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 Accreditated Institute,ISO 9001:2015 Certified Institute.
Accredited by The Institution of Engineers (India), Kolkata and TCS, Pune.

Ref.:- Date:-

1.3.3 Number of the student studied course on experimental learning through Project Work / Internship

Programme Name: Civil Engineering Programme Code: 1-1408968331			
Year of offering: 2018-19			
Sr. No.	Name of the Course that include experiential learning through project work/field work/internship	Course code	Number of the student studied course on experiential learning through project work/field work/internship
1.	Engineering Geology	CV216	69
2.	Environmental Engineering-I	CV313	71
3.	Water Resources Engineering-II	CV314	
4.	Environmental Engineering-II	CV323	
5.	Mini Project in SM-III/GE-II/EE-II/EMII using Application Software	CV328	
6.	Assessment of field training report	CV329	
7.	Project Work		75
8.	Water Resources Engineering-II		
9.	Assessment of Report on Field Training-II		
10.	Project Work		

PRINCIPAL,
College of Engineering
PANDHARPUR

SVERI's
College of Engineering, Pandharpur

Department of Civil Engineering

Field Training Record

A.Y.: 2018-19

SHRI VITHAL EDUCATION & RETEARCH INSTITUTE'S

COLLEGE OF ENGINEERING, PANDHARPUR.

Department of Civil Engineering

TE(Civil) students Internship details **Academic Year: 2018-19**

Sl. No.	Name of the student	Name of the company where internship done	Duration
1	PUJARI PRAKASH RAJKUMAR	Sadguru Construction, Pandharpur	17/12/2018 to 31/12/2018
2	THENGAL ABHIJIT DATTATRAYA	Sohel Construction, Madha	17/12/2018 to 31/12/2018
3	/KUMBHAR ANJALI GANPAT	Shree Venkatesh Enterprises, Pandharpur	17/12/2018 to 31/12/2018
4	/DONGARE SHUBHANGI KANHOBARAO	Sharda Construction and Corporation Pvt. Ltd., Nanded	17/12/2018 to 31/12/2018
5	/VIBHUTE JYOTI ASHOK	N. B. Kolekar, Contractor, Pandharpur	17/12/2018 to 31/12/2018
6	BHARTI SHRINIVAS VISHNU	Credible Developers, Maharashtra	17/12/2018 to 31/12/2018
7	SHINDE GANESH MADAN	NP Constructions, Pandharpur	17/12/2018 to 31/12/2018
8	/SARVAGOD PRACHI JITENDRA	Shree Venkatesh Enterprises, Pandharpur	17/12/2018 to 31/12/2018
9	/KAMBLE ASHWINI ARVIND	Shree Venkatesh Enterprises, Pandharpur	17/12/2018 to 31/12/2018
10	/PATIL RUTUJA NAGESH	SN Konapure Contractor, Mangalvedha	17/12/2018 to 31/12/2018
11	/DHUMAL HARSHADA PANDURANG	SN Konapure Contractor, Mangalvedha	17/12/2018 to 31/12/2018
12	/CHIKMANE ANKITA ANIL	SN Konapure Contractor, Mangalvedha	17/12/2018 to 31/12/2018
13	MALI PRATHAMESH KRISHANA	S.M. Autade Pvt. Ltd, Mangalwedha	17/12/2018 to 31/12/2018
14	/SHIKHARE SADHANA NAGNATH	Sarthak Construction, Pandharpur	17/12/2018 to 31/12/2018
15	HONMANE SAGAR SIDDHESHWAR	A.G. Shevale, Pandharpur	17/12/2018 to 31/12/2018
16	/PAREKAR MRUNALI BIRUDEV	Synergy Project Consultant Pvt. Ltd., Pandharpur	17/12/2018 to 31/12/2018
17	/MASAL AISHWARYA NILKHANT	Kokan Builders and Contractors, Ratnagiri	17/12/2018 to 31/12/2018
18	PUJARI HANAMANT SHRISHAIL	Gurukrupa Builders, Karamala	17/12/2018 to 31/12/2018
19	/DESHMUKH SNEHA SHIVAJIRAO	Kantilal Dubal Contractor, Pandharpur	17/12/2018 to 31/12/2018
20	ATKALE AKASH SHASHIKANT	A.G. Shevale, Pandharpur	17/12/2018 to 31/12/2018
21	SAWANT SHAILESH SHASHIKANT	Credible Developers, Maharashtra	17/12/2018 to 31/12/2018
22	/DESHMUKH SUSHAMA MAHADEV	Kantilal Dubal Contractor, Pandharpur	17/12/2018 to 31/12/2018
23	/TEKE MADHURI KISHOR	Kantilal Dubal Contractor, Pandharpur	17/12/2018 to 31/12/2018
24	BABAR GANESH SHANKAR	Gurukrupa Builders, Karamala	17/12/2018 to 31/12/2018
25	/WAGHMODE PRAJAKTA SOPAN	Synergy Project Consultant Pvt. Ltd., Pandharpur	17/12/2018 to 31/12/2018
26	PAWAR SAURABH BABAN	A.G. Shevale, Pandharpur	17/12/2018 to 31/12/2018
27	/PUJARI PRIYANKA TUKARAM	Kantilal Dubal Contractor, Pandharpur	17/12/2018 to 31/12/2018
28	KALE VAIBHAV VASANT	R. D.. Kolekar, Contractor, Pandharpur	17/12/2018 to 31/12/2018
29	/ZENDE PRIYA BRAMHADEO	Synergy Project Consultant Pvt. Ltd., Pandharpur	17/12/2018 to 31/12/2018
30	/POLAS POOJA PRUSHOTTAM	Kanishka Infrastructure, Solapur	17/12/2018 to 31/12/2018

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

31	SHAIKH SHOAIB SALIM	Sonai Infra Pvt. Ltd., Sangli	17/12/2018 to 31/12/2018
32	PAWAR SWAPNIL JITENDRA	Sadguru Construction, Pandharpur	17/12/2018 to 31/12/2018
33	GAIKWAD KAPIL VIJAY	S.M. Autade Pvt. Ltd, Mangalwedha	17/12/2018 to 31/12/2018
34	SOUDAGAR PRASAD SHIVAJI	Sonai Infra Pvt. Ltd., Sangli	17/12/2018 to 31/12/2018
35	Gore Krishna Devidas	Dive, Govt. Contractor, Kurduwadi	17/12/2018 to 31/12/2018
36	GAIKWAD PRASHANT MANIK	Bhosale and Sangaokar Associates, Kolhapur	17/12/2018 to 31/12/2018
37	KANGUDE YOGESH BALKRISHNA	Gurukrupa Builders, Karamala	17/12/2018 to 31/12/2018
38	SAWANT GAURAV VITTHAL	Gurukrupa Builders, Karamala	17/12/2018 to 31/12/2018
39	KADAM VIRAJ MARUTI	Gurukrupa Builders, Karamala	17/12/2018 to 31/12/2018
40	/BHOSALE KAJAL BHARAT	Synergy Project Consultant Pvt. Ltd., Pandharpur	17/12/2018 to 31/12/2018
41	GAWADE AJAY SANTOSH	S.M. Autade Pvt. Ltd, Mangalwedha	17/12/2018 to 31/12/2018
42	/THORAT AISHWARYA A.	Sadguru Construction, Pandharpur	17/12/2018 to 31/12/2018
43	/SHINDE PRIYADARSHANI RAVINDR/	G.D. Sadigale Contractor, Pandharpur	17/12/2018 to 31/12/2018
44	Sarvade Akash Pandurang	Sadguru Construction, Pandharpur	17/12/2018 to 31/12/2018
45	BANDGAR SHUBHAM SHIVAJI	Sadguru Construction, Pandharpur	17/12/2018 to 31/12/2018
46	KADAM SAGAR	Gurukrupa Builders, Karamala	17/12/2018 to 31/12/2018
47	GURAV SANKET SHRIRANG	Patwardhan Consultants Pvt. Ltd., Pune	17/12/2018 to 31/12/2018
48	/KATE PRANITA ANAND	Ashok S. Bannenavar, Archietect and Engineer, Jath	17/12/2018 to 31/12/2018
49	NARSALE SUHAS JAYHIND	Unique Builders, Malshiras	17/12/2018 to 31/12/2018
50	MULE AVINASH SITARAM	S.M. Autade Pvt. Ltd, Mangalwedha	17/12/2018 to 31/12/2018
51	/JAGTAP PRAGATI MITU	Chavan V. N. Engineer, Osmanabad	17/12/2018 to 31/12/2018
52	/PAWALE SHRADDHA RAJENDRA	Shree Venkatesh Enterprises, Pandharpur	17/12/2018 to 31/12/2018
53	LONDHE AVINASH RAJENDRA	Patwardhan Consultants Pvt. Ltd., Pune	17/12/2018 to 31/12/2018
54	MULANI MOIN LATIF	Sohel Construction, Madha	17/12/2018 to 31/12/2018

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

SADGURU CONSTRUCTION

Deals in Plan, Estimate, Interior Designers

4643/1 old karad road,Manisha Nagar,Guru Nanak Bhavan, Pandharpur.

Contact: 9975427622,9028710290 Email Id: jitu.batra8@gmail.com

This is certified that **Mr. Prakash Rajkumar Pujari** has completed **ONE MONTH** training in our **Swarup constructions & Developers pvt.Ltd.** on site **construction of residential building at Pandharpur.** In year of 2018-2019.

TRAINING WORK :- Detailed construction about residential building.
He has good nature and so co-opertive honourable too. He has supportive nature in his work and helpful also.

SADGURU CONSTRUCTION
LIC No.- CBSPM/R/APL/00057
ER. J. L. BATRA
Mob. No.- 9975427622

Project Manager

Prop. Yasin Abdul Sohel Shaikh

Reg. No. 164104 909

SOHEL CONSTRUCTION

GOVERNMENT REGISTER CONTRACTOR

Abdul Kadar Manjil Patel Chowk, BDO Office Near, A/p. Kurduwadi, Tq. Madha, Dist. Solapur - 413208

E-mail : Sohelcons2226@gmail.com, Yasinshaikh90@gmail.com | Cell : 9604107860, 9403291786

Ref. No.

Date : / /201

FIELD TRAINING CERTIFICATE

This is certify that **Mr.Abhijit Dattatray Thengal** student of **B.E.Civil** (Third Year) of Sveris college of Engineering Pandharpur attended the field training from **17.12.2018** to **31.12.2018** in **Sohel Construction Government Register Contractor** during training period his work conduct was very good.

For Sohel Construction

|| SHREE ||

Shree Vyenkatesh Enterprises

Prop. : Eknath J. Nanaware

Shop - Gat No. 85/B, Shivpriya Residency, Gala No. 3, Wangikar Nagar, Pandharprur.
Resi. - 28/42, 'Nirmal', Balaji Hos. Soc. Balajinagar, B/H Pole Factory, Pandharpur 413304.
Email - shreevenkatesh@yahoo.co.in, eknath6019@gmail.com

Ref. No. :

Date :

CERTIFICATE

This Is To Certify That Miss. **Anjali Ganpat Kumbhar** Is Studing In Third Year Of Civil Engineering From SVERI College Of Engineering, Gopalpur .

She Has Successfully Completed Her Field Training Work At Our Ongoing Construction Sites In Pandharpur From 16/12/2018 To 30/12/2018.

She Is Sincere, Hardworking And Bears Good Moral Character During Training Period.

We Wish Her Bright Future.
This Certificate Has Been Issued On Her Request.

Engineer
Lakhan Kshirsagar

SHARDA
Construction &
Corporation Pvt. Ltd.

Corporate Office :-
Plot No. 72, Sharda Tower
Ashok Nagar, NANDED-5
(02462) 264810, 265202, 262660
Fax (02462-262691
Email : sharda_pune@yahoo.co.in
shardacon52@gmail.com

Branch Office :-
Sharda Bhuvan, Ausa Road,
near PWD Rest House, LATUR
(02382) 700400, Fax (02382-226800
Email : sha.daccpl@gmail.com
CIN : U45200MH2009PTC206811

SCCPL/Field Training/18-19/54

CERTIFICATE

This is to certify that, **Ms. Shubhangi Kanhobarao Dongare**, studying in B.E. (3rd year Civil), for the year 2018-19, in **Shri Vithal Education & Research Institute's Pandharupur** has successfully completed the Field Training for the period of 16/12/2018 to 30/12/2018.

In our scheme **Nanded-Kinwat-Mahur-Arni Road Section from Bhokar to Sarsam Budruk (Design Km. 0+00 to Km 33+00) to two lanes with paved shoulder section of NH-548C on EPC Mode Ms. Shubhangi Kanhobarao Dongare** has undergone field training in various disciplines on of going construction project.

During Training period she has Good Conduct & Moral Character.

Date :- 30/12/2018

Place :- Nanded

For Sharda Constructio
Corp. Pvt. Ltd. Nan

N. B. KOLEKAR

Civil Engg. & Regd. Govt. Contractor

A. P. Gursale, Tal. Pandharpur Dist. Solapur Mobile - 9923664500

Ref. No. :- Date :-

CERTIFICATE

This is certify that miss vibhute jyoti ashok is studying in third year of civil engineering from sveri's coe gopalpur.

she has successfully completed her field tranning work at our ongoing construction sites in pandharpur from 16/12/2018 to 30/12/2018

she is sincere hardworking and bears good moral character furing training period.

we wish her bright future.
this certificate has been issued on her request.

N. B. KOLEKAR
Gov. Reg. Contractor
Gursale, Tal. Pandharpur

Scanned copy of Field Training Certificate:

BLOOM COMPANIES, LLC, USA
Infrastructure Innovation & Ingenuity

In Association with

CREDIBLE
Management & Consultants Pvt. Ltd.

Ref. No: Bloom CMC/Chiplun/Pac. II/2018 /295 **Date-28-12-2018**

Subject: Independent Engineer Services for rehabilitation and up-gradation of NH-66 (Old NH 17) from Km 205/400 to 241/300 (Parshuram Ghat - Arawali Section) to four lanes in the State of Maharashtra under NHDP-IV on Hybrid Annuity Mode (Package-II)-Experience Certificate. -Reg.

Ref. – Collage Letter No-COEPR/Training/2018-19/TE-35.

TO WHOM SO EVER IT MAY CONCERN

This is to certify that Mr. Shrinivas Bharti S/o Sh. Vishnu Bharti from Collage of Engineering, Gopalpur, Pandharpur completed his Vocational Training on project site from 17th Dec 2018 to 30th Dec 2018.

During his training in BLOOM COMPANIES LLC, USA IN ASSOCIATION WITH CREDIBLE MANEGMENT & CONSULTANT Pvt. Ltd. Mr. Shrinivas Bharti has got an experience on various aspects of Highway Engineering in Lab Division at site for the project of (Parshuram Ghat - Arawali Section) to four lanes in the State of Maharashtra under NHDP-IV on Hybrid Annuity Mode (Package-II).

He had undergone the aforesaid training with all sincerity, discipline and dedication.

We wish him the very best in all in his future Endeavour.

Sudhir M. Thellur
Team Leader

For, Bloom Companies, LLC

Corporate Office : 1105 B&C Welldone Tech Park Sector-48, Sohna Road Gurgeon Haryana-122018 Phone : 0124-4292105
Project Office : House No. 14/6, " Shanti Narayan " At Post 7(4), Kherd, Tal – Chiplun, Dist – Ratnagiri, Maharashtra-415605
E-mail : info@bloom-india.com, chiplunoffice@bloom-india.com Web : www.bloomcos.com

NP CONSTRUCTIONS

MR. PRITAM R. THORAT
(Civil Engineer & Contractor)
Email- thoratpritam.r@gmail.com
Mob. 9766323402

A/P- Pandharpur, Tal- Pandharpur, Dist-Solapur.

Date : 02-01-2019

TRAINING CERTIFICATE

This is certify that Mr. Ganesh Madan Shinde, student of SVERIES COEP studing BE Civil-3rd year has attended the training from 17-12-2018 to 01-01-2019.

During his training period his work & conduct he was very good and punctual.

Thorat

Mr.Pritam R.Thorat
(Civil Engineer)
NP Constructions
Pandharpur

|| SHREE ||

Shree Vyenkatesh Enterprises

Prop. : Eknath J. Nanaware

Shop - Gat No. 85/B, Shivpriya Residency, Gala No. 3, Wangikar Nagar, Pandhaprur.
Resi. - 28/42, 'Nirmal', Balaji Hos. Soc. Balajinagar, B/H Pole Factory, Pandharpur 413304.
Email - shreevenkatesh@yahoo.co.in, eknath6019@gmail.com

Ref. No. :

Date :

CERTIFICATE

This Is To Certify That Miss. **Prachi Jitendra Sarvagod** Is Studing In Third Year Of Civil Engineering From SVERI College Of Engineering, Gopalpur .

She Has Successfully Completed Her Field Training Work At Our Ongoing Construction Sites In Pandharpur From 16/12/2018 To 30/12/2018.

She Is Sincere, Hardworking And Bears Good Moral Character During Training Period.

We Wish Her Bright Future.
This Certificate Has Been Issued On Her Request.

Engineer.
Lakhan Kshirsagar

Shri Vyankatesh Enterprises
28/42, 'Nirmal' Balaji Hsg. Soc.
Balajinagar, Behind Pole Factory,
Pandharpur, Dist. Solapur Pin-413304
Prop. E. J. Nanaware. Mob. 8275720944

॥ SHREE ॥

Shree Vyenkatesh Enterprises

Prop. : Eknath J. Nanaware

Shop - Gat No. 88/B, Shivpriya Residency, Gala No. 3, Wangikar Nagar, Pandharpur.
Resi. - 28/42, 'Nirmal', Balaji Hos. Soc. Balajinagar, B/H Pole Factory, Pandharpur 413304.
Email - shreevenkatesh@yahoo.co.in, eknath6019@gmail.com

Ref. No. :

Date :

CERTIFICATE

This Is To Certify That Miss. **Ashwini Arvind Kamble** Is Studing In Third Year Of Civil Engineering From SVERI College Of Engineering, Gopalpur .

She Has Successfully Completed Her Field Training Work At Our Ongoing Construction Sites In Pandharpur From 16/12/2018 To 30/12/2018.

She Is Sincere, Hardworking And Bears Good Moral Character During Training Period.

We Wish Her Bright Future.
This Certificate Has Been Issued On Her Request.

Engineer
Lakhan Kshirsagar.

Shri Vyenkatesh Enterprises
Prop E.J.Nanaware. Mob. 8275720944

S.N. KONAPURE
(B.E.Civil)
Govt. Regd. Contractor
At. Po. Tal. Mangalwedha
Dist. Solapur Cell : 9422648392

Ref. No.

