ICA):**

### **Experiments: -**

Minimum Ten experiments from the following.

1. Implementation of SOP and POS logical functions using universal gates.
2. Implementation of full adder, and full subtractor using logic gates.
3. Code conversion using logic gates or logic ICs: BCD to Binary, Binary to Gray, Gray to Binary.
4. Design and implementation of 2 bit digital comparator using logic gates and functional Verification of 4 bit digital comparator using IC 7485.
5. Design and implementation of 1 decimal digit BCD adder using IC 7483.
6. (i) Verification of functionality of multiplexer.  
(ii) Design and implement combinational logic function using multiplexer ICs.
7. (i) Verification of functionality of decoder.  
(ii) Design and implement combinational logic function using decoder IC.
8. Verification of the functionality of BCD to Seven segment decoder/driver.
9. Implement S-R, D, J-K, T flip flops using logic gates.
10. Functional verification of universal shift registers using IC 7495.
11. Design and implementation of Ring counter using shift register.
12. Design and implementation of Johnson counter using shift register.
13. Design and implementation of Pulse train generator using IC 7495.
14. Functional verification of ripple counter using IC 7490
15. Design of half adder and half Subtractor using VHDL

### **• Text books:**

1. Digital Design - M. Morris Mano - Pearson Education (3rd Edition)
2. Digital Principles – Leach, Malvino, TMH (6th Edition).
3. Fundamental of Digital Circuits- Anand Kumar- Prentice Hall of India Pvt. Ltd.
4. Digital Electronics – Dr. R. S. Sedha – S. Chand Publications (3rd Revised Edition).
5. Digital System, Principles and Applications, Ronald J. Tocci, PHI
6. Circuit Design using VHDL –VolneiPedroni, PHI Publications.
7. Digital Electronics- Anil K Maini, Wiley Publication.

### **• Reference Books:**

1. Digital Design Principles and Application - Wakerly – Pearson Education
2. Digital Electronics - Gothman - (PHI)
3. Digital Logic and Computer Design - Morris Mano - Pearson Education
4. The Principles of Computer hardware- Alan Clements (Low Price 2000) (Third Edition), OxfordPress.

# Action Taken Report of the Institution on Feedback Report

## Punyashlok Ahilyadevi Holkar Solapur University, Solapur

S.Y. B.Tech (Electronics and Telecommunication Engineering) Part-I

### ET215: Analog Communication

#### Teaching Scheme:

Lecture : 3Hrs/Week  
Practical : 2 Hrs/Week

#### Examination Scheme:

ISE:30 Marks  
ESE:70 Marks  
ICA:25 Marks  
POE: 25 Marks

#### • Course Objectives:

The students are expected to demonstrate the ability to:

1. Describe and analyze the mathematical techniques of generation, transmission and reception of amplitude modulation (AM), frequency modulation (FM) and phase modulation (PM) signals.
2. Evaluate the performance levels (Signal-to-Noise Ratio) of AM, FM and PM systems in the presence of additive white noise.
3. Convert analog signals to digital format and describe Pulse and digital Modulation techniques.

#### • Course Outcomes:

On completion of the course, student will be able to:

1. Understand and identify the fundamental concepts and various components of analog communication systems.
2. Explain signal to noise ratio, noise figure and noise temperature for single and cascaded stages in a communication system.
3. Describe analog pulse modulation techniques and digital modulation technique.
4. Develop the ability to compare and contrast the strengths and weaknesses of various communication systems.

## SECTION- I

### Unit 1: Introduction:

[05Hrs]

Introduction of Communication, Element of a communication systems, Base band & Carrier communication Modulation and Demodulation, Need of Modulation, Type of modulation, Type of communication Channels (Transmission line, Parallel wires, Coaxial cables, waveguides and optical fibers), Electromagnetic spectrum, Bandwidth, Concept of multiplexing (TDM and FDM), Application of communication.

### Unit 2: Noise:

[06Hrs]

Sources of Noise, Types of Noise, White Noise, Thermal noise, shot noise, partition noise, Low frequency or flicker noise, burst noise, avalanche noise, Signal to Noise Ratio, SNR of tandem connection, Noise Figure, Noise Temperature, Friis formula for Noise Figure, Noise Bandwidth, Behavior of Baseband systems and Amplitude modulated systems i.e.DSBSC and SSBSC in presence of noise.

# Action Taken Report of the Institution on Feedback Report

## **Unit 3: AM Transmission:**

**[06Hrs]**

Base band & Carrier communication, Generation of AM (DSBFC) and its spectrum, Power relations applied to sinusoidal signals, DSBSC – multiplier modulator, Nonlinear generation, switching modulator, Ring modulator & its spectrum, Modulation Index. SSBSC, ISB & VSB, their generation methods & Comparison, Block Diagram of AM Transmitter and Broadcast technical standards.

## **SECTION-II**

### **Unit 4: AM Reception:**

**[06Hrs]**

Block diagram of TRF AM Receivers, Super Heterodyne Receiver, Dual Conversion Super heterodyne Receiver, Concept of Series & Parallel resonant circuits for Bandwidth & Selectivity. Performance Characteristics: Sensitivity, Selectivity, Fidelity, Image Frequency Rejection and IFRR. Tracking, Mixers. AM Detection: Rectifier detection, Envelope detection; Demodulation of DSBSC: Synchronous detection; Demodulation of SSBSC: Envelope detection

### **Unit 5: FM Transmission and Reception:**

**[07Hrs]**

Mathematical analysis of FM and PM, Frequency spectrum analysis of FM, Modulation Index Bandwidth requirements, Narrow Band and wide band FM, Comparison of AM, FM and PM, Direct and indirect methods of FM generation, Need for Pre-emphasis, De-emphasis. FM detection Techniques - Slope Detector, Dual Slope Detector, Foster Seeley Discriminator, RatioDetector.

### **Unit 6: Pulse Analog Modulation:**

**[06Hrs]**

Sampling Theorem, Proof of Sampling Theorem, Nyquist Rate and Nyquist Interval, Sampling Techniques - Natural sampling, Flat Top Sampling, Comparison of Various Sampling Techniques, Analog Pulse Modulation/Demodulation Methods- Pulse Amplitude Modulation, Pulse Time Modulation. Introduction to Pulse Code Modulation.

## **ICA : List of Experiments for Analog Communication**

Perform any eight experiments from following.

List of Practical

1. AM Generation (DSB-FC): Calculation of modulation index by graphical method, Power of AM Wave for different modulating signal.
2. Envelope Detector - Practical diode detector, Observe effect of change in RC time constant which leads to diagonal and negative clipping
3. Generation of DSB-SC & its detection
4. SSB modulator & its detection
5. Frequency modulator & demodulator, calculation of modulation index & BW of FM.
6. Study of AM & FM Spectrum: Observe Spectrum of AM & FM, Compare & comment on AM & FM spectrum.
7. Verification of Sampling Theorem, PAM Techniques, (Flat top & Natural sampling), reconstruction of original signal, Observe Aliasing Effect in frequency domain.

Following can be performed using suitable software (Any One)

8. Generate AM and FM waveform for given modulation index, signal frequency and carrier Frequency using suitable software.
9. Prove sampling Theorem. Reconstruct the analog signal from its samples. Observe aliasing effect by varying sampling frequency.

# Action Taken Report of the Institution on Feedback Report

## Punyashlok Ahilyadevi Holkar Solapur University, Solapur

S.Y. B.Tech (Electronics and Telecommunication Engineering) Part-II

### ET221: Control Systems

#### Teaching Scheme:

Lecture : 3 Hrs/Week  
Practical : 2 Hrs/Week

#### Examination Scheme:

ISE:30 Marks  
ESE:70 Marks  
ICA:25 Marks

#### • Course Objectives:

1. To understand concepts of various control systems.
2. To represent control system using block diagram and signal flow graph and obtain transfer function of system.
3. To obtain stability of control systems.
4. To determine Time domain analysis of control systems.
5. To obtain Frequency domain analysis of control systems.

#### • Course Outcomes:

At the end of the course, the students will be able to:

1. Analyze various control systems.
2. Obtain transfer function of systems using signal flow graph and block diagram reduction.
3. Determine stability of systems.
4. Analyze control system in time domain.
5. Analyze control system in frequency domain

## SECTION-I

### Unit 1: Introduction:

[04Hrs]

Types of control systems, examples of control systems: Liquid level control system, position control system, missile launching and guidance system and automatic aircraft landing system. Transfer function of closed loop system.

### Unit 2: Mathematical modeling of systems:

[05Hrs]

Mathematical modeling of basic mechanical elements: translational and rotational. Mathematical modeling of Electrical systems using R, L and C. Analogous system: force – voltage and Force – current analogy. Transfer function of RLC circuits.

### Unit 3: System representation and components:

[07Hrs]

Block diagram representation and reduction techniques, Signal Flow Graph- Construction, Mason's Gain formula. Working principle, construction, types and applications of Stepper motor and Tachogenerator.

### Unit 4: Stability analysis:

[03Hrs]

Concept of stability, absolute and conditional stability, relative stability, Routh – Hurwitz criterion for stability.

# Action Taken Report of the Institution on Feedback Report

## SECTION-II

### **Unit 5: Time response of systems:**

[05Hrs]

Standard test signals, time response of first order systems to step, ramp and impulse input. Step response of second order system, time domain specifications, steady state errors and error constants of type0, type1 and type2 systems.

### **Unit 6: Root locus:**

[04Hrs]

Concept of root locus, construction of root locus and stability analysis using root locus.

### **Unit 7: Frequency domain analysis:**

[05Hrs]

Frequency response specifications, co-relation between time domain and frequency domain response, Bode plot: asymptotic bode plot, stability analysis using bode plot.