Date : 1 /1 /2019

FIELD TRAINING CERTIFICATE

This is certify that, rutuja nagesh patil student of be (civil third year) of sveris college of engineering pandharpur attended the field training from 17/12/2018 to 31/12/2018 in s.n.konapure during training period his work conduct was very good

S N. Konapure
B E. (Civil)
Govt. Regd. Contractor
Mangalwedha

S.N. KONAPURE

(B.E.Civil)

Govt. Regd. Contractor
At. Po. Tal.Mangalwedha
Dist. Solapur Cell : 9422648392

Ref. No.

Date : 1 / 1 /2019

FIELD TRAINING CERTIFICATE

This is certify that, Harshda Pandurang Dhumal student of be (civil third year) of sveris college of engineering pandharpur attended the field training from 17/12/2018 to 31/12/2018 in s.n.konapure during training period his work conduct was very good

S. N. Konapure
B.E. (Civil)
Govt. Regd. Contractor
Mangalwedha

S.N. KONAPURE
(B.E.Civil)
Govt. Regd. Contractor
At. Po. Tal.Mangalwedha
Dist. Solapur Cell : 9422648392

Ref. No.

Date : 1 / 1 /2019

FIELD TRAINING CERTIFICATE

This is certify that, Ankita Anil Chikamane student of be (civil third year) of sveris college of engineering pandharpur attended the field training from 17/12/2018 to 31/12/2018 in s.n.konapure during training period his work conduct was very good

S. N. Konapure
B.E. (Civil)
Govt. Regd. Contractor
Mangalwedha

Autade Group
ISO 9001:-2008(QMS)

SHRI S. M. AUTADE PVT. LTD.
HEAD OFFICE:
17, "AKANKSHA" Bung cw. Giriraj Society, Baner Road,
Near Saka Nagar, Pune-07. Tel. No. 020-25640391
E mail- pune@autadegroup.com Website: autadegroup.com
CIN No. U45200PN2014PTC151170

Ref.

Date : 03-1-2019

TO WHOM IT MAY CONCERN

This is Certify that, **Mr. PRATHAMESH KRISHANA MAIL,** a Student of SVERI College of Engineering Pandharpur, Solapur University Solapur.

Has Completed the 15 days Field Traning of **(Rehabilitation and Upgradation to two lanes with paved shoulder from NH-561 A Pandharpur Mangalwedha Marwade Umadi from ch. 40/800 to ch.95/136 (Package no .II Length 54.336) in the state of Maharashtra on EPC Mode, Project)** form 17/12/2018 to 31/12/2018 **Mr. PRATHAMESH KRISHANA MAIL** remained involved in his work with determination and sincerity. We found her and competent in executing assigned tasks. During the mentioned period he was found punctual, Hard Working.

We wish him for Success in life.

Thanking you,

Yours faithfully.

SHRI S. M. AUTADE PVT. LTD.
KHANDOBA LANE,
MANGALWEDHA.

BRANCH OFFICE:
KHANDOBA LANE, MANGALWEDHA, DIST. SOLAPUR-413305. Tel. No. (02188) 221650 Fax No. (02468) 221700
8/2, MURARJI PETH, BHAGWAT UMA MANDIR BLDG., SOLAPUR 413003. Ph.No (0217) 2728485
M. A. PATIL NIWAS, NEAR JAIL, DARGAH ROAD, BEHIND SHREYA HOSPITAL, BIJAPUR-586101. Ph. No. (08352)272958

Reg No. CAT-03/2013/Case No. 102/Bldg-3

SARTHAK CONSTRUCTION

Sajjanrao S. More
(Govt. Contractor)
B.E.Civil
Cell : 9921338004, 8793904004

Ref.No.: 05/2019 Date: 05/01/2019

Training Completion Certificate

This is to certify that **Miss. Sadhana Nagnath Skikhare** is working with our organization as Trainee civil Engineer from 16th Dec 2018 to 31st Dec 2018 during this period we found **Miss. Sadhana Nagnath Skikhare** attitude towards assigned work is positive and she has organization expectation

We wish her Best of Luck for future.

For Sarthak Constuction

Sarthak Construction
Regd. Govt. Contractor
A/P. Mundhewadi
Tal. Pandharpur Dist. Solapur.

A.G. SHEVALE
Civil Engg. & Regd. Govt. Contractor
A/p. Palashi, Tal. Pandharpur, Dist. Solapur. 413 310

Mobile : 7776800070
7744040070
E-mail : amolshevale1@gmail.com
GST No.27GVGPS7064R1ZD

Ref. No.

Date :

Certificate

This is to certify that **Mr.Sagar Siddheshwar Honmane** is studying in Third Year Of Civil Engineering from Sveri's College of Engineering, Pandharpur.

He has successfully completed his field Training work at our on going construction sites in Pandharpur from 15/12/2018 to 30/12/2018

He is sincere , hardworking and bears good moral character during training period.

We wish him bright future.

This certificate has been issued on his request.

Amol G. Shevale
B.E. (Civil)
Engineers & Govt. Reg Contractor
A/p. Palashi, Tal. Pandharpur

SYNERGY

Valuers & Project Consultants Pvt. Ltd.

CERTIFICATE

This is to certify that Mr. / Miss. MRUNALI BIRUDEO PAREKAR has successfully completed the workshop in Valuation for from 16/12/2018 to 31/12/2018 on organized at Synergy Valuers & Project Consultants PVT.LTD. His/ Her performance has been satisfactory during whole field training.

Alok Zanwar
General Manager

Flat No.502, Fifth Floor, Atharva Classic, CTS No. 179/5, Near Dashbhuja Ganpati Temple, Karve Road
Erandwane, Pune- 411004, (o) 25469816, 25468030, 9665818000
Email : synergycl@gmail.com, info@synergyvaluers.com

KOKAN BUILDER'S & CONTRACTOR'S

C/o. TAJ MUJAWAR, H. No. 139, At. Po. Sataval, Tal. Lanja, Dist. Ratnagiri

Date :-

Training Certificate

This is Certify that **Miss. Aishwarya Nilkanth Masal** student of B.E.(Civil - 3rd Year) of **Shri Vithal Education & Research Institute's College of Engineering Pandharpur** Attended the field training from 16-12-2018 To 30-12-2018 in **Konkan Builder's & Contractor's** Construction of 3 floor shopping centre's. During Training Period her work & conduct was very Sincere & Good.

Authorized Representative,

For Konkan Builder's & Contractor's

KOKAN BUILDERS & CONTRACTORS

PARTNER

This is to certify that **Mr. Hanumant Shrishail Pujari** is studying in Third Year Of civil Engineering from Sveri College of Engineering Gopalpur.

He has Successfully completed his field Training work at our on going construction sites in Karmala from 15/12/2018 To 30/12/2018.

He is sincere, hardworking and bears good moral character during Training period.

We wish him bright future.

This Certificate has been issued on his request.

Kantilal R. Dubal

(B.E.Civil)

Engineers & Govt. Contractors
Mob.No. 9960544045
Email Id. [redacted]

At.Post. Ajansond Tal. Pandharpur Dist. Solapur-413304.

Ref. No.

Date : 31/12/2018

This certificate is to certify that

Miss.Sneha Shivajirao Deshmukh student of B.E(Civil 3rd year)of **Shri Vithal Education & Research Institute's College Of Engineering Pandharpur** attended the field training from **16-12-2018 to 30-12-2018** in Dubal Constructions Limited Pandharpur (Construction of shopping center) during Training Period her work & conduct was very good & sincere.

Dubal K. R.

A.G. SHEVALE
Civil Engg. & Regd. Govt. Contractor
A/p. Palashi, Tal. Pandharpur, Dist. Solapur. 413 310
Mobile : 7776800070
7744040070
E-mail : amolshevale1@gmail.com
GST No.27GVGPS7084R1ZD

Ref. No.

Date :

Certificate

This is to certify that **Mr.Akash Shashikant Atkale** is studying in Third Year Of Civil Engineering from Sveri's College of Engineering, Pandharpur.

He has successfully completed his field Training work at our on going construction sites in Pandharpur from 15/12/2018 to 30/12/2018

He is sincere , hardworking and bears good moral character during training period.

We wish him bright future.

This certificate has been issued on his request.

Amol G. Shevale
B.E. (Civil)
Engineers & Govt. Reg Contractor
A/p. Palashi, Tal. Pandharpur

BLOOM
COMPANIES, LLC, USA
Infrastructure Innovation & Ingenuity

In Association with

CREDIBLE
Management & Consultants Pvt. Ltd.

Ref. No: Bloom CMC/Chiplun/Pac. II/2018 /294 **Date-28-12-2018**

Subject: Independent Engineer Services for rehabilitation and up-gradation of NH-66 (Old NH 17) from Km 205/400 to 241/300 (Parshuram Ghat - Arawali Section) to four lanes in the State of Maharashtra under NHDP-IV on Hybrid Annuity Mode (Package-II)-Experience Certificate. -Reg.

Ref. – Collage Letter No-COEPR/Training/2018-19/TE-59.

TO WHOM SO EVER IT MAY CONCERN

This is to certify that Mr. Shailesh Sawant S/o Sh. Shashikant Sawant from Shri Vital Eduction and Research Institute Collage of Engineering, Gopalpur, Pandharpur. Completed his Vocational Training on project site from 17th Dec 2018 to 30th Dec 2018.

During his training in BLOOM COMPANIES LLC, USA IN ASSOCIATION WITH CREDIBLE MANEGMENT & CONSULTANT Pvt. Ltd. Mr. Shailesh Sawant has got an experience on various aspects of Highway Engineering in Lab Division at site for the project of (Parshuram Ghat - Arawali Section) to four lanes in the State of Maharashtra under NHDP-IV on Hybrid Annuity Mode (Package-II).

He had undergone the aforesaid training with all sincerity, discipline and dedication.

We wish him the very best in all in his future Endeavour.

Sudhir M. Thelkar,
Team Leader

For Bloom Companies, LLC

Corporate Office : 1105 B&C Welldone Tech Park Sector-48, Sohna Road Gurgaon Haryana-122018 Phone : 0124-4292105
Project Office : House No. 14/6, " Shanti Narayan " At Post 7(4), Khend, Tal – Chiplun, Dist – Ratnagiri, Maharashtra-415605
E-mail: info@bloom-india.com, chiplunoffice@bloom-india.com Web : www.bloomcos.com

Kantilal R. Dubal

(B.E.Civil)

Engineers & Govt. Contractors
Mob. No. 9960544045
Email Id: [illegible]@gmail.com

At.Post. A[illegible] Tal. Pandharpur Dist. Solapur-413304.

Date : 31/12/2018

Ref. No.

This certificate is to certify that

Miss.Sushama Mahadev Deshmukh student of B.E(Civil 3rd year)of **Shri Vithal Education & Research Institute's College Of Engineering Pandharpur** attended the field training from **16-12-2018** to **30-12-2018** in **Dubal Constructions Limited Pandharpur** (Construction of shopping center) during Training Period her work & conduct was very good & sincere.

Dubal K. R.
B.E. (Civil)
Engineer & Contractors

Kantilal R. Dubal
(B.E.Civil)
Engineers & Govt. Contractors
Mob.No. 9960544045
Email.Id. dkantilal999@gmail.com
At.Post. Ajanmood Tal. Pandharpur Dist. Solapur-413304.

Date : 31-12-2018

Ref. No.

This certificate is to certify that

Miss.Madhuri Kishor Teke student of B.E(Civil 3rd year)of **Shri Vithal Education & Research Institute's College Of Engineering Pandharpur** attended the field training from **16-12-2018 to 30-12-2018** in Dubal Constructions Limited Pandharpur (Construction of shopping center) during Training Period her work & conduct was very good & sincere.

Dubal K. R.
B.E.(Civil)
Engineer & Contractor

गुरूकृपा बिल्डर्स ॲण्ड डेव्हलपर्स

करमाळा ता.करमाळा जि.सोलापूर

प्रो.प्रा.भारत बाळनाथ जाधव मो.८६९८१६३३६८

Certificate

This is to certify that **Mr. Ganesh Shankar Babar** is studying in Third Year Of civil Engineering from Sveri College of Engineering Gopalpur.

He has Successfully completed his field Training work at our on going construction sites in Karmala from 15/12/2018 To 30/12/2018.

He is sincere, hardworking and bears good moral character during Training period.

We wish him bright future.

This Certificate has been issued on his request.

मे. गुरूकृपा बिल्डर्स ॲंड डेव्हलपर्स

B. B. J.

भागीदार

Valuers & Project Consultants
Pvt. Ltd.

CERTIFICATE

This is to certify that Mr. / Miss. PRAJAKTA SOPAN WAGHMODE has successfully completed the field training in Valuation for from 16/12/2018 to 31/12/2018 on organized at Synergy Valuers & Project Consultants PVT.LTD. His/ Her performance has been satisfactory during whole field training.

Alok Zanwar
General Manager

SYNERGY VALUERS & PROJECT CONSULTANTS PVT. LTD. PUNE 28-022273

Flat No.502, Fifth Floor, Atharva Classic, CTS No. 179/5, Near Dashbhuja Ganpati Temple, Karve Road
Erandwane, Pune- 411004, (o) 25469816, 25468030, 9665819000
Email : synergyc83@gmail.com, info@synergyvaluers.com

A.G. SHEVALE
Civil Engg. & Regd. Govt. Contractor
A/p. Palashi, Tal. Pandharpur. Dist. Solapur. 413 310
Mobile : 7776800070
7744040070
E-mail : amolshevale1@gmail.com
GST No.27GVGPS7064R1ZD

Ref. No.

Date :

Certificate

This is to certify that Mr. Saurabh Baban Pawar is studying in Third Year Of Civil Engineering from Sveri's College of Engineering, Pandharpur.

He has successfully completed his field Training work at our on going construction sites in Pandharpur from 15/12/2018 to 30/12/2018

He is sincere , hardworking and bears good moral character during training period.

We wish him bright future.

This certificate has been issued on his request.

Amol G. Shevale
B.E. (Civil)
Engineers & Govt. Reg. Contractor
A/p. Palash, Tal. Pan

Kantilal R. Dubal

(B.E. Civil)

Engineers & Govt. Contractors

Mob. No. [illegible]

Email Id. [illegible]

At Post [illegible] Tal. Pandharpur Dist. Solapur [illegible]

Ref. No.

Date [illegible]

This certificate is to certify that

Miss.Priyanka Tukaram Pujari student of B.E(Civil 3rd year)of Shri Vithal Education & Research Institute's College Of Engineering Pandharpur attended the field training from 16-12-2018 to 30-12-2018 in Dubal Constructions Limited Pandharpur (Construction of shopping center) during Training Period her work & conduct was very good & sincere.

Dubal K. R.

(B.E. Civil)

Engineers & Contractors

॥ SANT BALUMAMA ॥

R.D. KOLEKAR

Regd. Govt. Contractor
(B.E. Civil)

Regd. No.
Kolekar Vasti, A/p-Gursale,
Tal. Pandharpur, Dist. Solapur
Pin - 413 304.
Cell : 9158258382 / 9067369797 / 9067709797

Ref. No.

Date :

This is certified that **Mr.VAIBHAV VASANT KALE** has completed fifteen days Traning in our **R.D.Kolekar Regd.Gov.Contractor** on site **construction on residential building at pandharpur.** In year of 2018-2019.

Training work :- Detailed construction about residential building.He has good nature and so co-oprative honourable too.He has supportive nature in his work and helpful also.

Project Manager

R.D. KOLEKAR
REGD. GOVT. CONTRACTOR

SYNERGY

Valuers & Project Consultants
Pvt. Ltd.

CERTIFICATE

This is to certify that Mr. / Miss. PRIYA BRAMHADEO ZENDE has successfully completed the field training in Valuation for from 16/12/2018 to 31/12/2018 on organized at Synergy Valuers & Project Consultants PVT.LTD. His/ Her performance has been satisfactory during whole field training.

Alok Zanwar
General Manager

Flat No.502, Fifth Floor, Atharva Classic, CTS No. 179/5, Near Dashbhuja Ganpati Temple, Karve Erandwane, Pune- 411004, ☎(o) 25469816, 25468030, 9665818000
Email : synergycl@gmail.com, info@synergyvaluers.com

Lic.No.549

Kanishka Infrastructure

504/1, Salgarvasti, Solapur – 413001
Email- kanishkainfra.88@gmail.com
Office No – 8668843689

Date : 2 / 1 /2015

Experience certificate

To,

This is to Certify that Mr./Mrs. Pooja . P. Telat has been working in our firm during 12/12/ 2012 to 2 / 1 / 2015 his /her performance was good & satisfactory.

We wish him. Good luck for his/her future assignments.

signature

Akshay A. Wakse
B.E. Civil
Lic. No. 549
504/1, Salgarwasti, Dongaon P.
Solapur Mob. No. 7020685

Making together
SONAI

Date :- 30/12/2018

Training Certificate

This is Certify that Mr. Shoaib Salim Shaikh Student of B.E [Civil -3rd Year] of Shri Vithal Education & Research Institute's College of Engineering Pandharpur Attended the field training from 16-12-2018 To 30-12-2018 In Sonai Infrastructure Pvt. Ltd. Sangli (Earthwork In Embankment & Cutting Incld. Extension of Minor Bridges & RUB' in connection with Pune –Miraj Doubling Project from Km. 216.00(Shendi) to Km. 280.00(Miraj) during Training Period his work & Conduct was very sincere and good

30-12-18

Authorized Representative,

For Sonai Infra. Pvt. Ltd. Sangli.

SONAI INFRASTRUCTURE PVT. LTD. TAKARI

Sonai Infrastructure Private Limited
[illegible] Floor, Shriram Plaza, Ram Mandir Corner, Sangli 416 416, Maharashtra (India)
Telephone: (0233) 2323897, e-mail: [illegible]@sonaiinfra.com

SADGURU CONSTRUCTION

Deals in Plan, Estimate, Interior Designers
4643/1 old karadroad,ManishaNagar,Guru Nanak Bhavan, Pandharpur.
Contact: 9975427622,9028710290 Email Id: jitu.batra9@gmail.com

Training Certificate

This is certified that **Mr. Swapnil Jitendra Pawar** student of TE(Civil) of **SVERI's Collage Of Engineering, Pandharpur** . has completed **15 Day's** training from 15/12/2018 to 30/12/2018 in our **Sadguru constructions & Developers pvt.Ltd.** on site **construction of residential building at Pandharpur.** In year of 2018-2019.

TRAINING WORK :-Detailed construction about residential building.
He has good nature and so co-opertivehonourable too. He has supportive nature in his work and helpful also.

SADGURU CONSTRUCTION
LIC No.- CBSPM/R/APL/00057
ER. J. L. BATRA
Mob. No.- 9975427622
Project Manager

Autade Group
ISO 9001-2008(QMS)

SHRI S. M. AUTADE PVT. LTD.
HEAD OFFICE:
17, "AKANKSHA" Bunglow, Gitraj Society, Baner Road,
Near Sakal Naga, Pune-07. Tel. No. 020-25640391
E mail- pune@autadegroup.com Website: autadegroup.com
CIN No. U45200PN2014PTC151170

Ref.,

Date : ०३-०१-२०१९

TO WHOM IT MAY CONCERN

This is Certify that, **Mr. KAPIL VIJAY GAIKWAD** a Student of SVERI College of Engineering Pandharpur, Solapur University Solapur.

Has Completed the 15 days Field Traning of (**Rehabilitation and Upgradation to two lanes with paved shoulder from NH-561 A Pandharpur Mangalwedha Marwade Umadi from ch. 40/800 to ch.95/136 (Package no .II Length 54.336) in the state of Maharashtra on EPC Mode, Project**) form 17/12/2018 to 31/12/2018 **Mr. KAPIL VIJAY GAIKWAD** remained involved in his work with determination and sincerity. We found her and competent in executing assigned tasks. During the mentioned period he was found punctual, Hard Working.

We wish him for Success in life.

Thanking you,

Yours faithfully.

SHRI S. M. AUTADE PVT. LTD.
KHANDOBA LANE,
MANGALWEDHA.

BRANCH OFFICE:
- KHANDOBA LANE, MANGALWEDHA, DIST. SOLAPUR-413305. Tel. No. (02188) 221650 Fax No. (02486) 221700
- 8/2, MURARJI PETH, BHAGWAT UMA MANDIR BLDG., SOLAPUR 413003. Ph.No.(0217) 2723485
- M. A. PATIL NIWAS, NEAR JAIL, DARGAH ROAD, BEHIND SHREYA HOSPITAL, BIJAPUR-586101. Ph. No. (08352) 272958

rising together
SONAI

Date :- 30/12/2018

Training Certificate

This is Certify that **Mr. Prasad Shivaji Soudagar** Student of B.E (Civil - 3rd Year) of **Shri Vithal Education & Research Institute's College of Engineering Pandharpur** Attended the field training from **16-12-2018** To **30-12-2018 in Sonai Infrastructure Pvt Ltd. Sangli** (Earthwork in Embankment & Cutting incld. Extension of Minor Bridges & RUB' in connection with Pune –Miraj Doubling Project from Km.216.00(Shendi) to Km. 280.00(Miraj)) during Training Period his work & Conduct was very sincere and good

Authorized Representative,

For Sonai Infra. Pvt. Ltd. Sangli.

SONAI INFRASTRUCTURE PVT. LTD. TALUKA

Sonai Infrastructure Private Limited
[illegible] Sangli [illegible]
Telefax [illegible]

Ref. No.

Date : / / 201

FIELD TRAINING CERTIFICATE

This is the Certify that **Mr. Gore Krishna Devidas** student of T.E. Civil III Year of **SVERIS College of Engineering Pandharpur** Attended the Field Training from **17-12-2018 to 31-12-2018** in **Dattatrya Kondiba Dive, Government Contractor, Kurduwadi** during training period his work conduct was very good.

For Dattatrya Kondiba Dive

BHOSALE & SANGAOKAR ASSOCIATES

ENGINEERS & CONTRACTORS

Plot no.28 , Chavrekar Vasahat , Radhanagari Road , Kolhapur

Date : 02.01.2019

To,
Dr.P.M.Pawar
Head of Civil Engineering,
Shri Vithal Education & Research Institute's
COLLEGE OF ENGINEERING , PANDHARPUR
Ranjani Road Gopalpur , Tal-Pandharpur , Dist-Solapur

Sub : Vocational field training
of your student at our site

sir,

In regards to the above reference and subject, following student have successfully completed vocational field training during 15.12.2018 to 01.01.2019 at our site proposed Residence for Shri Prakash Yashwant Mali , at Uchgaon located at Kolhapur to Mudshingi road ,S.No.269/2 , B1, Plot no.20 , Dist. Kolhapur

Gaikwad Prashant Manik 7028635996

we wish him every success in life

A.D.Bhosale
partner

BHOSALE & SANGAOKAR ASSOCIATES
ENGINEERS & CONTRACTORS
Plot no.28 , Chavrekar Vasahat
Radhanagari Road , Kolhapur
Cell 9422514749

गुरूकृपा बिल्डर्स अॅण्ड डेव्हलपर्स

करमाळा ता.करमाळा जि.सोलापूर

प्रो.प्रा.भारत बाळनाथ जाधव मो.८६९८९६३६६८

Certificate

This is to certify that **Mr. Yogesh Balkrushna Kangude** is studying in Third Year Of civil Engineering from Sveri College of Engineering Gopalpur.

He has Successfully completed his field Training work at our on going construction sites in Karmala from 15/12/2018 To 30/12/2018.

He is sincere, hardworking and bears good moral character during Training period.

We wish him bright future.

This Certificate has been issued on his request.

मे. गुरूकृपा बिल्डर्स अँड डेव्हलपर्स

13.12.18.

भागीदार

गुरूकृपा बिल्डर्स अॅण्ड डेव्हलपर्स

करमाळा ता.करमाळा जि.सोलापूर

प्रो.प्रा.भारत बाळनाथ जाधव मो.८६९८१६३३६८

Certificate

This is to certify that **Mr. Gaurav Vitthalravo Sawant** is studying in Third Year Of civil Engineering from Sveri College of Engineering Gopalpur.

He has Successfully completed his field Training work at our on going construction sites in Karmala from 15/12/2018 To 30/12/2018.

He is sincere, hardworking and bears good moral character during Training period.

We wish him bright future.

This Certificate has been issued on his request.

मे. गुरुकृपा बिल्डर्स अँड डेव्हलपर्स

B. B. J.

भागीदार

गुरूकृपा बिल्डर्स अॅण्ड डेव्हलपर्स

करमाळा ता.करमाळा जि.सोलापूर

प्रो.प्रा.भारत बाळनाथ जाधव मो.८६९८२६३३६८

Certificate

This is to certify that **Mr. Viraj maruti Kadam** is studying in Third Year Of civil Engineering from Sveri College of Engineering Gopalpur.

He has Successfully completed his field Training work at our on going construction sites in Karmala from 15/12/2018 To 30/12/2018.

He is sincere, hardworking and bears good moral character during Training period.

We wish him bright future.

This Certificate has been issued on his request.

मे. गुरुकृपा बिल्डर्स अॅण्ड डेव्हलपर्स

B.B.J.

भागीदार

SYNERGY

Valuers & Project Consultants Pvt. Ltd.

CERTIFICATE

This is to certify that Mr. / Miss. KAJAL BHARAT BHOSALE has successfully completed the field training in Valuation for from 16/12/2018 to 31/12/2018 on organized at Synergy Valuers & Project Consultants PVT.LTD. His/ Her performance has been satisfactory during whole field training.

Alok Zanwar
General Manager

SYNERGY VALUERS & PROJECT CONSULTANTS PVT. LTD. 26-022279 PUNE

Flat No.502, Fifth Floor, Atharva Classic, CTS No. 179/5, Near Dashbhuja Ganpati Temple, Karve Road
Erandwane, Pune- 411004, (o) 25469816, 25468030, 9665818000
Email : synergyvl@gmail.com, info@synergyvaluers.com

Autade Group
ISO 9001:2008(QMS)

SHRI S. M. AUTADE PVT. LTD.
HEAD OFFICE:
17, "AKANKSHA" Bunglow, Giriraj Society, Baner Road,
Near Sakal Nagar, Pune-07. Tel. No. 020-23640391
E mail- pune@autadegroup.com Website: autadegroup.com
CIN No. U45200PN2014PTC151170

Ref.,

Date : 06.01.2019

TO WHOM IT MAY CONCERN

This is Certify that, **Mr.AJAY SANTOSH GAWADE** a Student of SVERI College of Engineering Pandharpur, Solapur University Solapur.

Has Completed the 15 days Field Traning of **(Rehabilitation and Upgradation to two lanes with paved shoulder from NH-561 A PandharpurMangalwedhaMarwadeUmadi from ch. 40/800 to ch.95/136 (Package no .II Length 54.336) in the state of Maharashtra on EPC Mode, Project)** form 17/12/2018 to 31/12/2018 **Mr.AJAY SANTOSH GAWADE** remained involved in his work with determination and sincerity. We found her and competent in executing assigned tasks. During the mentioned period he was found punctual, Hard Working.

We wish him for Success in life.

Thanking you,

Yours faithfully.

SHRI S M AUTADE PVT. LTD.
KHANDOBA LANE,
MANGALWEDHA.

BRANCH OFFICE:
• KHANDOBA LANE, MANGALWEDHA, DIST. SOLAPUR 413305. Tel. No. (02469) 221650, Fax No. (02469) 221700
• 8/2, MURARJI PETH, BHAGWAT UMA MANDIR BLDG., SOLAPUR 413003. Ph. No. (0217) 2725485
• M. A. PATIL NIWAS, NEAR JAIL, CARGAH ROAD, BEHIND SHREYA HOSPITAL, BIJAPUR-586101. Ph. No. (08352)272658

SADGURU CONSTRUCTION

Deals in Plan, Estimate, Interior Designers
4643/1 old karad road,Manisha Nagar,Guru Nanak Bhavan, Pandharpur.
Contact: 9975427622,9028710290 Email Id: jitu.batra9@gmail.com

This is certified that **M/s. Thorat Aishwarya Anand** has completed **fifteen days** training in our **Sadguru constructions & Developers pvt.Ltd.** on site **construction of residential building at Pandharpur.** In year of 2018-19.

TRAINING WORK: - Detailed construction about residential building.
She has good nature and so co-operative honorable too. She has supportive nature in his work and helpful also.

Sadguru Construction, Pandharpur
Prop. Jitu Laxman Batra
Lic.No LA / 00037
Mob No 9975427622 / 9028710290

Project Manager

G.D.Sadigale

Govt.Contractor
Pandharpur
9422463314, 9028592324

TRAINING COMPLETION CERTIFICATE

This is to certify that **Miss Priyadarshani Ravindra Shinde** is working with our organization as Trainee civil engineer from 15 Dec 2018 to 30 Dec 2018 during this period we found her attitude towards work is positive
We wish best of luck for her future

G. D. Sadigale
(Partner)
Govt. Contractor
373,Navi Peth,Pandharpur

G. D . Sadigale

SADGURU CONSTRUCTION

Deals in Plan, Estimate, Interior Designers
4343/1 old karad road,Mansha Nagar,Guru Nanak Bhavan, Pandharpur.
Contact: 9975427622,9028710200 Email Id: jitu.batra9@gmail.com

This is certified that **Mr. SARAWADE AKASH PANDURANG** has completed **ONE MONTH** training in our **Swarup constructions & Developers pvt.Ltd.** on site **construction of residential building at Pandharpur.** In year of 2018-2019.

TRAINING WORK :- Detailed construction about residential building.
He has good nature and so co-opertive honourable too. He has supportive nature in his work and helpful also.

SADGURU CONSTRUCTION
LIC No.- CBSPM/R/APL/00057
ER. J. L. BATRA
Mob.No.- 9975427622
Project Manager

SADGURU CONSTRUCTION

Deals in Plan, Estimate, Interior Designers
4643/1 old karadroad,MarishaNagar,Guru Nanak Bhavan, Pandharpur.
Contact: 9975427622,9028710290 Email Id: jitu.batra9@gmail.com

Training Certificate

This is certified that **Mr. Shubham Shivagi Bandgar** student of TE(Civil) of **SVERI's Collage Of Engineering, Pandharpur** . has completed **15 Day's** training from 15/12/2018 to 30/12/2018 in our **Sadguru constructions & Developers pvt.Ltd.** on site **construction of residential building at Pandharpur.** In year of 2018-2019.

TRAINING WORK :-Detailed construction about residential building.
He has good nature and so co-opertivehonourable too. He has supportive nature in his work and helpful also.

SADGURU CONSTRUCTION
LIC No.- CBSPM/R/APL/00057
ER. J. L. BATRA
Mob.No.- 9975427622
Project Manager

[illegible] बिल्डर्स अँड डेव्हलपर्स

[illegible]

प्रो.प्रा.भारत आळनाथ जाधव मो.८६९८९६३३६८

Certificate

This is to certify that **Mr. Sagar Tatyasaheb Kadam** is studying in Third Year Of civil Engineering from Sveri College of Engineering Gopalpur.

He has Successfully completed his field Training work at our on going construction sites in Karmala from 15/12/2018 To 30/12/2018.

He is sincere, hardworking and bears good moral character during Training period.

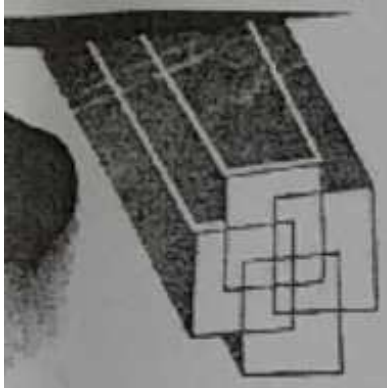
We wish him bright future.

This Certificate has been issued on his request.

श्री. शुभकृपा बिल्डर्स अँड डेव्हलपर्स

B. B. J.

प्रोप्रायटर



PATWARDHAN CONSULTANTS PVT. LTD.

ISO 9001: 2015

ARCHITECTS, ENGINEERS, GOVT. REGD. VALUERS,
PROJECT MANAGEMENT CONSULTANTS

Pune : Shanti Kunj 3rd Floor, 946, Shukrawar Peth,Shiraj Road, Vanraj Chowk, Pune - 411 002.
Office No. : (+ 91- 020) 65005731 / 24473274 / 7620305731
E-mail : patwardhanassocpune@yahoo.com / www.pcpl.biz

FIELD TRAINING CERTIFICATE

This is certify that **Mr. Sanket shrirang gurav** *student of BE (CIVIL THIRD YEAR)*

Of **Sveris college of engineering pandharpur** *attended the field*

Training from **17-12-2018** *to* **31-12-2018** *in* **PATWARDHAN CONSULTATS PVT. LTD**

during training period his work conduct was very good

11/1/19

For Patwardhan Consultant Pvt. Ltd.

For Patwardhan Consultant Pvt. Ltd.

CERTIFICATE

This is to cirtify that ;

Pranita Anand Kate get training during the period from 16.12.2018 to 31.12.2018 under my supervision.

She visited the sites and tried to understand the civil works which are under progress and daily submitted the reports to my office.

She have good knowledge about field work and good moral character.

AB ARCHITECTS & ENGINEERS
ASHOK S. BANNENAVAR

Er. Ashok S. Bannenavar
B.E. Civil
Architetects & Engineers
Jath

M/s. UNIQUE BUILDERS

Civil Engineer & Contractor

Date :

This is Certify that the **Mr. Suhas Jayhind Narsale.** student of BE(Civil Engg 3rd Year of Shree Vitthal Education and Research Institutes College of Engg. Pandharpur. Attended The Field Training From 16/12/2018 to 30/12/2018 in **M/s Unique Builders Malewadi (Akluj)** (Bridge Work) Name of work :- **Construction of Major Bridge Across Bhima River Near Village Umbare on Velapur Neware Umbare Karkamb Road MDR92 at Km.24.00 Taluka Pandharpur. Dist Solapur** During training period his wor & Conduct was very Sincere and Good.

M/s. Unique Builders Malewadi, Akluj

M/s. UNIQUE BUILDERS

PARTNERS

A/p. Opp. S.M.P. College Malewadi- Akluj 413101 Tal. Malshiras, Dist. Solapur Fax : (02185) 225805 Ph.(02185) 223805
Mob. 9922437333 / 9922438333 Email : uniqbuild@yahoo.com

Autade Group
ISO 9001:2008(QMS)

SHRI S. M. AUTADE PVT. LTD.
HEAD OFFICE:
17, "AKANKSHA" Bunglow, Giriraj Society, Baner Road,
Near Sakal Nagar, Pune-07. Tel. No. 020-25640351
E mail- pune@autadegroup.com Website: autadegroup.com
CIN No. U45200PN2014PTC151170

Ref.:

Date: 06-01-2019

TO WHOM IT MAY CONCERN

This is Certify that, **Mr. AVINASH SITARAM MULE** a Student of SVERI College of Engineering Pandharpur, Solapur University Solapur.

Has Completed the 15 days Field Traning of **(Rehabilitation and Upgradation to two lanes with paved shoulder from NH-561 A PandharpurMangalwedhaMarwadeUmadi from ch. 40/800 to ch.95/136 (Package no .II Length 54.336) in the state of Maharashtra on EPC Mode, Project)** form 17/12/2018 to 31/12/2018 **Mr. AVINASH SITARAM MULE** remained involved in his work with determination and sincerity. We found her and competent in executing assigned tasks. During the mentioned period he was found punctual, Hard Working.

We wish him for Success in life.

Thanking you,

Yours faithfully.

SHRI S M AUTADE PVT. LTD.
KHANDOBA LANE,
MANGALWEDHA.

BRANCH OFFICE:
KHANDOBA LANE, MANGALWEDHA, DIST. SOLAPUR-413305. Tel. No. (02186) 221850 Fax No. (02488) 221700
5/2, MURARJI PETH, BHAGWAT UMA MANDIR BLDG., SOLAPUR 413003. Ph.No.(0217) 2728485
M. A. PATIL NIWAS, NEAR JAIL, DARGAH ROAD, BEHIND SHREYA HOSPITAL, BIJAPUR-586101. Ph. No. (08352)272968

CHAVAN V.N.
ENGINEERING SERVISES,
OPP. P.W.D. OFFICE,
SAMTA COLONY, OSMANABAD.
: 7038664678.

Er. VISHNU N. CHAVAN

- ARCHITECTS
- ENGINEERS.
- ESTIMATORS.
- SURVEYORS.
- DESIGNERS.

Ref. No.: 048 / DEC 2018.

Date: 30/12/18.

प्रमाणपत्र

प्रमाणित करण्यात येते की, **कुमारी प्रगती मिटू जगताप** हीने दिनांक **16/10/2018** ते दिनांक **30/12/2018** या कालावधीत **फील्ड** ट्रेनिंग काम यशस्वीरित्या पूर्ण केले आहे.