### **Unit 8: Compensators:**

[03Hrs]

Need of compensator, types (Lead, Lag & Lead Lag) and their selection.

**Internal Continuous Assessment (ICA):** - Minimum Ten experiments from the following.

1. To verify potentiometer as transducer and as error detector.
2. To verify Synchro as transducer.
3. To verify Synchro as error detector.
4. To verify operation of AC position control system.
5. To verify operation of DC position control system.
6. To obtain Effect of type of feedback on control system.
7. To obtain Time response of first order system.
8. To obtain Step response of second order system using R, L and C.
9. To obtain Frequency response of second order system using R, L and C.
10. To verify liquid level control system.
11. To obtain frequency response of Lead Lag compensator.
12. To obtain Root locus using MATLAB.
13. To obtain Bode plot using MATLAB.
14. To obtain time response of second order system using MATLAB

#### **• Text books:**

1. Control Systems Engineering I. J. Nagrath& M Gopal New Age Publication (Fifth Edition)
2. Feedback & Control Systems. Schaum's Outline Series McGraw Hill
3. Automatic Control Systems B. C. Kuo PHI Publication
4. Control Systems Engineering, R. Anandanatranjan,P.Ramesh Babu - Scitech Publication.

#### **• Reference Books:**

1. Modern Control Engineering K.Ogata Pearson Education
2. Principles of Control Systems S.C. Goyal & U. A. Bakshi Technical Publication, Pune.

# Action Taken Report of the Institution on Feedback Report

## **Punyashlok Ahilyadevi Holkar Solapur University, Solapur** **S.Y. B.Tech (Electronics and Telecommunication Engineering) Part-II**

### **ET222: Analog Integrated Circuits**

#### **Teaching Scheme:**

Lecture : 4Hrs/Week  
Practical : 2 Hrs/Week

#### **Examination Scheme:**

ISE:30 Marks  
ESE:70 Marks  
ICA:25 Marks  
POE: 50Marks

#### **Course Objectives:**

1. To make student understand principles, configurations and specifications of ideal and practical op amp
2. To make student understand frequency response of op amp
3. To make student understand linear and non linear applications of op amp
4. To enable student design active filters using op amp and analyze waveform generators
5. To introduce to student working of special Linear ICs and its applications

#### **Course Outcomes: At the end of the course, students will be able to;**

1. Describe fundamentals of op amp and compare characteristics of ideal and practical op amp
2. Understand and analyze frequency response of op amp
3. Build various Linear and Nonlinear applications of op amp
4. Design first order and second order filters
5. Understand and describe the concept of special ICs and its applications

## **SECTION- I**

**Unit 1: Fundamentals of Operational Amplifier:** [08Hrs]  
Concept of Differential amplifier- DIBO, AC & DC analysis, opamp fundamentals- block Diagram, equivalent circuit, Transfer curve, Electrical Parameters- practical & Ideal, Open loop configurations, closed loop configurations with negative feedback- Inverting & non inverting.

**Unit 2: Practical opamp& frequency response:** [08Hrs]  
Input offset voltage, Input bias current, Input offset current, total output offset voltage, Thermal drift, PSRR, CMRR, SR & its importance, High frequency equivalent circuit and compensation techniques.

**Unit 3: General Linear applications of Opamp:** [08Hrs]  
Summing, scaling and averaging amplifier, adder-subtractor, Instrumentation Amplifier, V to I and I to V convertors, Op-Amp as differentiator and Integrator including study of frequency response, AC amplifier.

# Action Taken Report of the Institution on Feedback Report

## SECTION-II

### Unit 4: Non linear applications:

[08Hrs]

Comparator- Basic, ZCD, Schmitt trigger, window detector, sample& hold circuit, peak detector, precision rectifiers, log-antilog amplifier, clipper & clamper, Peak detector.

### Unit 5: Active filters & Oscillators:

[08Hrs]

Basic filter definitions, Advantages of active filters, First and second order low pass and high pass Butterworth filters, astablemultivibrator, Triangular saw tooth wave generators using Op-Amp, Oscillators- principle, Phase shift, Wien Bridge, Quadrature oscillators.

### Unit 6: Special ICS and its applications:

[08Hrs]

Voltage regulators- 78xx,79xx, LM317, 723,basic switching regulator IC 555 Timer- basic, astable, monostable, PLL 565- operating principle, block diagram, IC 565, Applications of PLL as frequency multiplier and FSK demodulator, IC 8038.

**Internal Continuous Assessment (ICA):** ICA should be based on minimum eight experiments from the following list of experiments.

#### Experiments: -

1. Measurement of parameters –  $V_{io}$ ,  $I_{io}$ ,  $IB$  etc
2. Op-Amp as Inverting and Non-inverting amplifier, Voltage follower.
3. Frequency response of Inverting and Non-inverting amplifiers.
4. Implementation of Op-Amp as adder and subtractor.
5. Op-Amp as Integrator and Differentiator.
6. Op-Amp as Schmitt trigger.
7. Op-Amp as window detector.
8. Op-Amp as peak detector.
9. Op-Amp as waveform generators (Square, triangular, Saw tooth)
10. RC oscillator.
11. Op-Amp as Precision rectifier.
12. Phase Lock Loop 565.
13. Op-Amp as Clippers and Clampers.
14. V to I convertor with grounded load.
15. Implementation of first and second order low pass Butterworth filer.
16. Implementation of first and second order high pass Butterworth filer.

**Note:** Simulate results using simulation software for at least two experiments.

- **Text books:**

1. Op-Amps and Linear Integrated Circuits, Ramakant A. Gaikwad, PHI Learning Pvt. Ltd.,Third and Fourth edition
2. Linear Integrated Circuits, D. Roy Choudhary, Shail B. Jain, New age International Publishers, Third edition

- **Reference Books:**

1. Operational Amplifiers, G.B. Clayton, English Language Book Society, Second edition
2. Operational amplifiers and Linear ICS by David Bell, oxford university press, 3rd edition
3. Linear Integrated circuits by S Salivahanan, Tata McGraw hill
4. Integrated Circuits by K R Botkar, Khanna Publication

# Action Taken Report of the Institution on Feedback Report

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## Punyashlok Ahilyadevi Holkar Solapur University, Solapur

S.Y. B.Tech (Electronics and Telecommunication Engineering) Part-II

### ET223: Principles Of Digital Communication

#### Teaching Scheme:

Lecture : 4Hrs/Week

Practical : 2 Hrs/Week

#### Examination Scheme:

ISE:30 Marks

ESE:70 Marks

ICA:25 Marks

POE: 25Marks

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#### Course Objectives:

1. To make student understand the significance of information theory, entropy coding, block coding techniques in communication system.
2. To introduce student basic components of digital communication system for different pulse, binary and M-ary digital modulation schemes with their performance analysis.
3. To explain various synchronizing techniques as well as coherent and non- coherent type of receivers used for demodulation techniques.
4. To introduce the concept and significance of multichannel and multicarrier system.
5. To introduce the concept and significance of Error Control Codes.

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#### Course Outcomes:

1. Student will be able to explain, solve, and evaluate problems related to information theory, entropy coding and block coding techniques.
2. Student will be able to describe uniform and non-uniform quantization technique, design block diagram level digital communication system using PCM, DPCM, ADPCM, DM, ADM, binary and M-ary ASK, FSK, PSK, DPSK, QAM, MSK techniques, compare them and calculate the bandwidth requirement for different systems using PCM techniques
3. Student will be able to explain different bit and frame synchronization methods, coherent / non-coherent types of receivers used.
4. Student will be able to explain the concept and significance of multichannel and multicarrier system.
5. Student will be able to explain the concept and significance of Error Control Codes.

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# Action Taken Report of the Institution on Feedback Report

## SECTION - I

### Unit 1–Random and Information Theory

No of lectures – 08

Introduction to information theory, average and mutual information, Entropy, Joint Entropy and conditional entropy, Rate of information, redundancy, channel capacity, Shannon's Theorem, Shannon – Hartley theorem, bandwidth, S/N trade off, entropy coding- Shannon Fano Coding, Huffman Coding

### Unit 2–Pulse Code Modulation Techniques

No of lectures – 06

Basic block diagram of digital communication system, Quantization – Uniform & Non uniform, Types of digital modulation system- PCM System, Differential PCM, TDM-PCM Telephone system, ADPCM, Delta Modulation – Noise in DM, ADM.

### Unit 3–Binary Digital Modulations Techniques

No of lectures – 06

Line Coder-Unipolar, Polar, AMI, Manchester. Binary ASK, FSK, PSK, DPSK Coherent and non-coherent Detection. Probability of error, Comparison of digital modulation schemes–Bandwidth, power requirements& Equipment complexity.

## SECTION – II

### Unit 4– M-ary Digital Modulations Techniques

No of lectures – 06

QPSK concept and transmitter/Receiver, M–ary concept ,Types of M-ary , M-ary differential PSK transmitter and Receiver, M-ary wideband FSK, structure of the receiver for an orthogonal (wideband FSK) signaling scheme, QAM modulation and demodulation, Minimum shift keying transmitter and receiver.

### Unit 5–Optimum receiver for digital Modulation

No of lectures – 06

Matched filter receiver, Correlation receiver, Synchronization- Symbol Synchronization, Frame synchronization, Carrier recovery circuits.

### Unit 6–Multichannel and Multicarrier systems

No of lectures – 06

Multichannel Digital Communication in AWGN channels, multicarrier Communication System, FFT Based multicarrier system, Minimizing Peak-to-average ratio in multicarrier system.