सदर प्रमाणपत्र देण्यात येते.

|| SHREE ||

Shree Vyenkatesh Enterprises

Prop. : Eknath J. Nanaware

Shop - Gat No. 85/3, Shreepriya Residency, Gala No. 3, Warpikar Nagar, Pandharpur.
Resi. - 28/42, Nirmal, Balaji Hos. Soc. Balajinagar, B/H Polo Factory, Pandharpur 413304.
Email - shreevenkatesh@yahoo.co.in, eknathbl19@gmail.com

Ref. No. :

Date

CERTIFICATE

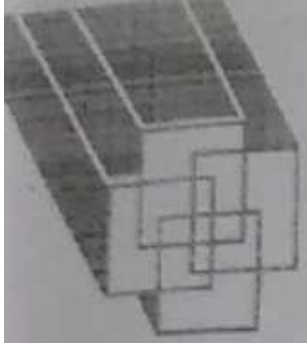
This Is To Certify That Miss. **Shradha Rajendra Pawale** Is Studing In Third Year Of Civil Engineering From SVERI College Of Engineering, Gopalpur .

She Has Successfully Completed Her Field Training Work At Our Ongoing Construction Sites In Pandharpur From 16/12/2018 To 30/12/2018.

She Is Sincere, Hardworking And Bears Good Moral Character During Training Period.

We Wish Her Bright Future.
This Certificate Has Been Issued On Her Request.

Engineer
Lakhan Khirsagar



PATWARDHAN CONSULTANTS PVT. LTD.

ISO 9001:2015

ARCHITECTS, ENGINEERS, GOVT. REGD. VALUERS,
PROJECT MANAGEMENT CONSULTANTS

Pune : Shanti Kunj 3rd Floor, 946, Shukrawar Peth, Shivaji Road, Vanraj Chowk, Pune - 411 002.
Office No. : (+ 91- 020) 65005731 / 24473274 / 7620335731
E-mail : patwardhanassocpune@yahoo.com / www.pcpl.biz

FIELD TRAINING CERTIFICATE

This is certify that **Mr. AVINASH RAJENDRA LONDHE** *student of BE* **(CIVIL THIRD YEAR)**

Of **Sveris college of engineering pandharpur** *attended the field*

Training from **17-12-2018** *to* **31-12-2018** *in* **PATWARDHAN CONSULTATS PVT. LTD**

during training period his work conduct was very good .

1/1/19

For Patwardhan Consultant Pvt. Ltd.

For Patwardhan Consultants Pvt. Ltd

Prop. Yasin Abdul Vahed Shaikh

SOHEL CONSTRUCTION

GOVERNMENT REGISTER CONTRACTOR

Abdul Kadar Manjil Patel Chowk, BDO Office Near, A/p. Kurduwadi, Tq. Madha, Dist. Solapur - 413208
| E-mail : Sohelcons22@gmail.com, Yasinshaikh90@gmail.com | Cell : 9604107860, 9403291766

Date : / /201

Ref. No.

FIELD TRAINING CERTIFICATE

This is certify that **Mr.Moin Latif Mulani** student of **B.E.Civil** (Third Year) of Sveris college of Engineering Pandharpur attended the field training from **17.12.2018** to **31.12.2018** in **Sohel Construction Government Register Contractor** during training period his work conduct was very good.

For Sohel Construction

A

FIELD TRAINING REPORT

ON

RAILWAY DOUBLING PROJECT

COLLEGE OF ENGINEERING, PANDHARPUR.

DEPARTMENT OF CIVIL ENGINEERING

Academic Year: 2018-2019

Submitted By :- Mr . Shoaib Salim Shaikh

(T.E Civil Roll no:57)

rising together...
SONAI

Date :- 30/12/2018

Training Certificate

This is Certify that **Mr. Shoaib Salim Shaikh** Student of B.E (Civil -3rd Year) of **Shri Vithal Education & Research Institute's College of Engineering Pandharpur** Attended the field training from **16-12-2018** To **30-12-2018 in Sonal Infrastructure Pvt. Ltd. Sangli** (Earthwork in Embankment & Cutting incld. Extension of Minor Bridges & RUB' in connection with Pune –Miraj Doubling Project from KM.216.00(Shenoli) to Km. 280.00(Miraj)) during Training Period his work & Conduct was very sincere and good

30-12-18

Authorized Representative,

For Sonai Infra. Pvt. Ltd. Sangli.

SONAI INFRASTRUCTURE PVT. LTD. TAKARI

Sonal Infrastructure Private Limited

1st Floor, Shriram Plaza, Ram Mandir Corner, Sangli 416 416, Maharashtra (India)
Telefax: (0233) 2323897, e-mail : admin@sonalinfra.com

www.sonalinfra.com

INDEX

INTRODUCTION

The purpose of this training is to enrich the students with updated field knowledge. This helps in understanding various field activities, construction techniques, materials and equipment's, Management Techniques ,etc.

Objectives of field Training:

- To apply theoretical knowledge on field
- To understand practical approach on field
- To understand actual processes on site
- To understand procedure
- To get site work experience
- To aware of problems on site

SITE INFORMATION

Project Name : Railway Doubling Project

Type of Structure : Infrastructure

Location :Pune-Miraj Road,Takari,(Sangli)

Project Engineer: Mr. Yuvraj Salunkhe

Site Supervisor: Mr. Mubin Shaikh

A project by : Sonai Infrastructure Pvt.Ltd.

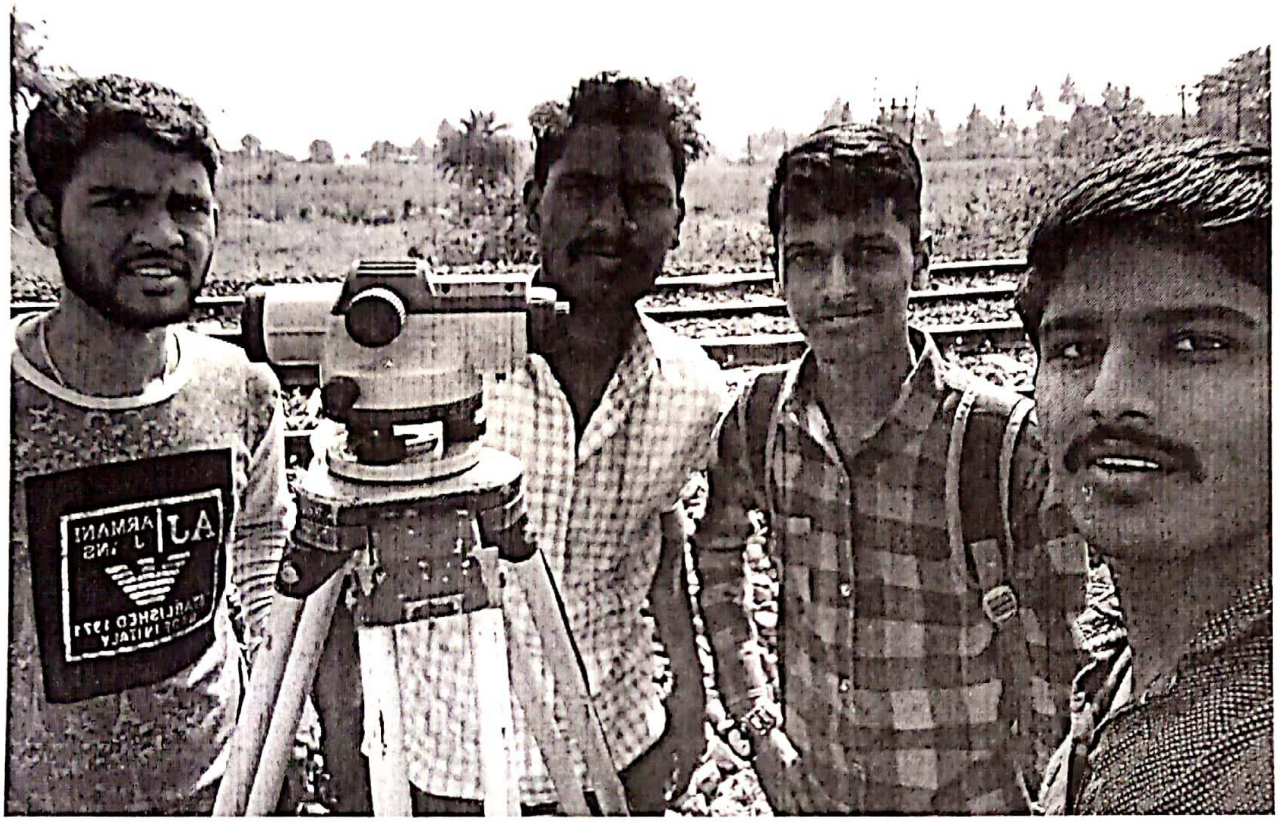
1st Floor,shriram plaza,ram mandir corner,Sangli

Site Location: @Takari

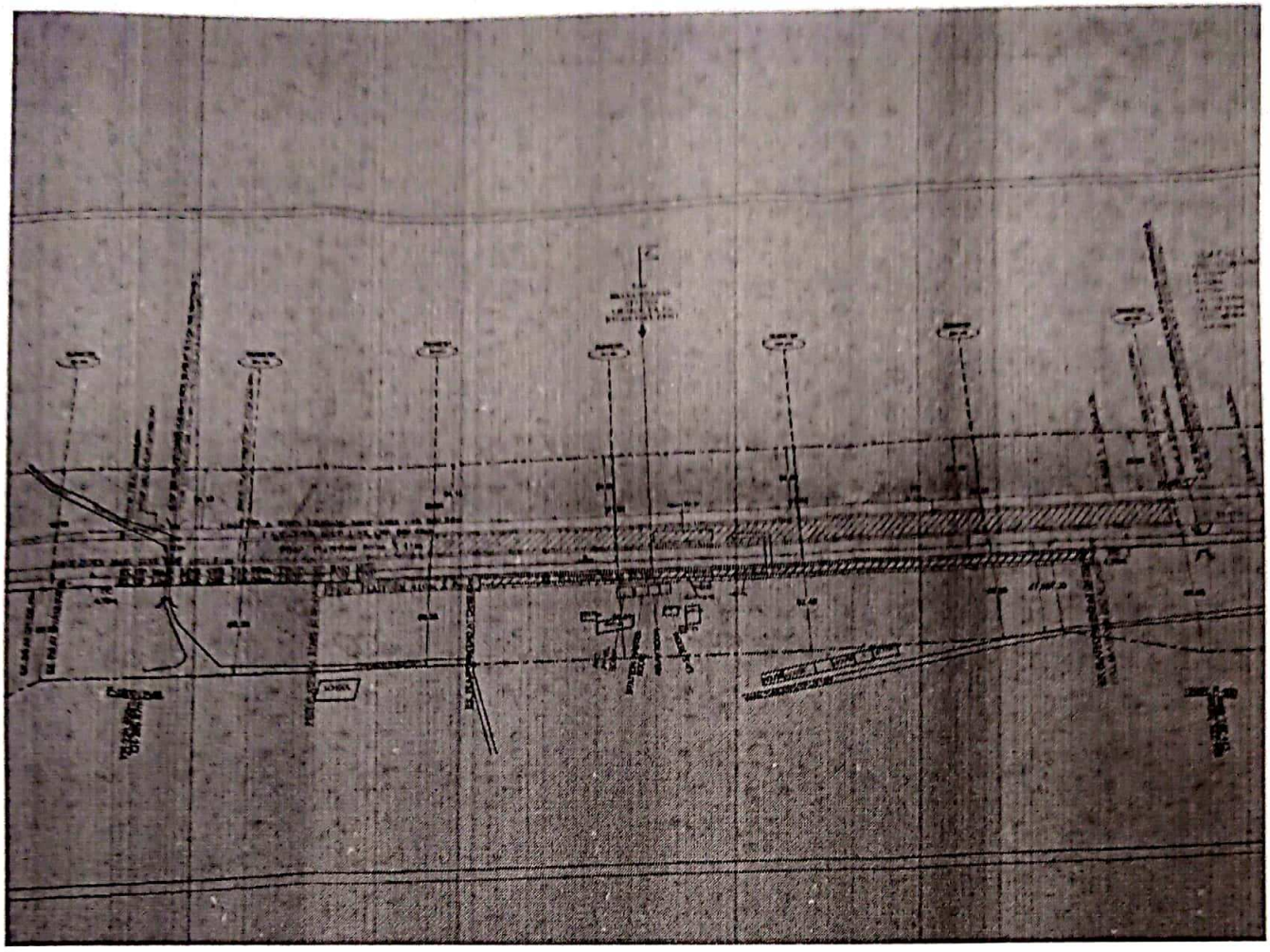
PROJECT INFORMATION

Project Name :	Earthwork in embankment and cutting include extension of minor bridges and RUB's in connection with Pune –Miraj doubling project
Type of Structure :	Railway Doubling Project
Project Cost :	370 crore
Working Area :	Km.216.00(Shenoli) to Km.280.00(Miraj)

GENERAL INFORMATION



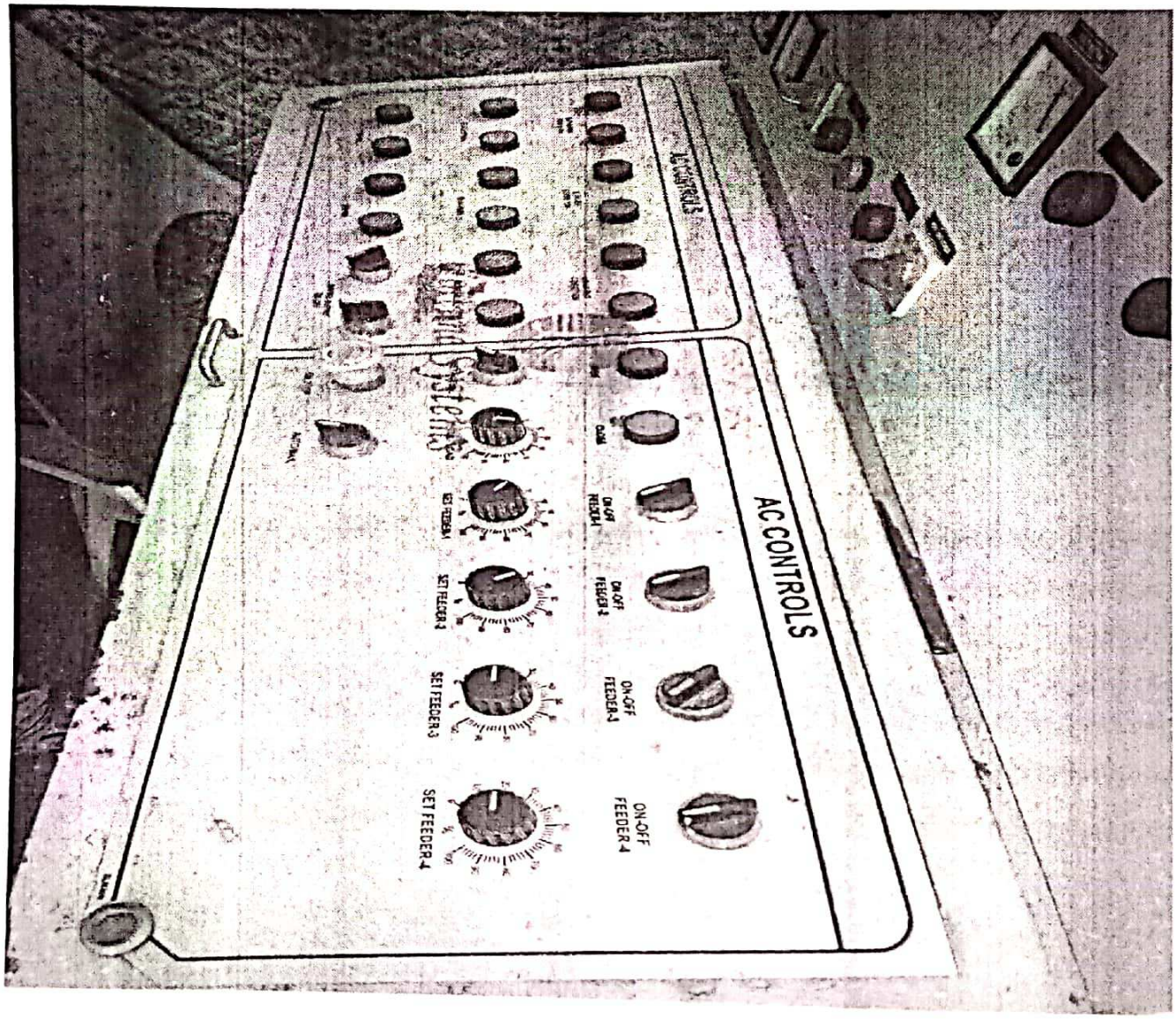
The project is all about constructing the second railway line(i.e doubling of railway line) with respect to existing railway line.The project working area is from miraj(Km.216) to pune(Km.280) for about 64kms.In which we studied at Takari and Bhavani Nagar for about 15 days.This project is divided into several parts such as Earthwork(excavation, cutting and filling in embankment),extension of minor bridges, RMC plant, WMM plant etc.



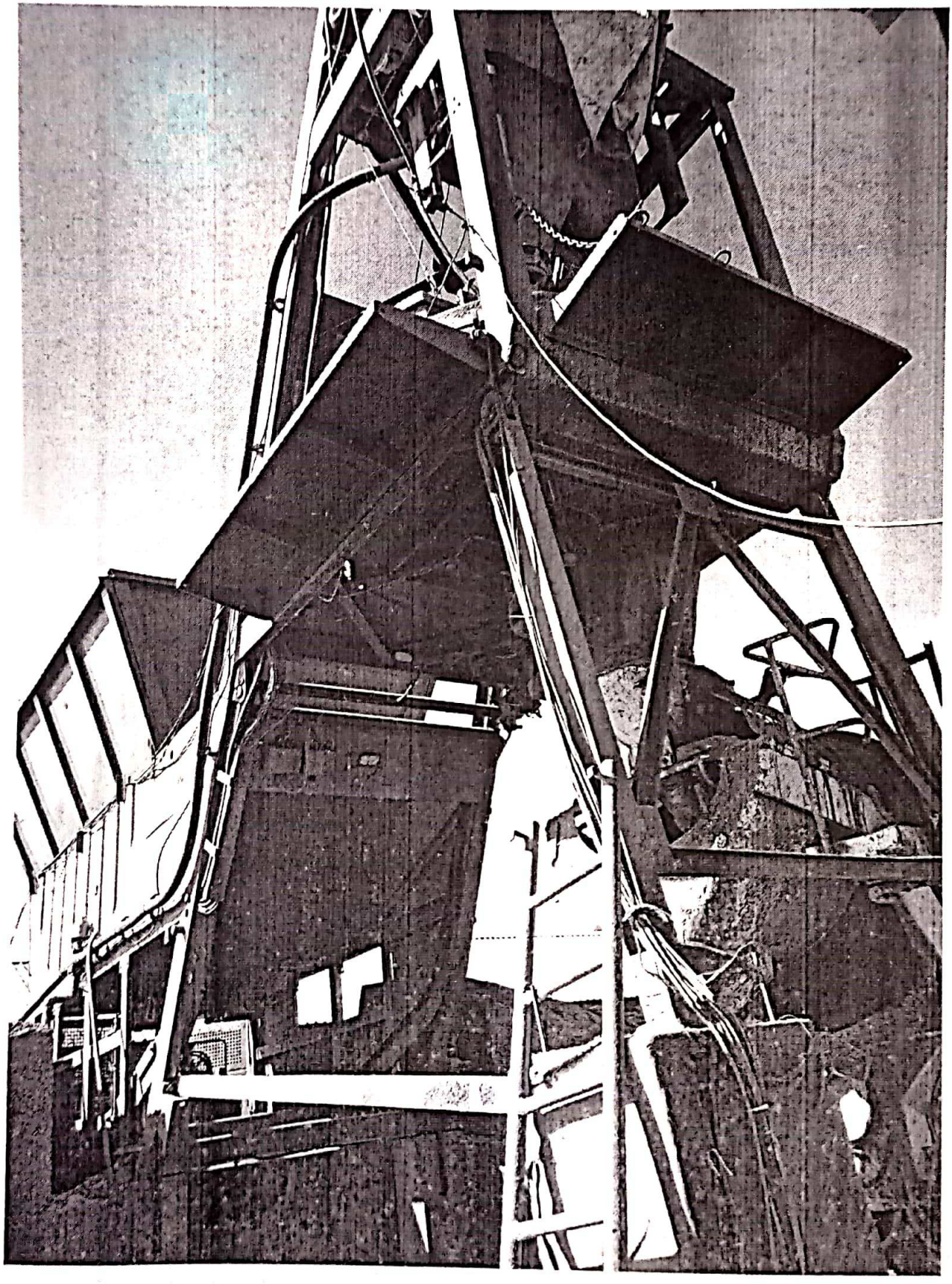
The project initiates with survey of the yard area at 25m chainage with respect to existing railway line by offset survey. The maximum width of yard is 32m and minimum width is 28m.The railway line are of two types main line and loop line. The loop line is only for stopping of rail at station and main line is for running of railway which has more slipper density as compare to loop line.