# Action Taken Report of the Institution on Feedback Report

## Unit 7–Error Control Codes

No of lectures – 06

Introduction to linear block code, linear block code examples, generator matrix, systematic linear block codes, Parity-check matrix, Syndrome testing, Error correction, Decoder implementation.

### Internal Continuous Assessment:

ICA consists of Minimum 10 experiments performed out of which at least 4 experiments must be using MATLAB / Scilab)

### List of Practicals

1. PCM
2. DPCM /ADCM
3. PCM -TDM
4. Data Formats
5. Companding
6. DM
7. ADM
8. ASK
9. FSK
10. PSK
11. DPSK
12. QPSK
13. MATLAB Based Experiment.

### Text Books:

1. Communication System Analog & Digital - Singh & Sapre.-TMH.
2. Digital Communication System Design – M.S. Roden.-PHI
3. Digital Communication -John G. Proakis- Pearson Education
4. Communication Systems (Analog and Digital) – Sanjay Sharma – Katsons

### Reference Books:

1. Principles of Communication System – Taub & Schling-TMH
2. Digital & Analog Communication systems – K. Sam Shanmugan-Wiley
3. Digital communication Fundamentals and Applications–2nd edition by Bernard Sklar Pearson Education.
4. Contemporary Communication system using MATLAB by John G. Proakis, M AsonidSalehi, GenhardBauch.

# Action Taken Report of the Institution on Feedback Report

## Punyashlok Ahilyadevi Holkar Solapur University, Solapur S.Y. B.Tech (Electronics and Telecommunication Engineering) Part-II

### ET225: Data Structure

#### Teaching Scheme:

Lecture : 4 Hrs/Week  
Practical : 2 Hrs/Week

#### Examination Scheme:

ISE:30 Marks  
ESE:70 Marks  
ICA:25 Marks  
POE: 50Marks

#### Course Objectives:

1. To impart the basic concepts of data structures and algorithms.
2. To understand concepts about searching and sorting techniques
3. To understand basic concepts about stacks, queues, lists, trees and graphs.
4. To enable them to write algorithms for solving problems with the help of fundamental data structures

#### Course Outcomes:

Upon completion of this course, students will be able to do the following:

1. For a given algorithm student will able to analyze the algorithms to determine the time and computation complexity and justify the correctness.
2. For a given Search problem (Linear Search and Binary Search) student will able to implement it.
3. For a given problem of Stacks, Queues and linked list student will able to implement it and analyze the same to determine the time and computation complexity.
4. Student will able to write an algorithm Selection Sort, Bubble Sort, Insertion Sort, Quick Sort, Merge Sort, Heap Sort and compare their performance in term of Space and Time complexity.
5. Student will able to implement Graph search and traversal algorithms and determine the time and computation complexity.

### SECTION- I

#### Unit 1: Introduction:

[08Hrs]

Basic Terminologies: Elementary Data Organizations, Data Structure Operations: insertion, deletion, traversal etc.; Analysis of an Algorithm, Asymptotic Notations, Time-Space trade off. Searching: Linear Search and Binary Search Techniques and their complexity analysis.

#### Unit 2: Stacks:

[09Hrs]

ADT Stack and its operations: Algorithms and their complexity analysis, Applications of Stacks: Expression Conversion and evaluation (converting infix to postfix expression using algorithm, evaluating postfix expression using algorithm, recursive flow chart, programs using recursive functions - factorial, Fibonacci sequence). and complexity analysis.

#### Unit 3: Queues:

[07Hrs]

ADT queue, Types of Queue: Simple Queue, Circular Queue, Priority Queue; Operations on each types of Queues: Algorithms and their analysis.

# Action Taken Report of the Institution on Feedback Report

## SECTION-II

### Unit 4: Linked Lists:

[9Hrs]

Singly linked lists: Representation in memory, Algorithms of several operations: Traversing, Searching, Insertion into, Deletion from linked list; Linked representation of Stack and Queue, Header nodes, Doubly linked list: operations on it and algorithmic analysis; Circular Linked Lists: all operations their algorithms and the complexity analysis.

### Unit 5: Trees:

[07Hrs]

Basic Tree Terminologies, Different types of Trees: Binary Tree, Threaded Binary Tree, Binary Search Tree, AVL Tree; Tree operations on each of the trees and their algorithms with complexity analysis. Applications of Binary Trees. B Tree, B+ Tree: definitions, algorithms and analysis.

### Unit 6: Sorting and Hashing:

[08Hrs]

Sorting and Hashing: Objective and properties of different sorting algorithms: Selection Sort, Bubble Sort, Insertion Sort, Quick Sort, Merge Sort, Heap Sort; Performance and Comparison among all the methods, Hashing.

**Graph:** Basic Terminologies and Representations, Graph search and traversal algorithms and complexity analysis.

### Internal Continuous Assessment (ICA):

*Students should perform minimum twelve practicals based on the following preferably conducted on Unix / Linux platform*

#### Practicals: -

Minimum twelve practicals from the following.

1. Implementation of stack using array.
2. Implementation of Queue using array.
3. Implementation of circular Queue using array.
4. Implementation of stack using Linked list.
5. Implementation of Queue using Linked list.
6. Implementation of Circular Queue using Linked list.
7. Implementation of singly Linked list.
8. Implementation of Josephus problem using Circular Linked list.
9. Find Factorial of a given no, by defining recursive function.
10. Fibonacci sequence implementation using recursive function.
11. Search element from list using linear search and Binary search method.
12. Write the program to Sort the given list using Bubble sort method
13. Write the program to Sort the given list using Selection sort method
14. Write a program to Sort the given list using Insertion sort method

#### • Text books:

1. Data Structures Using C and C++, Y.Langsam, M.J. Augenstein, A.M Tanenbaum Pearson Education Second Edition
2. Data structures using C, Rajani Jindal Umesh Publication
3. Data structures through C in Depth, S.K.Srivastava, Deepali Srivastava, BPB Publication.
4. Data Structures using C, ISRD Group, TMH
5. Data Structures- Venkatesan, Wiley Publication.

**Punyashlok Ahilyadevi Holkar Solapur University, Solapur**



NAAC Accredited-2015  
'B' Grade (CGPA 2.62)

**Name of the Faculty: Science & Technology**

**CHOICE BASED CREDIT SYSTEM**

**Syllabus: ELECTRONICS & TELECOMMUNICATION  
ENGINEERING**

**Name of the Course: T.Y.B. Tech (Sem.- I & II)**

**(Syllabus to be implemented from w.e.f. June 2020)**

# Action Taken Report of the Institution on Feedback Report

## PUNYASHLOK AHILYADEVI HOLKAR

## SOLAPUR UNIVERSITY, SOLAPUR

### Faculty of Science & Technology

*Credit System structure of T.Y. B.Tech. Electronics & Telecommunication Engineering W.E.F. 2020-21*

#### Semester I

Course Code	Theory Course Name	Hrs./week			Credits	Examination Scheme			
		L	T	P		ISE	ESE	ICA	Total
ET311	Electromagnetic Field Theory	3	1	--	4	30	70	25	125
ET312	Digital Design & HDL	4	--	--	4	30	70	25	125
ET313	Digital Signal Processing	4	--	--	4	30	70	25	125
ET314	Microcontrollers and Applications	4	--	--	4	30	70	25	125
ET315	Open Elective-I	3	1	--	4	30	70	25	125
SLH31	Self Learning Module-I	--	--	--	2	--	50	--	50
<b>Sub Total</b>		18	2	--	22	150	400	125	675
Course Code	Laboratory Course Name								
						ESE			
						POE	OE		
ET312	Digital Design & HDL	--	--	2	1	--	50	--	--
ET313	Digital Signal Processing	--	--	2	1	--	50	--	--
ET314	Microcontrollers and Applications	--	--	2	1	--	50	--	--
ET316	Electronic Software Lab-III	--	1	2	2	--	--	25	25
<b>Sub Total</b>		--	1	8	5	--	150	25	175
<b>Grand Total</b>		<b>18</b>	<b>3</b>	<b>8</b>	<b>27</b>	<b>150</b>	<b>550</b>	<b>150</b>	<b>850</b>

Abbreviations: L- Lectures, P –Practical, T- Tutorial, ISE- In Semester Exam, ESE - End Semester Exam, OE-Oral Examination, POE- Practical Oral Examination

ICA- Internal Continuous Assessment ESE - University Examination (Theory & POE &/Oral examination)

# Action Taken Report of the Institution on Feedback Report

**PUNYASHLOK AHILYADEVI HOLKAR**  
**SOLAPUR UNIVERSITY, SOLAPUR**  
**Faculty of Science & Technology**

*Credit System structure of T.Y. B.Tech. Electronics & Telecommunication Engineering W.E.F. 2020-21*  
*Semester II*

Course Code	Theory Course Name	Hrs./week			Credits	Examination Scheme				
		L	T	P		ISE	ESE	ICA	Total	
ET321	Antenna & Wave Propagation	4	--	--	4	30	70	25	125	
ET322	Embedded System	4	--	--	4	30	70	25	125	
ET323	Electronic System Design	4	--	--	4	30	70	25	125	
ET324	Advanced Mobile Communication	3	1	--	4	30	70	25	125	
ET325	Open Elective-II	3	--	--	3	30	70	25	125	
SLH32	Self Learning Module II	--	--	--	2	--	50	--	50	
<b>Sub Total</b>		18	1	--	21	150	400	125	675	
Course Code	Laboratory Course Name									
							<b>ESE</b>			
							<b>POE</b>	<b>OE</b>		
ET321	Antenna & Wave Propagation	--	--	2	1	--	--	25	--	25
ET322	Embedded System	--	--	2	1	--	50	--	--	50
ET323	Electronic System Design	--	--	2	1	--	#50	--	--	50
ET325	Open Elective-II	--	--	2	1	--	--	--	--	--
ET326	Mini Hardware Project	--	--	2	1	--	--	--	50	50
<b>Sub Total</b>		--	--	10	5	--	125	50	175	
<b>Grand Total</b>		<b>18</b>	<b>1</b>	<b>10</b>	<b>26</b>	<b>150</b>	<b>525</b>	<b>175</b>	<b>850</b>	

Abbreviations: L- Lectures, P –Practical, T- Tutorial, ISE- In Semester Exam, ESE - End Semester Exam, OE-Oral Examination, POE- Practical Oral Examination

ICA- Internal Continuous Assessment ESE - University Examination (Theory & POE &/Oral examination)

**Note** - # Practical and Oral Examination of Electronics System Design is combined with Mini Hardware Project.

## Action Taken Report of the Institution on Feedback Report

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7. ICA assessment shall be a continuous process based on student's performance in – class tests, assignments, homework, subject seminars, quizzes, and laboratory books and their interaction and attendance for theory and lab sessions as applicable.
8. Open Elective I & II shall be common and open for the students of the branches – Electronics Engineering, Electronics & Telecommunication Engineering and Electrical Engineering. Students of these branches can take any of these Open Electives. Syllabus and university examination question paper will be same for all these branches.