After completion of survey we studied the plan of Bhavani Nagar station for carrying lineout on the field. After that we made markings on the field by using white powder. Here after the next step is the Blanketing of ground with respect to existing fixed RL's for levelling of ground.

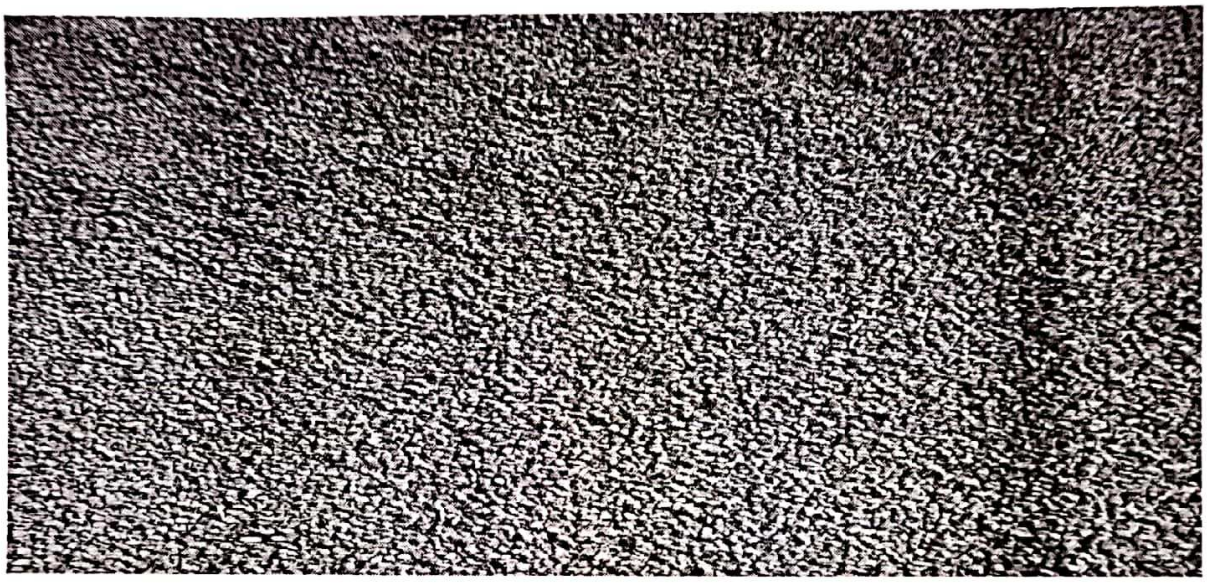
To know the Blanketing in brief we visited the WMM (Wet Mix Macadum) plant and guided under the supervision of Hitesh Payghan sir. WMM is mixture of 60% murum and 40% fine aggregate and water control as per design requirement. These WMM plant consist of following parts Gathering Conveyor, Slinger Conveyor, load out conveyor, GOB hopper, VIB screen, MONO block, PUG mill, BIN-VIB.

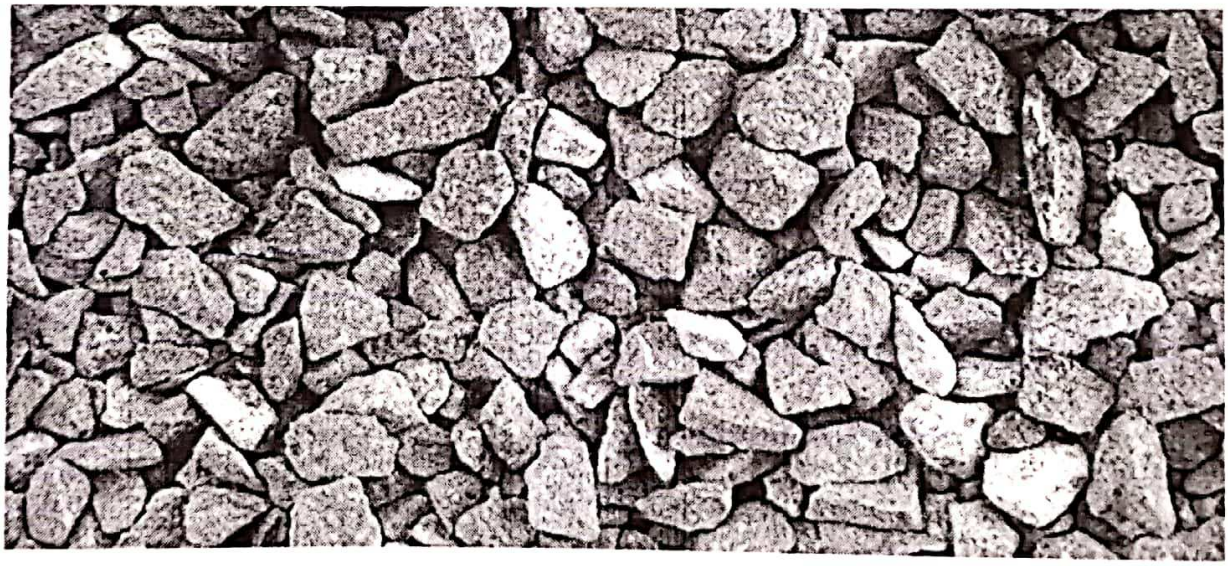


On next day we had visited RMC plant which is used for proportional mixing of concrete as per the design for Minor bridges. In RMC we are using cement sand aggregates water and some other chemicals if required for getting required strength in proper proportions.



Aggrigates used are of two types sharp edged aggrigates and VSI aggrigates (are in rounded shape) for two sizes 10 and 20mm.we are using VSI aggrigates for RMC plant for getting more strength. Now a days ,crushed sand is used instead of sand due to its scarcity. Crushed sand have black colour having VSI type gives more strength as it has more holding capacity together to all materials.





Precast concrete are the prestressed concretes to give the negative tensile strength to it, so that when compressive load will act on it. It will becomes negative or max to max zero to neutralize compressive load. Here we are using sleeper cells in railways in prestressed form to neutralize compressive load coming from rail. Sleeper cells are trapezoidal in shape. Sleepers provided for one rail length is known as sleeper density. Sleeper density for unit rail is given by,

Slipper density = N + X, (X- > 3 to 6)

Where, N = length of one rail = 12.8m

X = depends on type of gauge

Total number of sleepers required for 1Km length= (18/12.8)*1000

=1406 Sleepers

To prevent the embankment from falling down while travelling of rail over the bridges, pile foundations are provided. Pile is inserted into the ground till hard strata is not reached. If hard strata is not get upto necessary depth then we have to use Friction pile foundation. In friction pile foundation we keep half of length above the ground with respect to a length which is below the ground.

After completion of survey we studied the plan of Bhavani Nagar station for carrying lineout on the field. After that we made markings on the field by using white powder. Here after the next step is the Blanketing of ground with respect to existing fixed RL's for levelling of ground.

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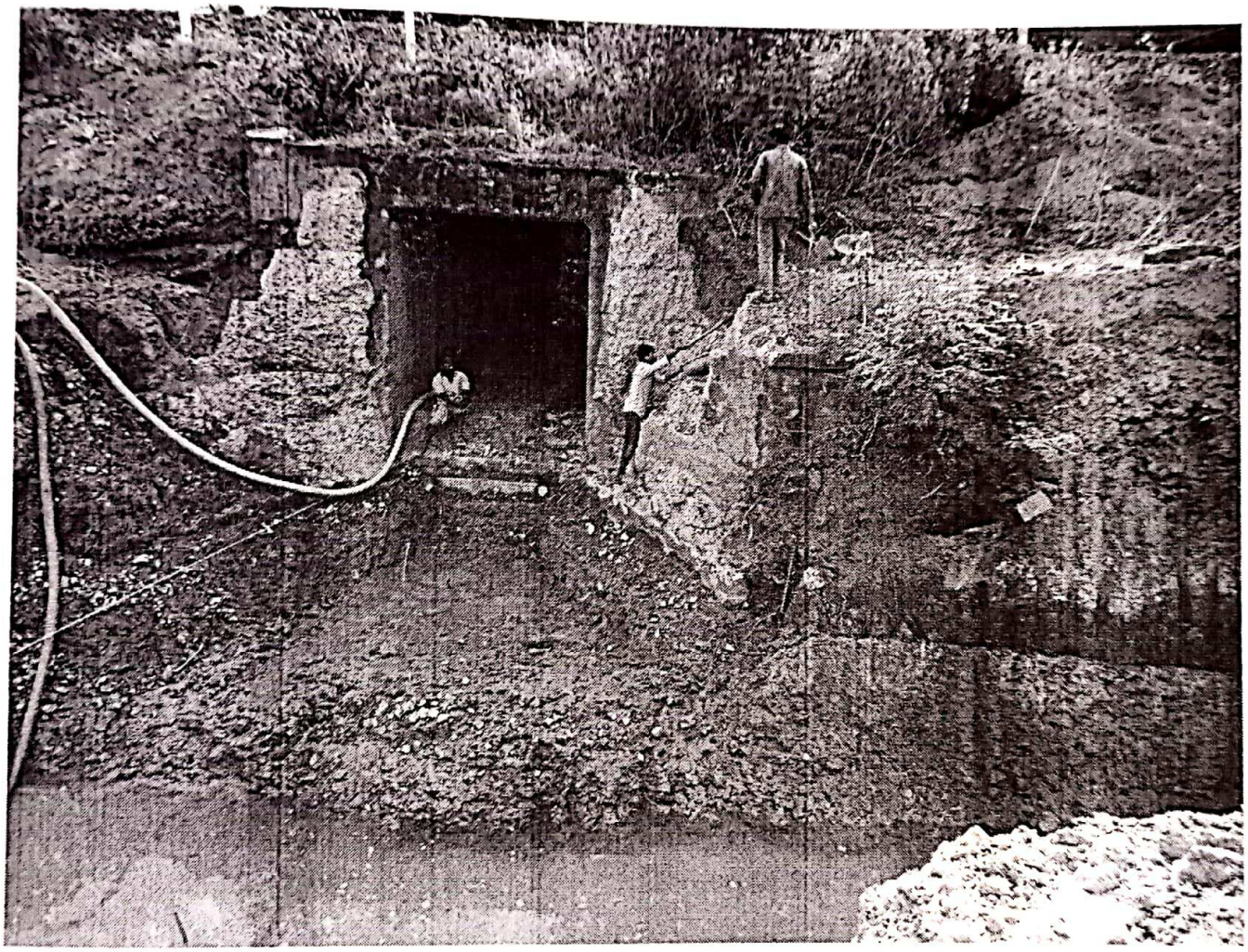

PRECAUTIONS AGAINST ACCIDENTS:

Security of Labour s and engineer working on site is necessary in construction phase.so to prevent accidents on site the measures taken are as follow:

- Provide safety training
- hold safety meetings
- use protective equipments
- maintain the tools and equipments
- prevent falls
- keep the workplace clean
- Chemical splash googles
- Protective gloves

Guide line from contractor

1. Make list of various useful IS codes
2. Update softwere knowledge
3. Field knowledge
4. Application of theory part on field
5. Make theory part very clear

❖ *CONCLUSION:-*

Field training is very good opportunity for trainee engineers. From training they get practical knowledge about the field, field problems, and remedial measures for such problems. For me this was very learning section in which I got knowledge about construction of elevated service reservoir. I have also learned management of resources.

SVERI's
College of Engineering, Pandharpur

Department of Civil Engineering

Sponsored Project Record

A.Y.: 2018-19

SHRI VITHAL EDUCATION & RESEARCH INSTITUBE'S

COLLEGE OF ENGINEERING, PANDHARPUR.

Department of Civil Engineering

Acad. Year-2018-19 **Class-BE**

Sr. No.	Name of Student	Name of Guide	Sponsoring Company	Title of Project
1	HIPPARKAR HARIDAS RAMCHANDRA	Prof. S.J. Mohite	Sadguru Construction, Pandharpur	Replacement of cement by silica sand.
2	JAGTAP SURAJ KAKASAHEB			
3	MHETRE SHIVAJI SHASHIKANT			
4	NAVAGIRE OMKAR PRAKASH			
5	KAKADE VISHAWAJEET VIKAS	Prof. R S Sathe	Grampanchayat Gardi, Tal: Pandharpur	Partial replacement cement of plasting in Bituminash pavement.
6	JAGTAP SURAJ SANTOSH			
7	TONDASE MILIND VISHNU			
8	GURAV SHYAM SUBHASH			

(S.A. GOSAVI)
Project Co-ordinator

(Dr. P.M. Pawar)
HEAD, Civil Dept.

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

SADGURU CONSTRUCTION

Deals in Plan, Estimate, Interior Designers
4643/1 old karad road,Manisha Nagar,Guru Nanak Bhavan, Pandharpur
Contact: 9975427522,8999257747 Email Id: jitu.batra3@gmail.com

Date :- 21/3/2019

To,
HOD,
Civil Engineering Department.
College of Engineering,
Pandharpur.

Subject: -Letter of Appreciation for your final students.

Dear Sir,
We are happy to inform you that your following students have interacted our team and visited our sites at **Residential Banglow at Ambe**, Tal. Pandahrpur Dist. Solapur for doing their final year project titled **"Replacement of cement by silica sand"** during academic year 2018-19. The notable points of the projects are

1. Compressive strength increases with replacement level up to 12%.
2. Maximum Compressive strength is obtained 6% replacement level.
3. Increasing silica sand percentage decreasing the strength.

Name of students:

1. Mr. Shivaji Shashikant Mhetre
2. Mr. Haridas R. Hipparkar
3. Mr. Suraj Kakasaheb Jagtap

Sadguru Construction, Pandharpur
Prop. Jitu Laxman Batra
Lic.No LA / 00037
Mob No 9975427522 / 9028710290

स्वच्छतेकडून समृध्दीकडे... स्थापना : ३/११/१९५१

ग्रामपंचायत, गार्डी

ता. पंढरपूर जि. सोलापूर

श्री. आर.एस.शिंगाडे
ग्रामसेवक

श्री.विजय जयवंत फाटे
उपसरपंच

सौ. पद्मिनी संभाजी कांबळे
सरपंच

दिनांक : 28 / 03 /2019

To,
The Head,
Civil Engineering Department.
College of Engineering,
Pandharpur.

Subject: -Letter of Appreciation for your final students.

Dear Sir,

We are happy to inform you that your following students have interacted our team and visited our sites at **Construction of BT Road, at Grampanchayat Gardi**, Tal. Pandharpur, Dist.Solapur for doing their final year project titled **"An Experimental Investigation on The partial Replacement of Plastic in Bitumen for Flexible Pavement"** during academic year 2018-19. The notable points of the projects are,

1. The use of bitumen with addition of processed waste plastic of about 5 % by weight of bitumen.
2. Using the wet process with varying percentage of 7.5, 10, 12.5 and 15 of aggregate can be replaced by e-waste.
3. Process is environment friendly.

Name of students:

1. Mr. Milind V. Tondase
2. Mr. Vishwajit V. Kakade
3. Mr. Sham S. Gurav
4. Mr. Suraj S. Jagtap

ग्रामसेवक,
ग्रामपंचायत गार्डी
ता. पंढरपूर, जि. सोलापूर.

SVERI's
College of Engineering, Pandharpur

Department of Civil Engineering

B.E. Project Record

A.Y.: 2018-19

SHRI VITHAL EDUCATION & RESEARCH INSTITUTE'S

COLLEGE OF ENGINEERING, PANDHARPUR.