### **List of Open Electives -**

<b>Sr.</b>	<b>Branch Offering Elective</b>	<b>Open Elective I</b>	<b>Open Elective II</b>
1.	Electronics & Telecommunication Engineering	1. Business Ethics 2. Managerial Economics	1. Optical Communication 2. Sensors & Applications
2.	Electronics Engineering	Information Technology & Management	Operating Systems
3.	Electrical Engineering	Hybrid Electric Vehicle Design	Advanced Control System

### **Self Learning Module II courses -**

1. Computer Organization
2. Renewable Energy Systems
3. Soft Computing
4. NPTEL Courses

# Action Taken Report of the Institution on Feedback Report

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**Punyashlok Ahilyadevi Holkar Solapur University, Solapur**  
**T. Y. B.Tech (Electronics & Telecommunication Engineering)**  
**Semester-I**

## **ET311: ELECTROMAGNETIC FIELD THEORY**

### **Teaching Scheme:**

**Lectures – 3 Hours/week, 3 Credits**  
**Tutorial – 1 Hour/week, 1 Credit**

### **Examination Scheme:**

**ESE – 70 Marks**  
**ISE – 30 Marks**  
**ICA- 25 Marks**

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This course introduces electromagnetic field theory which deals with electric and magnetic field vectors. The course also introduces theoretical and analytical aspects of electromagnetic field, electromagnetic wave propagation and transmission lines.

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### **Course Prerequisite:**

Student shall have knowledge Electromagnetics.

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### **Course Objectives:**

1. To learn basic coordinate system, significance of divergence, gradient, curl and its applications to EM Waves.
2. To familiarize with the different concepts of electrostatic and magneto static fields. To aware students about boundary conditions to different media.
3. To expose the students to the ideas of EM waves and describe the Maxwell's equations.
4. To derive transmission line equations and parameters.
5. To determine transmission line parameters.

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### **Course Outcomes:**

At the end of this course, Students will be able to,

1. Define and recognize different co-ordinate systems and apply divergence, gradient, curl to EM waves.
2. Derive the laws of electrostatic, magneto static fields and electromagnetic wave equation.
3. Apply boundary conditions to different media for wave propagation and Maxwell's equations for analysis of wave propagation.
4. Derive transmission line equations, parameters.
5. Apply knowledge of Smith chart to determine transmission line parameters.

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# Action Taken Report of the Institution on Feedback Report

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## Section I

### **Unit 1: Vector calculus**

(04)

Scalars and vectors, vector algebra, coordinate system, differential length, surface and volume, point and vector transformations.

### **Unit 2: Electrostatics**

(08)

Coulomb's law & electric field intensity, electric field intensity due to distributed charges, flux density, Del operator, Gauss's law and its applications, divergence theorem, electrostatic potential, potential gradient, electric dipole, electrostatic energy density, boundary conditions for electrostatic field.

### **Unit 3: Static magnetic field**

(08)

Biot Savart's law, Ampere's circuital law and its applications, Stoke's theorem, magnetic flux density & vector magnetic potential, current carrying conductors in magnetic fields, torque on loop, energy stored in magnetic field, boundary condition for magneto static field.

## Section II

### **Unit 4: Maxwell's equations**

(07)

Continuity equation for static conditions, displacement current and current density, Maxwell's equations in integral form and point form, Maxwell's equations for static case, time varying field, harmonically varying field.

### **Unit 5: Electromagnetic wave propagation**

(06)

Wave propagation in dielectric & conducting media, modification in wave equations for sinusoidal time variations, propagation in good conductor, skin effect, Poynting theorem, power flow in uniform plane wave

### **Unit 6: Transmission lines**

(07)

Transmission line sections as circuit elements, Transmission line equations using field theory and circuit theory, transmission line primary constant ( $R, L, C, G$ ) and secondary ( $Z_0, \gamma$ ) constant, the terminated uniform transmission line, reflection coefficient, transmission coefficient, VSWR, Impedance Transformation on Loss-less and Low loss Transmission line, Smith Chart and solution of transmission line problems using Smith Chart.,

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# Action Taken Report of the Institution on Feedback Report

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**Punyashlok Ahilyadevi Holkar Solapur University, Solapur**  
**T. Y. B.Tech (Electronics& Telecommunication Engineering)**  
**Semester-I**  
**ET312 : DIGITAL DESIGN & HDL**

**Teaching Scheme:**

**Lectures- 4 Hours/week, 4 Credits**

**Practical- 2 Hour/week, 1 Credit**

**Examination Scheme:**

**ESE – 70 Marks**

**ISE – 30 Marks**

**ICA- 25 Marks**

**POE- 50 Marks**

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This course introduces how to design, simulate and test digital logic circuits using hardware description languages (HDL) VHDL and Verilog HDL. It also describes the CPLD, FPGA and ASIC architectures used to implement the digital logic circuits.

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**Course Prerequisite:**

Student shall have knowledge of Digital components, combinational and sequential logic circuit design.

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**Course Objectives:**

1. To make student learn EDA Tools for VHDL and Verilog programming and simulation.
2. To enable student to design HDL modules for combinational logic circuits.
3. To enable student to design VHDL modules for sequential logic circuits.
4. To acquaint students to CPLD and FPGA architecture, ASIC, SOC and fault testing of combinational and sequential circuits.

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**Course Outcomes:**

At the end of this course, Students will be able to,

1. Explain different syntax of HDL language.
2. Design and analyze combinational logic circuits using VHDL and Verilog.
3. Design and analyze sequential logic circuits using VHDL.
4. Describe architecture and internal components of CPLD, FPGA, ASIC and SOC and compare them.
5. Explain different testing methods for combinational Logic, sequential logic, IC and write test bench for simple combinational circuits.

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## Section I

### **Unit 1: Introduction to EDA tool and VHDL programming**

**(10)**

About VHDL, Design Flow, EDA tools, Library declaration, entity, architecture, data types, operators, signals, variables, constants, attributes, concurrent code, sequential code, delays, architecture modeling, components, generate, Libraries, IEEE standard logic, packages, generic, functions, procedures, operator overloading, assert.

# Action Taken Report of the Institution on Feedback Report

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**Unit 2 : VHDL modules for combinational and sequential logic design.** (08)  
Half & full Adder and Subtractor, multiplexer, demultiplexer, encoder, decoder, comparator, 4-bit adder, array multiplier, latches, flip flops, counter (Synchronous and asynchronous), shift register, static RAM, ROM.

**Unit 3 : Verilog modules for combinational logic design.** (06)  
Introduction to Verilog HDL, Structure of Verilog module, Types of models, Data types, Operators, HDL Implementation of Half Adder, Full Adder, Half subtractor, Full subtractor, encoder, decoder, multiplexer, demultiplexer, comparator.

## Section II

**Unit 4 : State Machines** (08)  
State machine using Moore and Mealy model, VHDL model using state machine for sequence detector, Traffic light controller, coffee vending machine, multiplier using ADD and SHIFT method.

**Unit 5 : Testing of Logic Circuits** (08)  
Testing combinational and sequential logic, Boundary scan, Built In Self-test, Test bench for Combinational design for binary adder, comparator, encoder, decoder, multiplexer and demultiplexer.

**Unit 6 : Architecture of Commercial Devices:** (08)  
CPLD Architecture, Xilinx XC9500, Altera Max7000, FPGA organization and architecture, Altera Flex 10k, ASIC and System on Chip architecture.

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• **Internal Continuous Assessment (ICA):**

ICA shall be based on minimum ten programs based on above curriculum using suitable EDA tools.

**Suggested List of Practicals:**

1. Design of half adder and full adder using VHD and Verilog.
2. Design of 4 bit adder using structural style modeling using VHD and Verilog.
3. Design of carry look ahead adder using VHDL.
4. Design of code converters using VHDL or Verilog.
5. Design of comparators using VHDL or Verilog
6. Design of encoder and decoder using VHDL or Verilog
7. Design of multiplexer and demultiplexer using VHDL or Verilog
8. Design of flip flops using VHDL.
9. Design of universal shift register using VHDL.
10. Design of asynchronous and synchronous counters using VHDL.
11. Design of sequence detector using state machine using VHDL.
12. Design of Traffic light controller using state machine editor using VHDL.

## Action Taken Report of the Institution on Feedback Report

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13. Frequency multipliers and dividers using VHDL.
14. Design of ALU using VHDL.
15. Design of RAM with read write control using VHDL.
16. Writing test bench for adder, encoder using VHDL.
17. Implement any VHDL module on CPLD or FPGA

- **Text books:**

1. Circuit Design and Simulation with VHDL, Volnei A. Pedroni, PHI
2. Fundamentals of Digital logic Design with VHDL, Brown, Vranesic – McGraw-Hill (2<sup>nd</sup> edition).
3. Digital Systems Design using VHDL, Charles H. Roth, Lizy Kurian John- Cengage Learning, Second Edition
4. Digital Systems Design using Verilog, Charles H. Roth, Lizy Kurian John, Byeong Kil Lee- Cengage Learning
5. HDL Programming VHDL and Verilog, Nazeih M. Botros, Dreamtech Press.

- **Reference Books:**

1. Digital Design Principles and Practices, John F. Wakerly, Printice Hall, 3<sup>rd</sup> Edition.
2. Datasheets of CPLDs and FPGAs.

# Action Taken Report of the Institution on Feedback Report

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**Punyashlok Ahilyadevi Holkar Solapur University, Solapur**

**T. Y. B.Tech (Electronics & Telecommunication Engineering)**

**Semester-I**

**ET314: MICROCONTROLLERS AND APPLICATIONS**

**Teaching Scheme:**

**Lectures- 4Hours/week, 4 Credits**

**Practical – 2 Hours/week, 1 Credit**

**Examination Scheme:**

**ESE – 70 Marks**

**ISE – 30Marks**

**ICA-25 Marks**

**POE- 50Marks**

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This course introduces Basics of microcontroller's theory which includes internal details of MCS51 series and PIC Microcontroller. The course also introduces Assembly level as well Embedded C Level programming aspects of both microcontrollers, Memory interfacing and Interfacing various I/O devices.

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**Course Prerequisite:**

Student shall have knowledge of Digital Electronics.

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**Course Objectives:**

1. To provide an introduction to microcontroller families and details of MCS51.
2. To describe Core features and Peripheral features of PIC16f877a
3. To explain and practice assembly language and Embedded C programming techniques
4. To demonstrate and perform hardware interfacing and design for various applications.

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**Course Outcomes:**

At the end of this course, Students will be able to,

1. Expose the fundamental features and operation of contemporary microcontroller
2. Demonstrate and perform hardware interfacing.
3. Explore the students to the fundamentals of PIC Microcontroller 16F877 architecture
4. Introduce the various core and peripheral features in PIC Microcontroller 16F877.
5. Develop and practice assembly language and C language programming techniques

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## **Section I**

**Unit 1: Introduction Microcontroller**

**(04)**

Introduction, Microprocessor and Microcontrollers, CISC & RISC Microcontroller, Harvard and von Neumann architecture, Development system for Microcontroller.

**Unit 2: The 8051 Architecture and Instructions**

**(08)**

8051 Microcontroller Hardware, Addressing modes, Instruction set ,Input / Output Pins, ports and Circuits, External Memory, Counters and Timers, Serial Data Input/ output, interrupts.

# Action Taken Report of the Institution on Feedback Report

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## **Unit 3: Programming Microcontroller (8051)**

(06)

The mechanics of Programming, The assembly Language and C programming concepts, Serial Port Programming, Timer Programming and Interrupt Programming, Program for interfacing Switches, LED, Relay, Buzzer.

## **Unit 4: Interfacing with microcontroller**

(06)

LCD display, Matrix keyboard, ADC 0809, DAC 0808, Stepper Motor, Interfacing External Memory

## **Section II**

### **Unit 5: PIC Microcontrollers:**

(04)

PIC Microcontrollers Introduction, Architecture, features, Configuration word and Instruction Set

### **Unit 6: PIC 16F877A Microcontroller Core Features : (08)**

Functional pin description, various registers, Program memory and data memory organization, Input / output ports, Interrupts, various kinds of RESET

### **Unit 7: Peripheral Features and Programming:**

(06)

Timers, Capture/ compare / PWM (CCP) Modules in PIC 16F877, Internal ADC, The Watchdog Timer.

### **Unit 8: Serial Communication:**

(06)

Master synchronous serial port (MSSP) module: SPI, I2C, The Universal Synchronous Asynchronous Receiver Transmitter (USART) module.

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- Internal Continuous Assessment (ICA):**

ICA consists of minimum ten Practical based upon above curriculum.

Students should be introduced to embedded C programming and Minimum Four practical's should be taken using embedded C programming

### **Suggested List of Practical:**

1. Arithmetic and Logic operations
2. Interfacing of Switches, LEDs and Buzzer.
3. Interfacing of Matrix Keyboard
4. Interfacing of LCD Display.
5. Interfacing of DAC 0808 and generation of various waveforms.
6. Interfacing of ADC 0809
7. Use of Timer for generation of time delays
8. Use of Timer as counter.
9. Interfacing of Stepper motor.
10. Speed control of DC Motor using PWM.
11. Use of ADC of PIC Microcontrollers.
12. Use of Interrupts for any Application.
13. Use of CCP Module of PIC Controller
14. Serial communication.
15. Study of any one Industrial application using Microcontroller.

# Action Taken Report of the Institution on Feedback Report

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**Punyashlok Ahilyadevi Holkar Solapur University, Solapur**

**T. Y. B.Tech (Electronics & Telecommunication Engineering)**

**Semester-I**

**ET315.1: OPEN ELECTIVE-I  
BUSINESS ETHICS**

**Teaching Scheme:**

**Lectures – 3 Hours/week, 3 Credits**

**Tutorial – 1 Hour/week, 1 Credit**

**Examination Scheme:**

**ESE – 70 Marks**

**ISE – 30 Marks**

**ICA-25 Marks**

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This course introduces basics of business ethics and its related. The course also introduces theoretical aspects of ethical issues related to stakeholders

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**Course Prerequisite:**

Student shall have knowledge basic management principles.

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**Course Objectives:**

1. To make students aware of basics of business ethics and related theories
2. To understand different tools for decision making and management in business ethics
3. To get acquainted with corporate and ethical issues related with it
4. To understand different ethical issues related to various stakeholders

**Course Outcomes:**

At the end of this course, Students will be able to,

1. Elaborate concepts of ethics and related theories
2. Describe and apply tools for decision making and management in business ethics
3. Understand and form the ethical issues in corporation
4. Understand and identify the ethical issues from various stakeholders' point of context

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## **Section-I**

**Unit 1: Introduction**

**(06)**

Business Ethics: An overview, importance of Business Ethics, Key context- Globalization, sustainability, Normative ethical theories and descriptive ethical theories and contemporary ethical theories

**Unit 2: Decisions and management of business ethics**

**(06)**

Models of ethical decision making, Individual and situational influences on decision making, business ethics management, Setting standards of ethical behavior, Managing stakeholder relations, Assessing ethical performance, Organizing for Business Ethics management

**Unit 3: Framing business Ethics**

**(06)**

Framing Business Ethics- CSR, stakeholders and Citizenship, Corporation- key features, CSR, Stakeholder theory of firm, Corporate accountability, Corporate citizenship, understanding

# Action Taken Report of the Institution on Feedback Report

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## Section-II

### **Unit 4: Employees, consumers and business ethics**

(07)

Models of organization, Employees as stakeholders, Ethical issues in the firm-employee relation, Ethical challenges of globalization, corporate citizen and employee relations towards sustainable employment. Consumers as stakeholders, Ethical issues, marketing and the consumer, Globalization and consumers, Consumers and corporate citizenship, Sustainable consumption

### **Unit 5: Civil Society and Environment**

(07)

Civil society organizations as stakeholders, Ethical issues and CSOs, Globalization and CSOs, Corporate Citizenship and civil society, Civil society, business and sustainability, Business Ethics and Environmental values, The dimensions of pollution and resource depletion, Ethics of pollution control, Ethics of conserving depletable resources

### **Unit 6: IT and Government**

(07)

Information technology and its moral significance to business, IT code of conduct, Data identity and security, Crime and punishment, Government as stakeholder, Ethical issues in the relation between business and government, Globalization and business- government relations, Corporate Citizenship and regulation, Governments, business and sustainability

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- **Internal Continuous Assessment (ICA):**

ICA consists of minimum eight tutorials based upon above curriculum. Tutorial shall include case studies related to context like employee, civil citizens, environment, consumer etc. It will be motivated to have seminars and role plays for various case studies related to ethical issues. Visits to various organizations and reports based on that can be considered.

- **Text Books:**

1. Business Ethics by Andrew Crane, Dirk Matten, Oxford University press

- **Reference Books:**

1. Business Ethics: Ethical Decision Making and Cases, O. C. Ferrell, John Fraedrich, Linda Ferrell, Cengage Publication
2. Business Ethics Methods and Application, Christian U. Becker, Taylor and Francis
3. Business & Society: Ethics and Stakeholder Management, Archie B. Carroll, Ann K. Buchholtz, Cengage Publication 7th Edition

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**Punyashlok Ahilyadevi Holkar Solapur University, Solapur**  
**T. Y. B.Tech (Electronics & Telecommunication Engineering)**  
**Semester-I**  
**ET316: ELECTRONIC SOFTWARE LAB-III**

**Teaching Scheme:**  
**Practical – 2 Hours/week, 1 Credit**  
**Tutorial – 1 Hour/week, 1 Credit**

**Examination Scheme:**  
**ICA- 25 Marks**

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This course will introduce fundamental programming concepts including data structures, networked application program interfaces, and databases, using the Python programming language.