Department of Civil Engineering

Students List for Project work-I, Assessment of report on field training-II, Project work-II

Class: BE (Civil) **Academic Year 2018-19**

Sr. No.	Name of Student	Roll No.	Group No.	Project Title	Project Guide
1	/WAGHMODE TEJASVI DHONDIBA	14	BE-1	Prediction of Basin yeild using ANN Tool.	Prof. S.D. Jagdale
2	/THITE TRUPTI SOMNATH	13			
3	/THITE ANKITA ARJUN	12			
4	/KORAKE SWAPNALI KAILAS	6			
5	/KATKAR NAMRATA RAMKRISHNA	5			
6	/ITKAPALLE POOJA RAMESH	15			
7	/BARBOLE SAPANA RAMDAS	1	BE-2	Exp. Study of replacement of cement by Baggasse ash & steel fibre.	Prof. S.A. Gosavi
8	/BHOSALE MONIKA MADHUKAR	2			
9	/JADHAVAR NIKITA RAMESH	3			
10	/NAIKNAWARE DIPALI BHARAT	18			
11	/MOHITE ARTI AUDUMBAR	7			
12	MANGIRE ADESH SUNIL	37	BE-3	Best Input variable combination for the reservour capacity analisis	Prof. S.D. Jagdale
13	PURI ANIL ARJUN	43			
14	GADE DIPAK SHIVAJI	30			
15	AJURE SHUBHAM DILIP	27			
16	PAWAR BALU SIDRAM	41			
17	/JADHAV SARITA NARAYAN	21	BE-4	Exp. Study of replacement of cement by plastic waste.	Prof. S.A. Gosavi
18	/SARATAPE RUNALI GAJANAN	24			
19	/CHANDANSHIVE KOMAL SHAHAJI	25			
20	/HENDRE GEETA MAHADEV	26			
21	/WAGHAMARE RANI TRIMUKH	20			
22	/NAIKWADI ASHWINI BALIRAM	8	BE-5	Experimental study for compressive strength of ordinary concrete using destructive & non distructive testing.	Prof. A.B. Kokare
23	/PADAVALE PRIYANKA VITTHAL	9			
24	/PATIL SWATI DATTATRAY	10			
25	/SURYAWANSHI SMITA RAMDAS	11			
26	/JAWANJAL YADNYASENI JAYANT	4			
27	KADAM YOGESHWAR PRABHAKAR	33	BE-6	Study of perriount concrete pavement.	Prof. V.S. Kshirsagar
28	GAVHANE AKSHAY BALKRUSHNA	49			
29	HONMUTE KUNDAN GANPAT	32			
30	KASHID SAMADHAN HARISHCHANDRA	34			
31	BANGOSAVI VINAL RAJENDRA	28			
32	NIRMAL SANDIP BHAUSAHEB	40			
33	/SAPKAL ANJALI DATTATRAY	19	BE-7	Development of smart traffic system for pandharpur city by using ITS system.	Prof. C.R. Limkar
34	/LENGARE AMRUTA LAXMAN	16			
35	/GODASE YASHASHRI SADHAU	17			
36	/KAMBLE AKSHADA AVINASH	22			
37	/MADAKE BHAKTI SAMBHAJI	23			
38	HIPPARKAR HARIDAS RAMCHANDRA	56	BE-8	Replacement of cement by lilica sand.	Prof. S.J. Mohite
39	JAGTAP SURAJ KAKASAHEB	58			
40	MHETRE SHIVAJI SHASHIKANT	38			
41	NAVAGIRE OMKAR PRAKASH	50			
42	PAWAR SURAJ RAJENDRA	42	BE-9	Experimental behaviour of Neutralized red mud by replacing cement percentage.	Prof. M.S. Survase
43	GHADAGE GANESH SAHEBRAO	47			
44	RAUT DHANAJI ANKUSH	48			
45	CHAVAN ABHIJEET SHANKAR	54			
46	KUMBHAR VISHWANATH MAHADEV	35			

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

Sr. No.	Name of Student	Roll No.	Group No.	Project Title	Prject Guide
47	SAKHARE ABHISHEK UTTAM	44	BE-10	Improving water disribution tech in rural area. (Ankoli)	Prof. V.S. Kshirsagar
48	JADHAV RAVIKIRAN PANDURANG	57			
49	SALGUDE PRATIK NANDKUMAR	65			
50	KANADE RUTWIK AMAR	59			
51	KHUNE VAIBHAV BALASAHEB	60	BE-11	Eco-low flushing toilet.	Prof. C.R. Limkar
52	GAIKWAD DATTATRAYA MARUTI	31			
53	YEDAGE DINESH MADHUKAR	69			
54	CHOUDHARI SHUBHAM BHAGWAT	29			
55	CHAURE KHELA RAJENDRA	53			
56	MULGIR VIKAS PANDITRAO	63			
57	PAKHARE VINOD NANDKUMAR	64	BE-12	Interpretation of shear strength of fibre rinforced pond ash.	Prof. M.G. Deshmukh
58	SHINDE RUSHIKESH MAHENDRA	45			
59	SARGAR SURAJ HANUMANT	66			
60	UMBARE ABHAY UMAKANT	67			
61	WARAGADE SWAPNIL DATTATRAY	68	BE-13	Introduction to sisalfiber as a alternative material to plywood.	Prof. S.J. Mohite
62	KUMBHAR KRISHNA DINKAR	61			
63	BONDAR SUSHANT MADHUKAR	52			
64	EKATPURE PANKAJ ANIL	55			
65	MANE VIKAS POPAT	62			
66	KAKADE VISHAWAJEET VIKAS	73	BE-14	Partial replacement cement of plasting in Bituminash pavement .	Prof. R S Sathe
67	JAGTAP SURAJ SANTOSH	74			
68	TONDASE MILIND VISHNU	71			
69	GURAV SHYAM SUBHASH	75			
70	LOKHANDE ANIL LAXMAN	36	BE-15	Optimization technique for contilever beam.	Prof. S.A. Gosavi
71	PORE NILESH RAGHUNATH	51			
72	MORE KIRAN NANA	39			
73	VELAPURKAR PRAVIN SHYAM	70			
74	SHINDE NITIN BHARAT	72			
75	SHINDE DEVIDAS TANAJI	46			

(S.A. GOSAVI)
Project Co-ordinator

(Dr. P.M. Pawar)
H.O.D. Civil Dept.

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

SVERI's
College of Engineering, Pandharpur

Department of Civil Engineering

Mini-Project Record

A.Y.: 2018-19

SVERI's College of Engineering, Pandharpur

Civil Engineering Department

Mini Project

Class: TE-(Civil) A.Y.: 2018-2019

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** Accreditated Institute, ISO 9001:2015 Certified Institute.
Accredited by The Institution of Engineers (India), Kolkata and TCS, Pune.

Ref.:- COEPR/civil/2018-19/1826 Date:- 18/03/2019

प्रति,
मा. सरपंच साहेब,
ग्रामपंचायत, अनवली
ता. पंढरपूर जि. सोलापूर.

विषय:- भूमिगत गटार डीजाईन व पाणी पुरवठा योजनेचे डीजाईन या शालेय प्रकल्पाकरीता सर्वेक्षण करणे बाबत.

महोदय,

उपरोक्त विषयांकित संदर्भास अनुसरुन आपणास कळविण्यास आनंद होतो की, आमच्या महाविद्यालयातील स्थापत्य अभियांत्रिकी विभागातील विध्यार्थी त्यांच्या अभ्यासक्रमाचा भाग म्हणून आपल्या गावासाठी भूमिगत गटार डीजाईन व पाणी पुरवठा योजनेचे डीजाईन करू इच्छित आहेत. त्याकरिता आपल्या गावाचे सर्वेक्षण करण्यासाठी दिनांक १९ मार्च २०१९ रोजी येत आहेत तरी आपण त्या साठी परवानगी देवून सहकार्य करावे ही विनंती.

ग्रामपंचायत अनवली ता. पंढरपूर

कळावे,

आपला विश्वासु,

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

(डॉ.पी.एम.पवार)
स्थापत्य विभाग प्रमुख

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** Accreditated Institute,ISO 9001:2015 Certified Institute.
Accredited by The Institution of Engineers (India), Kolkata and TCS, Pune.

Ref.:- COEPR/Civil/2018-19/1825 Date:- 18/03/2019

प्रति,
मा. सरपंच साहेब,
ग्रामपंचायत, आंबे
ता. पंढरपूर जि. सोलापूर.

विषय:- भूमिगत गटार डीजाईन व पाणी पुरवठा योजनेचे डीजाईन या शालेय प्रकल्पाकरीता सर्वेक्षण करणे बाबत.

महोदय,

उपरोक्त विषयांकित संदर्भास अनुसरुन आपणास कळविण्यास आनंद होतो की, आमच्या महाविद्यालयातील स्थापत्य अभियांत्रिकी विभागातील विध्यार्थी त्यांच्या अभ्यासक्रमाचा भाग म्हणून आपल्या गावासाठी भूमिगत गटार डीजाईन व पाणी पुरवठा योजनेचे डीजाईन करू इच्छित आहेत. त्याकरिता आपल्या गावाचे सर्वेक्षण करण्यासाठी दिनांक १९ मार्च २०१९ रोजी येत आहेत तरी आपण त्या साठी परवानगी देवून सहकार्य करावे ही विनंती.

कळावे,

आपला विश्वासु,

(डॉ.पी.एम.पवार)
स्थापत्य विभाग प्रमुख

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

सरपंच,
ग्रामपंचायत आंबे, ता. पंढरपूर.

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** Accreditated Institute, ISO 9001:2015 Certified Institute.
Accredited by The Institution of Engineers (India), Kolkata and TCS, Pune.

Ref.:- COEPR/civil/2018-19/1824 Date:- 18/03/2019

प्रति,
मा. सरपंच साहेब,
ग्रामपंचायत, मुंढेवाडी
ता. पंढरपूर जि. सोलापूर.

विषय:- भूमिगत गटार डीजाईन व पाणी पुरवठा योजनेचे डीजाईन या शालेय प्रकल्पाकरीता सर्वेक्षण करणे बाबत.

महोदय,

उपरोक्त विषयांकित संदर्भास अनुसरुन आपणास कळविण्यास आनंद होतो की, आमच्या महाविद्यालयातील स्थापत्य अभियांत्रिकी विभागातील विध्यार्थी त्यांच्या अभ्यासक्रमाचा भाग म्हणून आपल्या गावासाठी भूमिगत गटार डीजाईन व पाणी पुरवठा योजनेचे डीजाईन करू इच्छित आहेत. त्याकरिता आपल्या गावाचे सर्वेक्षण करण्यासाठी दिनांक १९ मार्च २०१९ रोजी येत आहेत तरी आपण त्या साठी परवानगी देवून सहकार्य करावे ही विनंती.

कळावे,

आपला विश्वासु,

(डॉ.पी.एम.पवार)
स्थापत्य विभाग प्रमुख

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

3,31 6 81 5 51
सरपंच,
ग्रामपंचायत मुंढेवाडी
ता. पंढरपूर, जि. सोलापूर

Shri Vithal Education & Research Institute's
COLLEGE OF ENGINEERING, PANDHARPUR
P.B.No.54, Gopalpur - Ranjani Road, Gopalpur, Pandharpur - 413304, District: 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)
Accreditated by The Indian Institution of Engineers (India), Kolkata and TCS, Pune.
NAAC Accreditated Institute, NBA Accredited All UG Programmes,
ISO 9001:2008 Certified Institute.

Department of Civil Engineering

Date: 18/03/2019

Notice

As per Punyashlok Ahilyadevi Holkar Solapur University's curriculum of TE (Civil), a Mini Project task is assigned to all the TE (Civil) students. In the view of this engg surveys are to be conducted on 19/03/2019. The details of the tasks are as follow:

Sr. No.	Name of Village	Title of Mini Project	Batch No.	Name of Guides and Coordinator
1	Anawali	Survey for Design of Water supply and Sewerage system for Anawali Village	T1	Prof. Taralgatti P D, Prof. Patil S P Prof. Limkar C R
2	Ambe	Survey for Design of Water supply and Sewerage system for Ambe Village	T2	Prof. Kokare A B, Prof. Sathe R S, Prof. Bhaganagare P B
3	Mundhewadi	Survey for Design Water supply and Sewerage system for Mundhewadi Village	T3	Prof. Surwase M S, Prof. Jagdale S D Prof. Sule R H

All the concerned students and faculty members are hereby informed to take the note of the same and act accordingly.

Dr. P M Pawar
HOD

UNDERTAKING

Department of Civil Engineering

T.E.Civil

Academic Year-2018-2019

We the students of T.E. Civil going for site survey visit for sewerage system and water distribution system design, on 19/03/2019, we hereby are undertaking that, During this whole survey to and from journey, we commit that we all will follow the rules which are expected to be followed by student. Also, we will definitely follow and obey the instructions given by each teacher who are accompanying with us during whole journey. If any discrepancy or any odd event will be happened from our side then we are ready to accept the any type of punishment given by any teacher.

Roll No.	NAME OF STUDENT	Sign	Roll No.	NAME OF STUDENT	Sign
1	/BHISE KIRAN KISAN	K.K. Bhise	36	GAIKWAD PRASHANT MANIK	
2	/BHOSALE KAJAL BHARAT	Bhosale	37	GAWADE AJAY SANTOSH	
3	/CHIKMANE ANKITA ANIL		38	Gore Krishna Devidas	
4	/DAHIHANDE JYOTI GAURISHANKAR		39	GORE SUDHIR PARMESHWAR	
5	/DESHMUKH SNEHA SHIVAJIRAO		40	GURAV SANKET SHRIRANG	
6	/DESHMUKH SUSHAMA MAHADEV		41	HONMANE SAGAR SUDHESHWAR	
7	/DHUMAL HARSHADA PANDURANG	H.P.Dhumal	42	JADHAV VAIBHAV DEVIDAS	
8	/KAMBLE ASHWINI ARVIND		43	KADAM SHUBHAM SUNIL	
9	/KATE PRANITA ANAND		44	KADAM VIRAJ MARUTI	
10	/KUMBHAR ANJALI GANPAT		45	KALE VAIBHAV VASANT	
11	/MASAL AISHWARYA NILKHANT		46	KANGUDE YOGESH BALKRISHNA	
12	/PAREKAR MRUNALI BIRUDEV		47	LONDHE AVINASH RAJENDRA	
	/PATIL RUTUJA NAGESH		48	MALI PRATHAMESH KRISHANA	
14	/PAWALE SHRADDHA RAJENDRA		49	MULANI MOIN LATIF	
15	/PAWAR MRUNAL MADHUKAR		50	MULE AVINASH SITARAM	
16	/POLAS POOJA PRUSHOTTAM		51	NARSALE SUHAS JAYHIND	
17	/PUJARI PRIYANKA TUKARAM		52	PAWAR SAURABH BABAN	
18	/RONGE POOJA BABRUVAHAN		53	PAWAR SWAPNIL JITENDRA	
19	/SARVAGOD PRACHI JITENDRA		54	PUJARI HANAMANT SHRISHAIL	
20	/SHIKHARE SADHANA NAGNATH		55	SAWANT GAURAV VITTHAL	
21	/SHINDE PRIYADARSHANI RAVINDRA		56	SAWANT SHAILESH SHASHIKANT	
22	/TEKE MADHURI KISHOR		57	SHAIKH SHOAIB SALIM	
23	/WAGHMODE PRAJAKTA SOPAN		58	SHINDE GANESH MADAN	
24	/ZENDE PRIYA BRAMHADEO		59	SOUDAGAR PRASAD SHIVAJI	
25	/JAGTAP PRAGATI MITU		60	THENGAL ABHIJIT DATTATRAYA	
26	/DONGARE SHUBHANGI KANHOBARAO		61	WAGHAMODE ANANDA BALASAHEB	
27	/ THORAT AISHWARYA A.		62	Sarvade Akash Pandurang	

28	/SARTAPE PRANALI RAJENDRA		63	PUJARI PRAKASH RAJKUMAR	
29	/VIBHUTE JYOTI ASHOK		64	GADADE ABASAHEB DADASO	
30	ATKALE AKASH SHASHIKANT		65	GODASE SANDIP SUKHADEO	
31	BABAR GANESH SHANKAR		66	GUNDRE RAMDAS SANJIV	
32	BANDGAR SHUBHAM SHIVAJI		67	KULKARNI SHUBHAM RAJENDRA	
33	BHARTI SHRINIVAS VISHNU		68	PATIL PRASAD MANIKRAO	
34	Gadase Akash Sureshrao		69	KADAM SAGAR	
35	GAIKWAD KAPIL VIJAY		70	GAIKWAD PAWAN ANAND	
			71	Bhalekar Sagar	
	T1- 1 to 29			T2 - 30 to 50 T3- 50 to 71	

(Prof.C R Limkar)
Class Coordinator

(Dr. P. M. Pawar)
HOD Civil Engg

SHRI VITHAL EDUCATION & RESEARCH INSTITUTE'S

COLLEGE OF ENGINEERING, PANDHARPUR.

Department of Civil Engineering

Academic Year 2018-19 TE-II

Date:- 19-3-2019

Attendance for Site visit of survey to design sewerage system and water distribution system at Ambe.

Roll No.	NAME OF STUDENT	Sign
1	/BHISE KIRAN KISAN	
2	/BHOSALE KAJAL BHARAT	
3	/CHIKMANE ANKITA ANIL	
4	/DAHIHANDE JYOTI GAURISHANKAR	
5	/DESHMUKH SNEHA SHIVAJIRAO	
6	/DESHMUKH SUSHAMA MAHADEV	
7	/DHUMAL HARSHADA PANDURANG	
8	/KAMBLE ASHWINI ARVIND	
9	/KATE PRANITA ANAND	
10	/KUMBHAR ANJALI GANPAT	
11	/MASAL AISHWARYA NILKHANT	
12	/PAREKAR MRUNALI BIRUDEV	
13	/PATIL RUTUJA NAGESH	
14	/PAWALE SHRADDHA RAJENDRA	
15	/PAWAR MRUNAL MADHUKAR	
16	/POLAS POOJA PRUSHOTTAM	
17	/PUJARI PRIYANKA TUKARAM	
18	/RONGE POOJA BABRUVAHAN	
19	/SARVAGOD PRACHI JITENDRA	
20	/SHIKHARE SADHANA NAGNATH	
21	/SHINDE PRIYADARSHANI RAVINDRA	
22	/TEKE MADHURI KISHOR	
23	/WAGHMODE PRAJAKTA SOPAN	
24	/ZENDE PRIYA BRAMHADEO	
25	/JAGTAP PRAGATI MITU	
26	/DONGARE SHUBHANGI KANHOBARAO	
27	/ THORAT AISHWARYA A.	
28	/SARTAPE PRANALI RAJENDRA	
29	/VIBHUTE JYOTI ASHOK	

SHRI VITHAL EDUCATION & RESEARCH INSTITUTE'S

COLLEGE OF ENGINEERING, PANDHARPUR.

Department of Civil Engineering

Academic Year 2018-19 TE-II

Date:- 19-3-2019

Attendance for Site visit of survey to design sewerage system and water distribution system at Anawali.