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**Course Prerequisite:**

Basic knowledge of programming concepts like Variables, Loops, Control Statements, etc in any programming language like C.

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**Course Objectives:**

1. Introduce procedural and object-oriented style for writing Python scripts.
2. Introduce standard library packages and modules in Python.
3. To teach testing, debugging and profiling of Python scripts.

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**Course Outcomes:**

At the end of this course, Students will be able to,

1. Write Python scripts using procedure and object oriented approach of writing a computer program.
2. Exhibit ability to use Python's standard library packages to provide solution to a given problem.
3. Test and debug python script for a given problem.

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## Section – I

**Unit 1: Introduction to Python**

(02)

Introducing the Python Interpreter, Program Execution, Execution Model Variations, TheInteractive Prompt, System Command Lines and Files. Syntactic and semantic differences between Python 2.x and Python3.x.

**Unit 2: Introduction to Python Programming Constructs**

(04)

Data types and variables, Collection data types, Control structures, loops and functions, Lambdas, Generators, Exception Handling, String handling, Scope of variables, Modules, Packages, Command line arguments. Built-in: Functions, Constants, Types, Exceptions.

**Unit 3: Introduction to Object Oriented Programming in Python**

(04)

Classes, Instance Objects, Method Objects, Class and Instance Variables, Attributes and methods, Inheritance and polymorphism

# Action Taken Report of the Institution on Feedback Report

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**Punyashlok Ahilyadevi Holkar Solapur University, Solapur**

**T. Y. B.Tech (Electronics & Telecommunication Engineering)**

**Semester-II**

**ET321: ANTENNA AND WAVE PROPOGATION**

**Teaching Scheme:**

**Lectures- 4 Hours/week, 4 Credits**

**Practical – 2 Hours/week, 1 Credit**

**Examination Scheme:**

**ESE – 70 Marks**

**ISE – 30 Marks**

**ICA- 25 Marks**

**OE- 25 Marks**

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This course introduces Antenna and Wave Propagation which deals with different types of antenna, and propagation of wave over ground and through atmosphere. The course also introduces theoretical and analytical aspects of wave propagation and radiating system.

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**Course Prerequisite:**

Student shall have knowledge of Electromagnetic Fundamentals.

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**Course Objectives:**

The student will learn and understand

1. Basics of antenna
2. Various types of antenna and radiation mechanism of antenna
3. Techniques used for antenna parameters measurement
4. Wave propagation over ground, through troposphere and ionosphere.

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**Course Outcomes:**

At the end of this course, Students will be able to,

1. Identify basic antenna parameters.
2. Analyze radiation pattern of various antennas.
3. Illustrate techniques for antenna parameter measurements.
4. Identify the characteristics of radio wave propagation.
5. Understand the various applications of antenna.

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## Section-I

**Unit 1:Antenna Fundamentals:**

**(06)**

Comparison between an antenna & transmission line, Radiation Principle, Antenna parameters: Beam area, Beam width, Polarization, Radiation Intensity, Beam Efficiency, Directivity and directive gain, radiation resistance, radiation efficiency, Antenna aperture-physical and effective apertures, effective height, antenna field zones.

# Action Taken Report of the Institution on Feedback Report

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## **Unit 2: Antenna Arrays:**

(08)

Arrays of two isotropic point sources, non isotropic Sources, principle of pattern multiplication, linear arrays of n elements, Broadside, End-fire radiation pattern, directivity, Beam-width and null directions, array factor.

## **Unit 3: HF, VHF and UHF Antennas:**

(10)

Radiation from Small Electric Dipole, Quarter Wave Monopole and Half Wave Dipole – Current Distributions, Radiated Power, Radiation Resistance.

Helical Antennas: Helical geometry, transmission and radiation modes, wide band characteristics of helical antenna.

Slot antenna: Patterns of slot antenna, Babinet's principle and complementary antennas, impedance of slot antennas. (Excluding mathematical derivations for Helical and Slot Antennas. The problems on Helical and Slot Antennas will be included.)

## **Section-II**

## **Unit 4: UHF and Microwave Antennas:**

(08)

Important horn shapes, Design equation of horn antenna, Optimum Horn, Uses of horn antenna.

Reflector Antennas: Introduction, Plane Sheet and Corner Reflectors, Paraboloidal Reflectors – Geometry, Pattern Characteristics, Feed Methods.

Microstrip Antennas: Introduction, Advantages and Limitations, Various microstrip patch configurations, Radiation mechanism, Feeding techniques, Applications of microstrip antenna.

## **Unit 5: Special Antennas:**

(06)

Introduction of frequency independent antennas –Spiral antenna, Log periodic antenna, Modern antennas- Reconfigurable antenna, Active antenna, Smart antenna.

Antenna Measurements: Measurement of Gain, Radiation pattern and Polarization.

## **Unit 6: Radio Wave Propagation:**

(10)

Modes of propagation, structure of atmosphere, ground wave propagation, Tropospheric propagation, Duct propagation, Troposcatter propagation, flat earth and curved earth concept. Sky wave propagation- Virtual Height, Critical frequency, Maximum usable frequency, Skip distance, Fading, Multi hop propagation.

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- **Internal Continuous Assessment (ICA):**

ICA consists of minimum eight practicals from given list

**Suggested List of Practicals:**

1. To plot radiation pattern of dipole antenna and calculate its parameters
2. To plot radiation pattern of monopole antenna and calculate its parameters
3. To plot radiation pattern of Helical antenna and calculate its parameters
4. To plot radiation pattern of Log periodic antenna and calculate its parameters
5. To plot radiation pattern of parabolic reflector and calculate its parameters
6. To plot radiation pattern of horn antenna and calculate its parameters
7. To plot radiation pattern of slot antenna and calculate its parameters
8. To plot radiation pattern of Broadside array and calculate its parameters
9. To plot radiation pattern of End fire array and calculate its parameters
10. To plot 2-dimensional and 3-dimensional radiation pattern of directional antenna using simulation software.

- **Text Books:**

1. Antennas for All Applications – John D. Kraus and R. J. Marhefka, and Ahmad S. Khan TMH, New Delhi, 4th ed., (Special Indian Edition) 2010. Electromagnetic field theory & Transmission Lines, GSN Raju, Pearson Education
2. Electromagnetic Waves and Radiating Systems – E.C. Jordan and K.G. Balmain, PHI, 2<sup>nd</sup> edition 2000

- **Reference Books:**

1. Antenna Theory - C.A. Balanis, John Wiley & Sons, 3rd ed., 2005.
2. Antennas and Wave Propagation – K.D. Prasad, SatyaPrakashan, Tech India Publications, New Delhi, 2001.
3. Transmission and Propagation – E.V.D. Glazier and H.R.L. Lamont, The Services Text Book of Radio, vol. 5, Standard Publishers Distributors, Delhi.
4. Antennas – John D. Kraus, McGraw-Hill (International Edition), 2nd Ed. 1988.

# Action Taken Report of the Institution on Feedback Report

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**Punyashlok Ahilyadevi Holkar Solapur University, Solapur**  
**T. Y. B.Tech (Electronics & Telecommunication Engineering)**  
**Semester-II**

## **ET322: EMBEDDED SYSTEMS**

### **Teaching Scheme:**

**Lectures – 4 Hours/week, 4 Credits**  
**Practical – 2 Hours/week, 1 Credit**

### **Examination Scheme:**

**ESE – 70 Marks**  
**ISE – 30 Marks**  
**ICA – 25 Marks**  
**POE – 50 Marks**

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This course introduces Embedded System Design with software and hardware perspective. The course also introduces practical design aspects of embedded system.

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### **Course Prerequisite:**

Student shall have knowledge digital circuits, basic C programming, Microcontroller fundamentals.

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### **Course Objectives:**

1. To make student realize different aspects and application areas of embedded systems.
2. To make student understand ARM core architecture.
3. To make student understand interfacing of input & output devices
4. To introduce to student concepts of Real time operating system.

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### **Course Outcomes:**

At the end of this course, Students will be able to,

1. Student can describe hardware and software architecture of embedded system.
2. Student can describe ARM7TDMI core architecture and Controller based on this architecture
3. Student can write C program for different applications for LPC2148microcontroller.
4. Student can interface different peripherals with LPC2148 microcontroller.
5. Student can describe microcontroller based real time systems for different applications.

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## **Section - I**

### **Unit 1: Embedded System Introduction**

**(06)**

Introduction to Embedded System, History, Design challenges, optimizing design metrics, time to market, applications of embedded systems and recent trends in embedded systems, embedded design concepts and definitions.

### **Unit 2: System Architecture**

**(10)**

Introduction to ARM7TDMI core architecture, ARM extension family, Pipeline, LPC 2148, ARM instruction set, thumb instruction set, memory management, Bus architecture.

### **Unit 3: On Chip Peripherals**

**(08)**

Study of on-chip peripherals like I/O ports, PLL, timers / counters, interrupts, on-chip ADC, DAC,

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## Section – II

### **Unit 4: Interfacing and Programming**

(10)

Introduction to Embedded C Programming, Basic embedded C programs for on-chip peripherals studied in system architecture like PLL, timers, ADC, WDT, PWM. Interfacing of devices – LED, Switches (buttons), 4 x 4 Matrix Keypad, 7-segment display, LCD display, DC motor.

### **Unit 5: Real Time Operating System**

(10)

Architecture of kernel, task scheduler, ISR, Semaphores, mailbox, message queues, pipes, events, timers, memory management, RTOS services in contrast with traditional OS, introduction to μcosII.

### **Unit 6: Case Studies**

(04)

Case studies like Digital Camera, Smart Card System based ATM and Mobile Internet Device.

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### **Internal Continuous Assessment:**

ICA consists of 8 to 10 practical's based upon above curriculum.

List of Practical's:

1. Arithmetic and Logic operations
2. Interfacing of Switch, LED / Buzzer / Relay
3. Interfacing of LCD Display.
4. Interfacing matrix Keypad and display key pressed on LCD / Seven Segment Display
5. Use of Timer for generation of time delays
6. Use of Interrupts for any Application
7. Use of ADC of Microcontroller.
8. Interfacing of Stepper motor.
9. Interfacing of DC Motor.
10. USART Serial communication.
11. Creating two tasks, which will print some characters on the serial port, Start the scheduler and observe the behavior.
13. Implementing a semaphore for any given task switching using RTOS on microcontroller board.
14. Implementing a Mailbox for task communication.

#### **• Text books:**

1. Embedded Systems: Architecture, Programming And Design by Rajkamal Tata McGraw-Hill Education
2. Frank Vahid - Embedded Systems - Wiley India
3. ARM System Developer's Guide, Designing and Optimizing System Software - Andrew N. Sloss , Dominic Symes, Chris Wright - Morgan Kaufmann Publisher.
4. Embedded systems software primer - David Simon – Pearson
5. MicroC / OS-II, Jean J Labrose - Indian Low Price Edition

#### **• Reference Books:**

1. DR.K.V.K.K. Prasad - Embedded / real time system – Dreamtech
2. Embedded real systems Programming – Iyer, Gupta, TMH
3. Embedded systems: a contemporary design tool, James K. Peckol- Wiley India
4. Datasheet of LPC 2148.

# Action Taken Report of the Institution on Feedback Report

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**Punyashlok Ahilyadevi Holkar Solapur University, Solapur**  
**T. Y. B.Tech (Electronics & Telecommunication Engineering)**  
**Semester-II**  
**ET323 : ELECTRONIC SYSTEM DESIGN**

**Teaching Scheme**  
**Lectures – 4 Hours/week, 4 Credits**  
**Practical – 2 Hour/week, 1 Credit**

**Examination Scheme**  
**ESE – 70 Marks**  
**ISE – 30 Marks**  
**ICA – 25 Marks**  
**POE – # 50 Marks**

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This course introduces construction, characteristics of power electronics devices and its applications. The course also introduces design of different electronics systems such as frequency synthesizer, frequency counter, time period measurement. This course also covers design of industrial controllers and aspects of PLC & automation.

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**Course Prerequisite:**

Student shall have knowledge of Basic Electronics, Linear Integrated Circuits and Digital Electronics

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**Course Objectives:**

1. To describe the concept and applications of power electronic devices.
2. To design and analyze timer, frequency counters and digital voltmeters.
3. To design applications of Phase Locked Loop (PLL) and industrial process control.
4. To provide introduction of the concept of PLC and its applications.

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**Course Outcomes:**

At the end of this course, Students will be able to,

1. Describe construction, working & analyze characteristics of thyristors.
2. Analyze AC and DC power control circuits using thyristors.
3. Design and implement timers, frequency counters, digital voltmeters and frequency synthesizers.
4. Design and simulate Communication system components for system design.
5. Design and analyze controllers for industrial applications.

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# Action Taken Report of the Institution on Feedback Report

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## Section I

**Unit 1: Introduction to Power Semiconductor Devices** (08)  
SCR - construction, working, VI characteristics, turn on and turn off methods (Class A, B, C, D).  
TRIAC - construction, working, VI Characteristics. DIAC - construction, working, VI Characteristics.

**Unit 2: Power Electronics Applications** (08)  
Single phase half wave controlled rectifier, center tapped full wave controlled rectifier, fully controlled bridge rectifier, AC power control using DIAC & TRIAC and its applications.

**Unit 3: Modulator, Demodulator & PLL** (09)  
Balanced modulator principle, IC 1596, applications of IC 1596 as AM modulator & Mixer. PLL-Working Principle, design consideration, FM detector, FSK demodulator, PSK demodulator, design of frequency synthesizer using LM565.

## Section II

**Unit 4: Timer, Counters &Digital Voltmeter** (09)  
Design of Timer using XR 2240, Design of counter using IC 74C926 for the time & event counting, Design of 3 ½ digit Multi-range DVM using discrete components.

**Unit 5: Design of Industrial Control** (08)  
Signal conditioning for sensors PT 100, LM 35, Thermocouples (J & K type), current loop Interface (4mA to 20mA), zero & span circuit, offset V to I & I to V converter, V to V converter.

**Unit 6: Controllers** (08)  
Design of analog ON/OFF controller and proportional controller for controlling process, PLC architecture and applications, bottle filling plant & elevator control.

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**Note** - # Practical and Oral Examination of Electronics System Design is combined with Mini Hardware Project.

**• Internal Continuous Assessment:**  
ICA consists of minimum eight practical from following suggestive list.

**Suggestive List of Practicals:**

1. VI Characteristics of SCR.
2. VI characteristics of TRIAC & DIAC.
3. Single phase half wave controlled rectifier.
4. Lamp dimmer using TRIAC & DIAC.
5. AM simulation using MATLAB SIMULINK.
6. PLL application using MATLAB SIMULINK.
7. Implementation of frequency division circuit using IC.
8. Application implementation using PLC.
9. Temperature controller using OPAMP.

## **Action Taken Report of the Institution on Feedback Report**

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10. V to V Converter.
11. Simulation of Display design.
12. Design and simulate 3 ½ digit DVM.

**• Text Books:**

1. Power Electronics, circuits, devices & applications by M. H. Rashid, Pearson Education, 3rd edition.
2. Power Electronics by P. C. Sen, TATA Mc. Graw Hill, 2nd Edition.
3. Power Electronics by M. D. Singh & K. B. Khanchandani, TATA Mc. Graw Hill, 2nd Edition.
4. Introduction to System Design Using Integrated Circuits by B. S. Sonde, NewAge International Publishers, 2nd Edition.

**• Reference Books:**

1. Integrated Circuits by K. R. Botkar, Khanna publishers, 10th Edition.
2. Programmable Logic Controllers by Job Den Otter, Prentice Hall International Editions.
3. Programmable Logic Controllers by John Web & Ronald Reis, PHI Publications, 5th edition.
4. Process Control Instrumentation Technology by Curtis. D. Joshon, Pearson Education, 8th edition.
5. Data sheets of Analog and digital ICs used for design using Web resources.

# Action Taken Report of the Institution on Feedback Report

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**Punyashlok Ahilyadevi Holkar Solapur University, Solapur**  
**T. Y. B.Tech (Electronics& Telecommunication Engineering)**  
**Semester-I**  
**ET324: ADVANCED MOBILE COMMUNICATION**

**Teaching Scheme:**  
Lectures– 3 Hours/week, 3 Credits  
Tutorial – 1 Hour/week, 1 Credit

**Examination Scheme:**  
ESE -70 Marks  
ISE - 30 Marks  
ICA -25 Marks

This course introduces Advanced ideas, design principles, architectures and technology standards used in advanced mobile communication systems.

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**Course Prerequisite:**

Student shall have knowledge of basics of analog communication and digital communication.

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**Course Objectives:**

1. To recognize cellular concept in mobile communication.
2. To examine the Mobile radio propagation, cellular system design, and to identify multiple access techniques used in mobile communication
3. To analyze mobile technologies like GSM
4. To categorize the mobile communication evolution of 2G to 5G technologies.
5. To describe overview of 4G & 5G next generation technology.

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**Course Outcomes:**

At the end of this course, Students will be able to,

1. Students will be able to define cellular systems, working and hand off strategies implemented in mobile communication.
2. Students will be able to analyze various losses in mobile radio propagations and define multiple access schemes sharing radio spectrum.
3. Students will be able to define GSM - architecture, frame structure, system capacity and services provided.
4. Students will be able to describe mobile communication evolution of 2G to 5G technologies
5. Students will be able to analyze emerging technologies required for fourth generation mobile systems such as Long Term Evolution(LTE) & 5G next generation technology.

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## Section I

**Unit 1: Introduction**

(08)

Introduction to wireless communication systems

The Cellular Engineering Fundamentals : Introduction, Frequency Re-use, Channel Assignment Strategies, Handoff Strategies, Interference and System Capacity, Trunking and Grade of service, Co-channel Interference (CCI), Adjacent Channel Interference (ACI), Cell Splitting, Sectoring, Microcell Zone concept, Repeaters.

**Unit 2: Mobile Radio Propagation**

(07)

Large scale path loss, Free space propagation model, ground reflection model (two ray model), diffraction, Practical Link Budget using path loss model, Small scale fading and multipath small scale multipath propagation.

# Action Taken Report of the Institution on Feedback Report

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**Unit 3: Multiple Access Technique in Wireless Communications** (06)  
Frequency Division Multiple Access (FDMA), Time Division Multiple Access (TDMA), Spread Spectrum Multiple Access (SSMA), Space Division Multiple Access (SDMA), Orthogonal Frequency Division Multiple Access (OFDMA)

## Section II

**Unit 4: GSM** (07)  
GSM Network architecture, signaling protocol architecture, identifiers, channels, Frame structure, speech coding, authentication and security, call procedure, handoff procedure, services and features. Mobile data networks, GPRS and higher data rates.

**Unit 5: CDMA digital cellular standard (IS-95) & IMT – 2020** (07)  
Frequency and channel specifications of IS-95, forward and reverse CDMA channel, packet and frame formats, mobility and radio resource management. IMT 2000 & IMT Advanced, IMT 2020, capabilities.