Roll No.	NAME OF STUDENT	Sign
51	NARSALE SUHAS JAYHIND	
52	PAWAR SAURABH BABAN	
53	PAWAR SWAPNIL JITENDRA	
54	PUJARI HANAMANT SHRISHAIL	
55	SAWANT GAURAV VITTHAL	
56	SAWANT SHAILESH SHASHIKANT	
57	SHAIKH SHOAIB SALIM	
58	SHINDE GANESH MADAN	
59	SOUDAGAR PRASAD SHIVAJI	
60	THENGAL ABHIJIT DATTATRAYA	
61	WAGHAMODE ANANDA BALASAHEB	
62	Sarvade Akash Pandurang	
63	PUJARI PRAKASH RAJKUMAR	
64	GADADE ABASAHEB DADASO	
65	GODASE SANDIP SUKHADEO	
66	GUNDRE RAMDAS SANJIV	
67	KULKARNI SHUBHAM RAJENDRA	
68	PATIL PRASAD MANIKRAO	
69	KADAM SAGAR	
70	GAIKWAD PAWAN ANAND	
71	Bhalekar Sagar	

संत गाडगेबाबा

॥ सत्यमेव जयते ॥ ॥ स्वच्छतेतून समृद्धी ॥

ग्रामपंचायत अनवली

ता. पंढरपूर जि. सोलापूर

संत तुकडोजी महाराज

सौ. सुनिता महादेव सुर्यवंशी

उपसरपंच, मोबा. ९९२१६३६४८१

जा.क.ग्रा.पं. अनवली

दि. १७/ ३ /२०१९

ग्रामपंचायत अनवली ता. पंढरपूर

प्रति,

मा. प्राचार्य,

अभियांत्रिकी महाविद्यालय,

मु. पो. गोपाळपुर ता. पंढरपूर

जि. सोलापूर – ४१३३०४

महोदय,

आपल्या महाविद्यालयातील स्थापत्य अभियांत्रिकी विभागातील विद्यार्थी व शिक्षकांनी आमच्या गावातील लोकांना भेटून खालील विषयावर समाज प्रबोधन व जन जागृती कार्यक्रम केला.

१)स्वच्छतेचे महत्व

२)पिण्याच्या शुद्ध पाण्याचे महत्व

३)सांडपाण्याचे सुनियोजन

४)भाभा अनुसंधान केंद्र मुबाई, येथील विविध शेती उपयोगी उपकरणांची माहिती.

५)मुलींच्या शिक्षणाचे महत्व

त्याबद्दल आम्ही आमच्या गावा तर्फे आपले मनपूर्वक आभार मानतो. आपले असेच सहकार्य भविष्यात मिळावे हि विनंती.

कळावे.

आपला विश्वासू

स्वच्छतेकडून समृद्धीकडे... स्थापना - १९५८

ग्रामपंचायत, आंबे
ता. पंढरपूर जि. सोलापूर

दिनांक १९/०३/२०१९
जा.क्र. २०१९/०३१६६

प्रति,
मा. प्राचार्य,
अभियांत्रिकी महाविद्यालय,
मु. पो. गोपाळपूर ता. पंढरपूर
जि. सोलापूर - ४१३३०४.

महोदय,

आपल्या महाविद्यालयातील स्थापत्य अभियांत्रिकी विभागातील विध्यार्थी व शिक्षकांनी आमच्या गावातील लोकांना भेटून खालील विषयांवर समाज प्रबोधन व जनजागृतीचा कार्यक्रम केला:

1. स्वच्छतेचे महत्व
2. पिण्याच्या शुद्ध पाण्याचे महत्व
3. सांडपाण्याचे सुनियोजन
4. भाभा अनुसंधान केंद मुंबई, येथील विविध शेती उपयोगी उपकरणांची माहिती.
5. मुलींच्या शिक्षणांचे महत्व

त्याबद्दल आम्ही आमच्या गावातर्फे आपले मनपूर्वक आभार मानतो. आपले असेच सहकार्य भविष्यात मिळावे ही विनंती.

कळावे,

आपला विश्वासु,

सरपंच,
ग्रामपंचायत आंबे, ता. पंढरपूर.

स्थापना : १९६६ " तंटा मुक्त गांव " " निर्मल ग्राम "

ग्रामपंचायत मुंढेवाडी

ता. पंढरपूर, जि. सोलापूर

आर. जे. सय्यद
ग्रामसेवक

धोंडीराम श्रीमंत मोरे
उपसरपंच

सौ. उज्वला अशोक घाडगे
सरपंच

जावक क्र. :-

दिनांक :- १९/०३/२०१९

प्रति,
मा. प्राचार्य,
अभियांत्रिकी महाविद्यालय,
मु. पो. गोपाळपूर ता. पंढरपूर
जि. सोलापूर - ४१३३०४.

महोदय,

आपल्या महाविद्यालयातील स्थापत्य अभियांत्रिकी विभागातील विध्यार्थी व शिक्षकांनी आमच्या गावातील लोकांना भेटून खालील विषयांवर समाज प्रबोधन व जनजागृतीचा कार्यक्रम केला:

1. स्वच्छतेचे महत्व
2. पिण्याच्या शुद्ध पाण्याचे महत्व
3. सांडपाण्याचे सुनियोजन
4. भाभा अनुसंधान केंद मुंबई, येथील विविध शेती उपयोगी उपकरणांची माहिती.
5. मुलींच्या शिक्षणांचे महत्व

त्याबद्दल आम्ही आमच्या गावातर्फे आपले मनपूर्वक आभार मानतो. आपले असेच सहकार्य भविष्यात मिळावे ही विनंती.

कळावे,

आपला विश्वासु,

उ. अ. घाडगे

सरपंच,
ग्रामपंचायत मुंढेवाडी
ता. पंढरपूर, जि. सोलापूर.

SVERI's
College of Engineering, Pandharpur

Department of Civil Engineering

Sample Project Report

A.Y.: 2018-19

A

PROJECT REPORT

ON

"OPTIMIZATION TECHNIQUES FOR CANTILEVER BEAM"

Submitted in partial fulfilment of the requirement

For the award of the degree of

Bachelor of Engineering

In

Civil Engineering

from

Punyashlok Ahilyadevi Holkar Solapur University,Solapur

By

Pravin Shyam Velapurkar	Roll No 70
Nilesh Raghunath Pore	Roll No 51
Nitin Bharat Shinde	Roll No 72
Anil Laxman Lokhande	Roll No 36
Devidas Tanaji Shinde	Roll No 46
Kiran Nana More	Roll No 39

Under the Guidance of

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SVERI

SVERI's COLLEGE OF ENGINEERING, PANDHARPUR.

CERTIFICATE

This is to certify that the project entitled

"OPTIMIZATION TECHNIQUES FOR CANTILEVER BEAM "

Has been submitted by...

Pravin Shyam Velapurkar	**Roll No 70**
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For partial fulfillment of Bachelor Degree in Civil Engineering as per curriculum laid by the Punyashlok Ahilyadevi Holkar Solapur University, Solapur

during the academic year 2018-2019

(Prof. Gosavi S.A.)	**(DR. P. M. Pawar)**	**(DR. B. P. RONGE)**
(GUIDE)	**(H.O.D)**	**(PRINCIPAL)**

EXTERNAL EXAMINER

DECLARATION

We the undersigned have submitted the report for the proposed work entitled **"OPTIMIZATION TECHNIQUES FOR CANTILEVER BEAM"** and declare that we have submitted the report after thorough study and is not copied from some source.

Pravin Shyam Velapurkar (70)

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AKNOWLEDGEMENT

This work is just not an individual contribution till its completion. We take this opportunity to thank all for bringing it close to the conclusion.

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Abstract

Optimization is the process of selecting the best possible results among many possible results under given circumstances. The governing idea is to reduce the mass of the beam for a given strength. The cross section under consideration is a rectangular one. This involves creation of the geometry through a parametric study of all design variables. For this purpose, the optimization of the cantilever beam was elaborated in order to find the optimum geometry which minimizes its volume eventually for minimum weight. So for optimum safe design, besides minimum volume it should have minimum vibration as well.

This paper demonstrates an application of the genetic algorithms to the design of reinforced concrete cantilever beam. Cost optimization of reinforced concrete cantilever beam is carried out to get the most economical concrete section and the reinforcements at user specified intervals. Genetic algorithm is used to find out the depth, the number and diameter of bars and the diameter and spacing of stirrups. A program is created based on genetic algorithm to carry out the design. The loading conditions considered are uniformly distributed load in the full span of the beam. Design constraints for the optimization are considered according to the Indian Standard specifications. The program requires the user to input design parameters like the grade of concrete and steel, the design live loads, both uniformly distributed load, the cover required and the number of sections at which the beam has to be analyzed. The width of the beam also need to be given as input to the program.

This thesis aims to contribute to the reduction of the significant gap between the stateof-the-art of structural design optimization in research and its practical application in the building industry. The research has focused on structural topology optimization, investigating three distinct methods through the common example of bracing design for lateral stability of steel building frameworks. The research objective has been aided by collaboration with structural designers at Arup. It is shown how Evolutionary Structural Optimization can be adapted to improve applicability to practical bracing design problems by considering symmetry constraints, rules for element removal and addition, as well as the definition of element groups to enable inclusion of aesthetic requirements. Size optimization is added in the optimization method to improve global optimality of solutions.

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1. INTRODUCTION

The objective of shape optimization is to find the shape which is optimal in the sense that of the it minimizes a certain cost functional while satisfying given constraints. Analytical methods for solving shape optimization problems have been used for a long time. The first known attempt at developing a mathematical formulation for shape optimization dates back to Galileo in 1638, who found that minimum weight cantilever is a parabolic beam. Use of numerical methods for shape optimization became main interest of scientists in this field after the invention of computers, In last 40 years a lot of progresses have been made in this field .In the previous chapters, we discussed how to model uncertainty by probability theory. We also introduced commonly used uncertainty analysis techniques for quantifying the impact of the uncertainty of model input on the model output (performance). Our ultimate goal is to use the knowledge we have gained from uncertainty analysis to manage and mitigate the effects of uncertainty at the design level.

Therefore, we can ensure that a design be robust and safe against various uncertainties. The commonly used probabilistic design methodologies include reliability-based design, robust design, and Design for Six Sigma. Since all of these methods need to use optimization during the design process, a brief introduction to optimization design will be given in this chapter. We will then discuss reliability-based design and robust design in Chapters and respectively. Instead of providing a comprehensive presentation of optimization design techniques, this chapter is intended to present introductory materials about optimization design. It willensure a reader acquire basic working knowledge that is necessary for optimization modeling, the use of optimization software, and the analysis of optimization results. To help one easily understand the optimization techniques, a graphical means is employed in some cases instead of providing mathematical details. After finishing this chapter and associated homework, one is expected to be able to formulate an engineering optimization problem and solve it with optimization software.

1.1 HISTORY OF OPTIMIZATION TECHIQUE

Optimization is a design tool that assists designers automatically to identify the optimal design from a number of possible options, or even from an infinite set of options. Optimization design is increasingly applied in industry since it provides engineers a cheap and flexible means to identify optimal designs before physical deployment. Optimization capabilities have also been increasingly integrated with CAD/CAM/CAE software such as Adams, Nastran, and Opti Struct. Even in our daily life, we are constantly optimizing our goals (objectives) within the limit of our resources. For example, we may minimize our expenditure or maximize our saving while maintaining a certain living level. When shopping for a car, we may try to meet our preference (performance of the car, safety, fuel economy, etc.) maximally on the condition that the price does not exceed what we can afford. It is the same case in engineering design where we optimize performances of the product while meet all the design requirements. Great strides have been made during the past decade in computer-aided design (CAD) and computer aided engineering

(CAE) tools for mechanical system development. Discipline-oriented simulation capabilities in structures, mechanical system dynamics, aerodynamics, control systems, and numerous related fields are now being used to support a broad range of mechanical system design applications. Integration of these tools to create a robust simulation-based design capability, however, remains a challenge. Based on their extensive survey of the automotive industry in the mid-1980s, Clark and Fujimoto2 concluded that simulation tools in support of vehicle development were on the horizon but not yet ready for pervasive application. The explosion in computer, software, and modeling and simulation technology that has occurred since the mid-1980s suggests that high-fidelity tools for simulation-based design are now at hand.

2.CONCEPT OF OPTIMIZATION TECHNIQUES

2.1 DEFINITION

Optimization is a design tool that assists to identify the optimal design. Choosing the best element from some set of alternatives available. It is a processing of making optimum design. It provides engineers a cheap and flexible means to identify optimal designs before physical deployment.

2.2DESCRIPTION

The objective of shape optimization is to find the shape which is optimal in the sense that it minimizes a certain cost functional while satisfying given constraints. Analytical methods for solving shape optimization problems have been used for a long time. The first known attempt at developing a mathematical formulation for shape optimization dates back to Galileo in 1638, who found that minimum weight cantilever is a parabolic beam. Use of numerical methods for shape optimization became main interest of scientists in this field after the invention of computers, In last 40 years a lot of progresses accurate structural and design sensitivity analysis, and an efficient mathematical programming algorithm.

A design engineer simplifies the physical engineering problem into a mathematical model that canre present the physical problem up to the desired level of accuracy. A mathematical model has parameters that are related to the system parameters of the physical problem. A design engineer identifies those design variables to be used during the design process. *Design parameterization*, which allows the design engineer to define the geometric properties for each design component of the structural system being designed, is one of the most important steps in the structural design process. The principal role of design parameterization is to define the geometric parameters that characterize the structural model and to collect a subset of the geometric parameters as design variables. Design parameterization forces engineering eams in design, analysis, and manufacturing to interact at an early design stage, and support sa unified design variable set to be used as the common ground to carry out all analysis, design, and manufacturing processes. Only proper design parameterization will yield a good optimum

design, since the optimization algorithm will search within a design space that is defined for the design problem.

The design space is defined by the type, number, and range of design variables. Depending on whether it is a concept or detailed design, selected design variables could be non-CAD based parameters. An example of such a design variable is a tire's stiffness characteristic in vehicle dynamics during an early vehicle design stage.

2.3OPTIMIZATIN SYSTEM

Optimization is a process of selecting the best possible results among many possible results under given circumstances. Mathematically it is finding the global maxima or minima of a function. Structural Optimization is applying optimization to conventional design process to get best possible value for design variables based on certain criteria. In the simplest case it is the process of selection of materials and geometry which satisfy specified and implied functional requirements while remaining within the confines of inherently unavoidable limitations.

In this time of advancement and development, everything comes at a cost. Today, all organizations look at reducing liabilities and improving their profit margin. The concept of 'A penny saved is a penny earned' is the guideline that serves validly today. Time is also weighed in gold today. Thereby it requires a miser's attitude to achieve results by keeping a tab on both of the above parameters which remain vital pillars

behind any engineering work. Hence arrives the need for optimization. This paper explores various tools used for optimization. All methods are carried out on a cantilever beam of rectangular cross-section.

many traditional optimization algorithms have been widely used in model parameter identification. These methods usually have their own limitations such as local convergence, inefficiency and easy to get into the local best. So, more attention should be taken to modern optimization methods for better solving capability. In the simulation section of this paper, an optimization algorithm with better convergence and global optimization functionality, which is named Modified Genetic Algorithm (MGA), is proposed by using self-adaptive strategy.

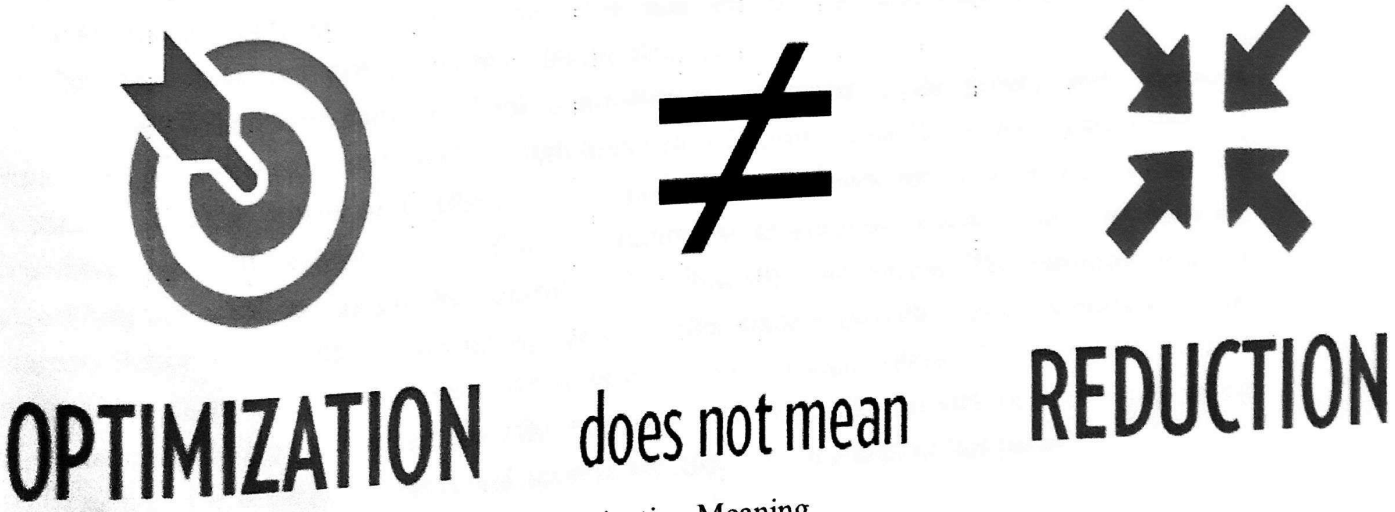


Fig. Optimization Meaning

2.4 FEATURES

Engineering structures/plants with flexible parts are usually associated with inherent vibration properties. The nature and extent of this vibration depend on the type of the structure and its mountings. These vibration problems become more prominent when the structure is placed on a relatively flexible base or then there is a considerable amount of movement within the plant. Vibration control of these engineering structures is essential for their proper operation and long life cycle. A considerable amount of research work has been done in this area This paper presents an investigation into simulation and vibration control of a cantilever beam system; and it presents an effective vibration cancellation of the structure using single or multiple control actuators and observation sensors. A cantilever beam system is considered because it is used in a number of flexible structures such as aircraft wings and space structures. Due to the distributed nature of the governing equation describing structural dynamics, control of flexible structures involves a very complex process. It is important initially to recognize the flexible nature of the beam, construct a mathematical model for the system and account for interactions with disturbances. The commonly used method, for numerically solving the systems governing equation, is based on finite elements (FE) and finite difference (FD). The computational complexity and consequent software coding is a major disadvantage of this technique, especially in real time system applications As FD method is generally found to be more appropriate, it is used in this paper. A reduced order model with the first few dominant modes is developed to implement the modal controller. For the implementation of the modal controller, a Kalman-Bucy filter state observer is used to estimate the state vector, which is not measured through, Several interesting control application areas, which adopt PSO algorithm, have recently been proposed by researchers in automatic generation control tunin, design of controllers,adaptive inverse control predictive control, , PI and PID controllers and ultrasonic motor control.

In this paper, PSO is adopted for the vibration cancellation problem because of its proved simplicity and performance in different applications. Neither expensive computations nor specialized methods are needed. However, this research paper found that PSO outperforms random search throughout and at the end of the search process as it shows a better convergence behavior and over-fitting avoidance. This result indicates that PSO can work as any-time method for the vibration suppression problem of flexile structures.

In addition, PSO based-state feedback controller, as compared to the general state feedback controller, performs extremely well in high dimensional optimization problems. Consequently, it is used to find the proper and effective state feedback parameters and remove the tedious and repetitive trial and error process of using traditional techniques. Evolutionary optimization algorithms are used to design the controller for vibration cancellation. The proposed method operates better in the aspect of designing the controller since it provides ample opportunities for designers to choose the most appropriate point based upon design criteria. The simulation results of the beam system behavior and the effectiveness of the controller on vibration reduction using single or multiple control actuators and sensors are important features of this paper.