**Unit 6: 4G (LTE) & 5G Next Generation Technology** (07)  
Introduction to 4G, LTE Architecture, Elements of LTE- EPS, LTE Radio / air interface- Modulation and features, LTE Channels, Introduction to 5G, 5G CN Architecture, Radio/air interface, features.

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- **Internal Continuous Assessment (ICA):**

- ICA shall include minimum **eight tutorials** based on above syllabus.
- One visit to the **Mobile base station** & submission of report.

- **Text Books:**

1. Wireless Communications - Theodore S. Rappaport, Prentice Hall of India, PTR Publication.
2. Principles of Wireless Networks – Kaveh Pahlavan, Prashant Krishnamurthy, PHI.
3. Mobile Communication – G. K. Behera & Lopamudra Das, Scitech Publication.
4. Mobile Communications – Jochen Schiller, Pearson Education, Second Edition.

- **Reference Books:**

1. Wireless Communication – Singhal, TMH.
2. Mobile and Personal Communication Systems and Services – Raj Pandya, Prentice Hall of India.
3. Wireless Communication – D. P. Agarwal, Thomson learning 2007, Second Edition.
4. Wireless Communication and Network –Upena Dalal, OXFORD higher Education
5. 4 G Roadmap and Emerging Communication Technologies – Young Kyun Kim and Ramjee Prasad –Artechhouse.
6. 5G NR: The Next Generation Wireless Access Technology- By Erik Dahlman, Stefan Parkvall, Johan Skold

# Action Taken Report of the Institution on Feedback Report

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**Punyashlok Ahilyadevi Holkar Solapur University, Solapur**  
**T. Y. B.Tech (Electronics & Telecommunication Engineering)**  
**Semester-I**

## **ET325.1: OPEN ELECTIVE-II OPTICAL COMMUNICATION**

**Teaching Scheme:**  
Lectures – 3 Hours/week, 3 Credits  
Practical – 2 Hours/week, 1 Credit

**Examination Scheme:**  
ESE – 70 Marks  
ISE – 30 Marks  
ICA- 25 Marks

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This course introduces the basic concept of optical communication. It explains the basic working principle of optical fiber. It covers the study of basic optical devices as optical source, optical detector, optical joints. It also introduces aspects of practical design of optical communication system.

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**Course Prerequisite:**  
Student should have knowledge of basic communication system, light reflection, refraction process.

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**Course Objectives:**

1. To make students to understand basic working principle of optical fiber.
2. To introduce to student basic losses in optical fiber & reasons behind the losses.
3. To make students to understand the basics of optical sources(LASER & LED).
4. To make students to understand the basics of optical detectors.
5. To study the concepts of optical networks.

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**Course Outcomes:**

At the end of this course, Students will be able to,

1. Demonstrate working of optical fiber.
2. Explain transmission characteristics of optical fibers & concept of optical joints.
3. Illustrate different optical sources & optical detectors.
4. Solve the numerical to calculate the various parameters of optical sources & detectors.
5. Explain the different types of optical amplifier & optical networks.
6. Analyze the functional blocks in optical communication system.

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## **Section I**

**Unit 1 : Overview of Optical Fiber Communication** (06)  
Introduction, Historical development, general optical communication system, advantages, disadvantages, optical fiber waveguides, ray theory ,mode theory, Types of optical fibers, single mode ,multimode fiber, step index & graded index fibers, applications of optical fiber communication.

# Action Taken Report of the Institution on Feedback Report

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**Unit 2 : Transmission Characteristics of Optical Fibers and Optical Joints** (08)  
Introduction, Attenuation, absorption- intrinsic & extrinsic, linear & non linear scattering losses, bending loss, dispersion- intermodal & intramodal, Fibers alignment and joint loss, fiber splices, connectors, fiber couplers & its types.

**Unit 3 : Optical Source** (08)  
Laser: Requirements of optical source, basic concept of LASER, optical emission from semiconductors, heterojunction structure, Semiconductor injection laser and structures, Injection laser characteristics, LED: LED structures, LED characteristics, Light Modulation.

## Section II

**Unit 4 : Optical Detectors** (06)  
Introduction, requirements of optical detector, optical detection principles, performance parameters of detector- absorption, quantum efficiency, responsivity, cut off wavelength. Semiconductor photo diodes with and without internal gain, PN, PIN, Avalanche Photo diodes, Phototransistors.

**Unit 5 : Optical Networks** (06)  
Optical Networks: Introduction, networking terminology, optical network modes, SONET / SDH, SONET/SDH rings, Optical Ethernet, data buses, Fiber Distributed Data Interface (FDDI).

**Unit 6 : Fiber Optical Communication Systems** (06)  
Introduction, Transmitter Design, Receiver Design, Noise equivalent model of receiver, Link Design, Wavelength Division Multiplexing (WDM), DWDM, Optical Time Division Multiplexing.

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• **Internal Continuous Assessment (ICA):**

ICA consists of minimum 8Practicals based upon above curriculum.

**Suggested List of Practicals:**

1. Setting up fiber optic analog & digital link.
2. Frequency modulation using fiber optic cable.
3. Pulse width Modulation using fiber optic cable.
4. Study of propagation loss in optical fiber.
5. Study of bending loss in optical fiber.
6. Measurement of optical power using optical power meter.
7. Measurement of Numerical Aperture.
8. Transmission of voice signal using FOC.
9. Study of WDM .
10. Study of LED output characteristics.

• **Text Books:**

1. Optical Fiber Communications, John M. Senior, Pearson Education. 3rd Impression, 2007
2. Optical Fiber Communications, Gerd Keiser, 4th Ed., MGH, 2008
3. Optical Fiber Communications ,D.C.Agarwal - S.Chand and company

• **Reference Books:**

1. Optical Communications, David Gover – PHI
2. Fiber Optics communication, HozoldKolimbiris - Pearson Education.
3. Fiber Optics Communication – 5th Edition, Palais-Pearson Education

# Action Taken Report of the Institution on Feedback Report

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**Punyashlok Ahilyadevi Holkar Solapur University, Solapur**

**T. Y. B.Tech (Electronics & Telecommunication Engineering)**

**Semester-II**

**ET325.2: OPEN ELECTIVE-II**

**SENSORS & APPLICATIONS**

**Teaching Scheme:**

**Lectures – 3 Hours/week, 3 Credits**

**Practical – 2 Hours/week, 1 Credit**

**Examination Scheme:**

**ESE – 70 Marks**

**ISE – 30 Marks**

**ICA- 25 Marks**

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This course provides good knowledge of working of different types of sensors used in various application areas. This course also provides knowledge of interfacing of electronic circuits with different sensors for its applications in different fields.

**Course Prerequisite:**

Concept of internal characteristics of passive elements like resistor, capacitor, inductor etc., Diode and transistor working, knowledge of basic fundamentals of mechanical terms like position, strain, stress etc.

**Course Objectives:**

1. To introduce students with the basics of various sensors and its characteristics.
2. To make students familiar with the working principle of different types of sensors and transducers.
3. To introduce various signal conditioning and smoothing circuits for sensors
4. To familiarize students with different sensor technologies and interfacing techniques.
5. To introduce students with the concept of actuators.

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**Course Outcomes:**

At the end of this course, Students will be able to,

1. Elaborate the concept of sensors and its characteristics.
2. Describe the working principle of analog and digital sensors.
3. Design sensor interface circuits for a given engineering problem.
4. Select an appropriate sensor for a given engineering application based on interface technique, material and technology of a sensor.
5. Describe the working principle of different types of actuators.

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## Section I

### **Unit 1: Sensors Fundamentals and Characteristics**

**(06)**

Sensors, Signals and Systems, Sensor Classification, Units of Measurements, Sensor Characteristics

# Action Taken Report of the Institution on Feedback Report

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## **Unit 2: Physical Principles of Sensing**

(08)

Electric Charges, Fields, and Potentials, Capacitance, Magnetism, Induction, Resistance, Piezoelectric Effect, Hall Effect, Temperature and Thermal Properties of Material, Heat Transfer, Light, Dynamic Models of Sensor Elements

## **Unit 3 : Interface Electronic Circuits**

(10)

Input Characteristics of Interface Circuits, Amplifiers, Excitation Circuits, Analog to Digital Converters, Direct Digitization and Processing, Bridge Circuits, Data Transmission, Batteries for Low Power Sensors

## **Section II**

## **Unit 4: Sensors in Different Application Area**

(09)

Occupancy and Motion Detectors, Position, Displacement, and Level, Velocity and Acceleration, Force, Strain, and Tactile Sensors, Pressure Sensors, Humidity and Moisture Sensors, Light Detectors, Temperature Sensors

## **Unit 5 : Sensor Materials and Technologies**

(08)

Materials, Surface Processing, Nano-Technology

## **Unit 6 : Actuators**

(07)

Introduction, Classification, Principle of Operation (Electrical Actuators, Electromagnetic Actuators, Electromechanical Actuators, Hydraulic and Pneumatic Actuators, Micro- and Nanoactuators), Selection Criteria.

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### **● Internal Continuous Assessment (ICA):**

ICA consists of minimum Ten Practical's and/or assignments based upon above curriculum.

#### **● Text Books:**

1. J. Fraden, Handbook of Modern Sensors:Physical, Designs, and Applications, AIP Press, Springer
2. Sensors and Actuators Engineering System Instrumentation By Clarence W de Silva
3. Electrical and Electronic Measurements and instrumentation R.K Rajput S. Chand

#### **● Reference Books:**

1. D. Patranabis, Sensors and Transducers, PHI Publication, New Delhi
2. A Course in Electronics and Electrical Measurements and Instruments J.B. Gupta Katson Books
3. A Course in Electrical and Electronic Measurements and Instrumentation A.K.Sawheny Dhanpat Rai