2.5 DESIGN AND INSTALLATION CONSIDERATION

Design sensitivity analysis is used to compute the sensitivity of performance measures with respect to design variables. This is one of the most expensive and complicated procedures in the structural optimization process. Structural design sensitivity analysis is concerned with the relationship between design variables available to the engineer and the structural response determined by the laws of mechanics. Design sensitivity information provides a quantitative estimate of desirable design change, even if a systematic design optimization method is not used. Based on the design sensitivity results, a design engineer can decide on the direction and amount of design change needed to improve the performance.
measures. In addition, design sensitivity information can provide answers to "what if" questions by predicting performance measure perturbations when the perturbations of design variables are provided. Substantial literature has emerged in the field of structural design sensitivity analysis.4 Design sensitivity analysis of structural systems and machine components has emerged as a much-needed design tool, not only because of its role in optimization algorithms but also because design sensitivity information can be used in a computer-aided engineering environment for early product trade-off in a concurrent design For the purposes of design optimization, a mathematical programming technique is often used to find an optimum design that can best improve the cost function within a feasible region. Mathematical programming generates a set of design variables that require performance values from structural analysis and sensitivity information from design sensitivity analysis to find an optimum design. Thus, the structural model has to be updated for a different set of design variables supplied by mathematical programming. If the cost function reaches a minimum with all constraint requirements satisfied, then an optimum design is obtained.

2.6 TECHNICAL DESIGN

In case of cantilever beam for optimal design we consider, one ratio called as "Aspect Ratio". For calculating this aspect ratio required width and depth of respective beam section. For decide area of cantilever beam section and aspect ratio relation , following table must be consider.

TABLE ON DESIGN VARIABLES

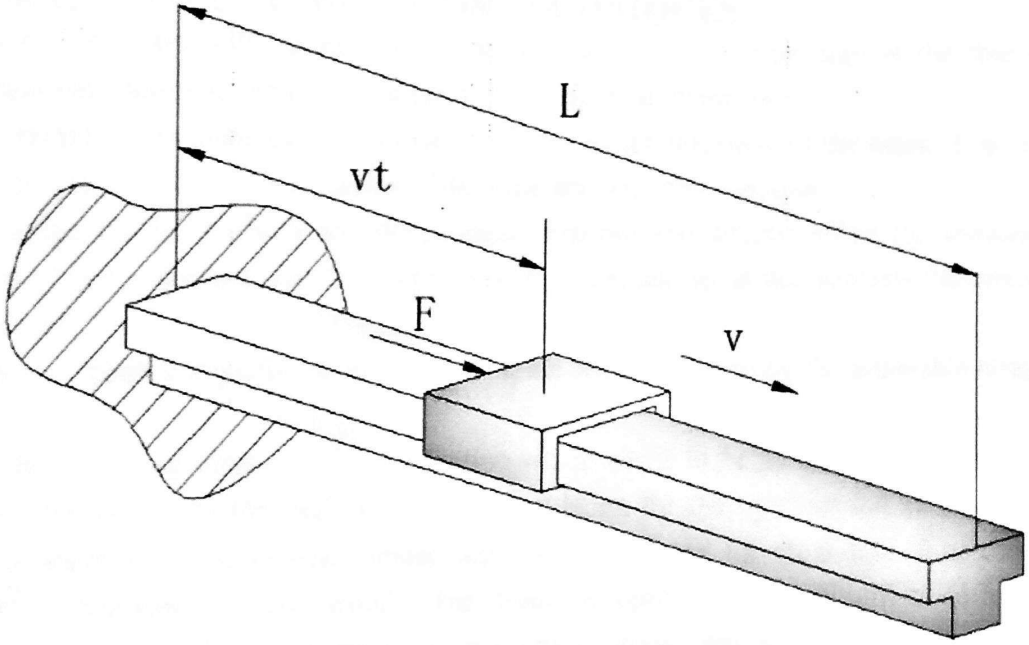
SR. NO	DESIGN VARIABLES	ASPECT RATIO
1.	B=0.23,d=0.57	0.40
2.	B=0.23,d=0.46	0.50
3.	B=0.23,d=0.38	0.60
4.	B=0.23,d=0.33	0.70

2.7 PROBLEM CONSIDERATION

It is obvious that a smaller deflection is obtained by a larger amount of material. Hence, due to the importance of the weight of the structural material from an economical point of view, it would be more advantageous if one defines an optimization problem which aims minimizing the weight of the structure simultaneously with minimizing the deflection. This will obviously be a multi-objective optimization problem, where the deflection and weight are kind of conflicting global functions. Amongst the several optimization methods there are a few which are more suitable for solving a multi-objective optimization problem with a large number of design variables and a relatively few number of constraints, which is the case in the structural topology optimization problem. Walker and Kumar have tackled complex multi-objective optimization problems by scalar sing the multiple objective functions into a single objective using a weight vector. A disadvantage of this approach is that the resulting optimal lamination scheme depends on the chosen weight vector. In general, a multi-objective optimization algorithm yields a set of optimal solutions, instead of a single optimal solution.

The reason for the optimality of many solutions is that no one solution can be considered better than any other with respect to the objective functions. These optimal solutions are known as Pareto-optimal solutions. Deb [has tried to solve the multi-objective optimization problems by using a fast and elitist multi-objective genetic algorithm (NSGA-II). The primary goals of a multi-criteria optimization algorithm are to guide the search towards the global Pareto-optimal front and to maintain population diversity in the Pareto-optimal solutions. In the present paper,

an improved methodology for the multi-objective optimization of cantilever beam structure. A modified form of multi-objective genetic algorithm, based on the elitist non-dominated sorting genetic algorithm (NSGA-II), is implemented to obtain Pareto-optimal designs for the chosen conflicting objectives. It explores the optimal design of a cantilever beam for minimization of weight and deflection, with the constraint that the developed maximum stress
random search throughout and at the end of the search process as it shows a better convergence behavior and over-fitting avoidance. This result indicates that PSO can work as any-time method for the vibration suppression problem of flexile structures. In addition, PSO based-state feedback controller, as compared to the general state feedback controller, performs extremely well in high dimensional optimization problems. Consequently, it is used to find the proper and effective state feedback parameters and remove the tedious and repetitive trial and error process of using traditional techniques. Evolutionary optimization algorithms are used to design the controller for vibration cancellation. The proposed method operates better in the aspect of designing the controller since it provides ample opportunities for designers to choose the most appropriate point based upon design criteria. The simulation results of the beam system behavior and the effectiveness of the controller on vibration reduction using single or multiple control actuators and sensors are important features of this paper.



3. MATERIALS

The objective of this paper is to obtain an optimal cross section parameters of a cantilever I beam subjected to static load considering weight minimization. Finite element method in conjunction with optimization algorithm is used to analyses the effect cross sectional geometrical parameters such as (top and bottom flange width, height of the beam) and state variables such as (total equivalent stress) on the beam weight. Commercial finite element software (ANSYS) is used to simulate the cantilever I beam subjected to a static load at its end, then perform a series of optimization iteration in order to obtain the optimal design parameters for a selected objective function (beam mass). In this study, the objective function is the minimum beam weight. The

beam is made of A36 steel. The goal of the simulation and optimization process is to optimize the cross section parameters to withstand the exerted load yet with minimum material keeping the total equivalent stress just below the maximum yield stress. The optimal geometrical parameters of the cross sectional I beam made of A36 steel are obtained after several optimization iterations. The approach used in this study could be extended to optimize more complicated geometry and material.

3.1 CONCRETE MATERIALS

1. Cement=300kg/cu. m
2. Water content=140 lit/cu. m.
3. Water cement ratio=0.45
4. Fine aggregate=927kg/cu. m.
5. Coarse aggregate=1134kg/cu. m.(10mm&20mmsize)

4.WORKING OF OPTIMIZATION TECHNIQUES

1.A cantilever beam with uniform cross section subjected to point load at the free end has maximum and minimum bending stresses at fixed and free respectively.

2. The weight of the beam can be reduced by tailoring the thickness of the beam. It is necessary to find the cross-sectional dimensions of the state and objective variables.

3. To design variables which are independent variables and directly affect the solution of the problem. State variable is the first dependent variable, and so in this analysis maximum stress was defined.

4. Since the primary objective is to reduce volume without exceeding the allowable stress in the beam.

5. This is the one variable in the optimization which needs to be minimized , beam in order to minimize the weight.In the multi-objective formulation for the optimization of beam problem, Let us consider a cantilever bean whose one end is fixed and the cross-section of the beam is circular of diameter „d" and length. The beam is optimized for minimum deflection and minimum weight under constraints on maximum stress and maximum deflection Figure schematic diagram of cantilever beam.

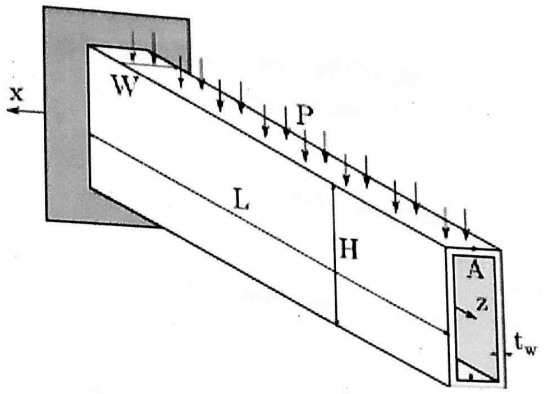


Fig. Conventional types of cantilever beam

4.1 COMPARISION BETWEEN CONVENTIONAL AND OPTIMIZED BEAM

The results of this standard engineering multi-objective optimization problem were compared with those obtained by the proposed algorithm. Fig. The cost optimization of the beam with respect to its length and width using differential algorithm was carried out in STADD Pro software. The results are found out and are tabulated in the table and further represented in the graph. The optimized value is modelled and simulated on ANSYS tool. This simulation is represented by a graph where beam optimization is done. Optimized value for SF &BM is arrived in between aspect ratio of 0.5-0.6 .because; the less variation in this both respective values is observed during the analysis.

Table No 1

A.R.	BM	SF
0.3	106.696	43.25
0.4	101.12	40.445
0.5	93.66	37.844
0.6	88.242	35.296
0.7	84.854	33.942

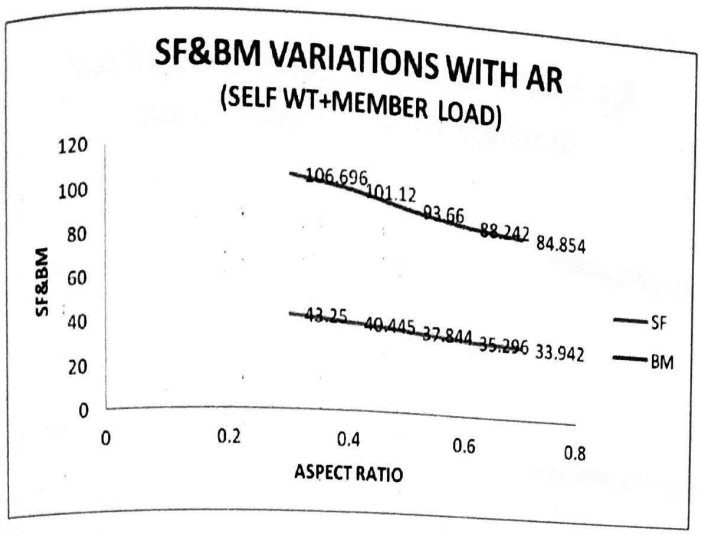


Fig.1

Observation

- In above graph , relation in between shear force and bending moment with aspect ratio is observed.
- Maximum bending moment and maximum shear force is 43.25KN.m &106.96KN respectively.
- Relation in obtained in shear force and bending moment is ,Shear force =bending moments*2.5

To find out optimum shear force and bending moments , following Fig. 1.1 should be consider,

Table 1.1

AR	SF	BM
0.6	88.241	35.296
0.55	90.94	36.47
0.5	93.66	37.844

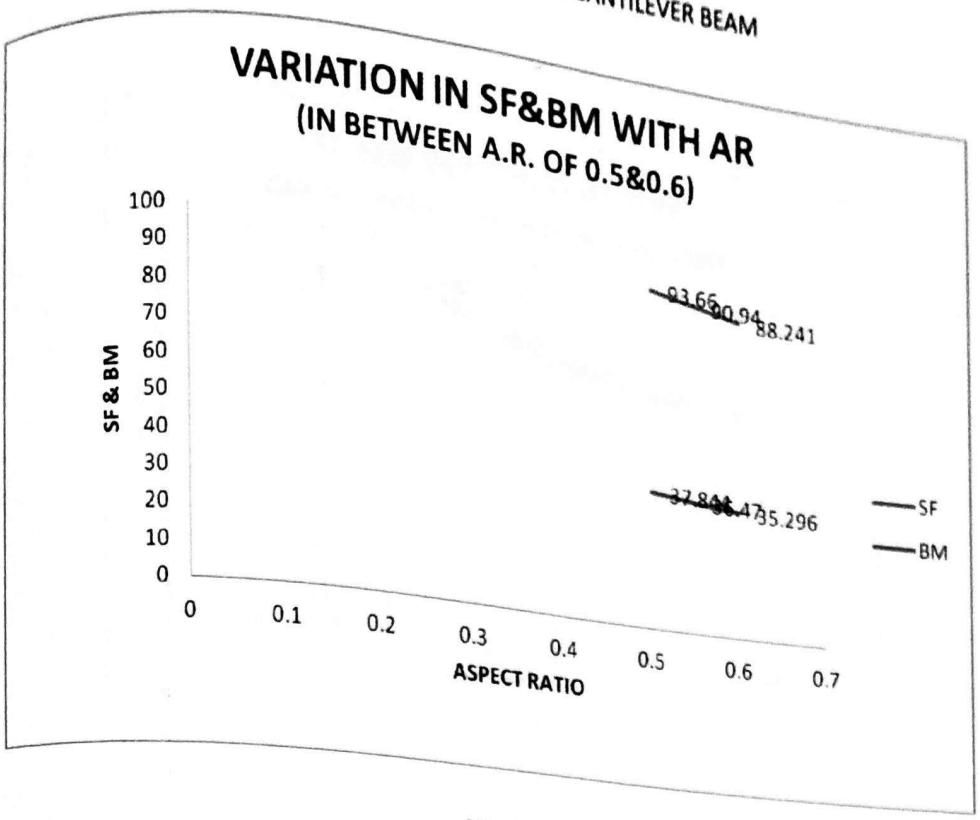


Fig.1.1

Observation

- In above graph , relation in between shear force and bending moment with aspect ratio In between 0.5&0.6 is observed.
- Optimum bending moment and maximum shear force is 36.47KN.m & 90.94 KN respectively.

Table 2

A.R.	SF	BM
0.3	18.369	18.396
0.4	16.178	16.178
0.5	14.986	14.986
0.6	14.119	14.119
0.7	13.577	13.577

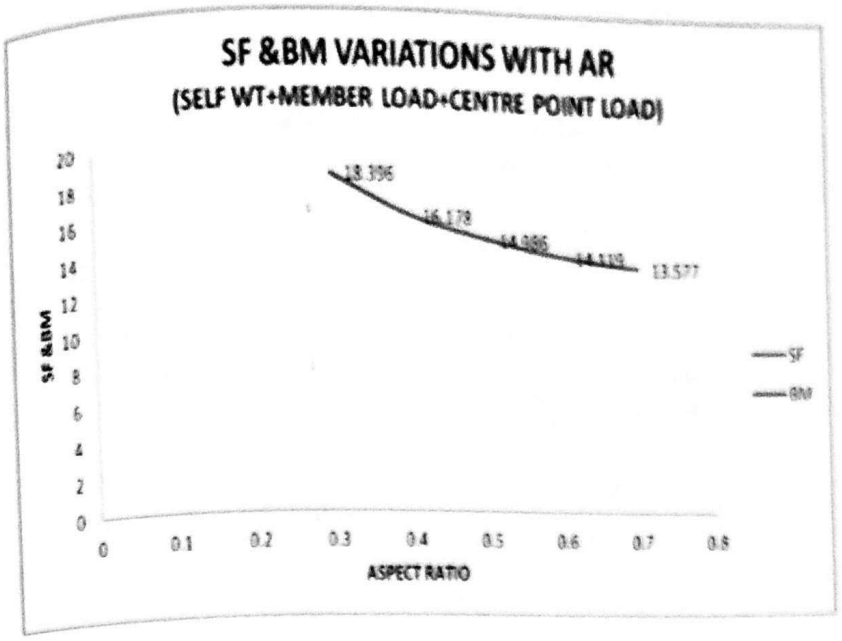


Fig.2

Observation

- In above graph , relation in between shear force and bending moment with aspect ratio is observed.
- Maximum bending moment and maximum shear force is 18.396KN.m & 18.396KN respectively.
- Relation in obtained in shear force and bending moment is ,Shear force =bending moment*1

To find out optimum shear force and bending moments , following Fig. 2.1 should be consider.

Table 2.1

AR	SF	BM
0.6	14.119	14.119
0.55	14.53	14.53

0.5	14.986	14.986

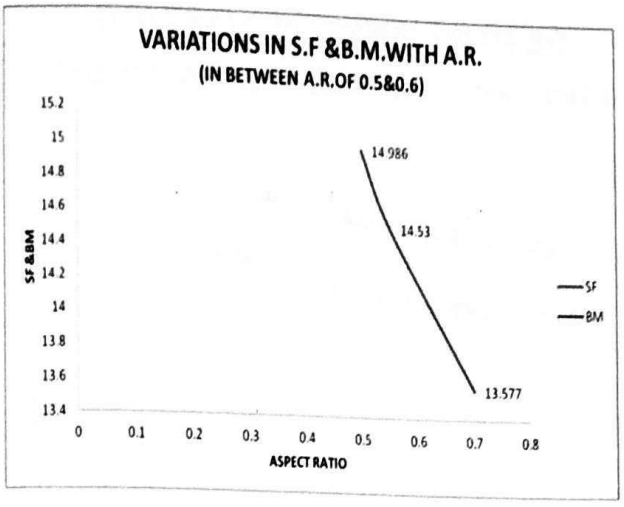


Fig.2.1

observation

- In above graph , relation in between shear force and bending moment with aspect ratio In between 0.5&0.6 is observed.
- Optimum bending moment and maximum shear force is14.53 KN.m & 14.53 KN respectively

Table 3

A.R.	SF	BM
0.3	24.557	30.121
0.4	22.178	28.178
0.5	20.986	26.98
0.6	20.119	26.119

0.7	19.577	25.517

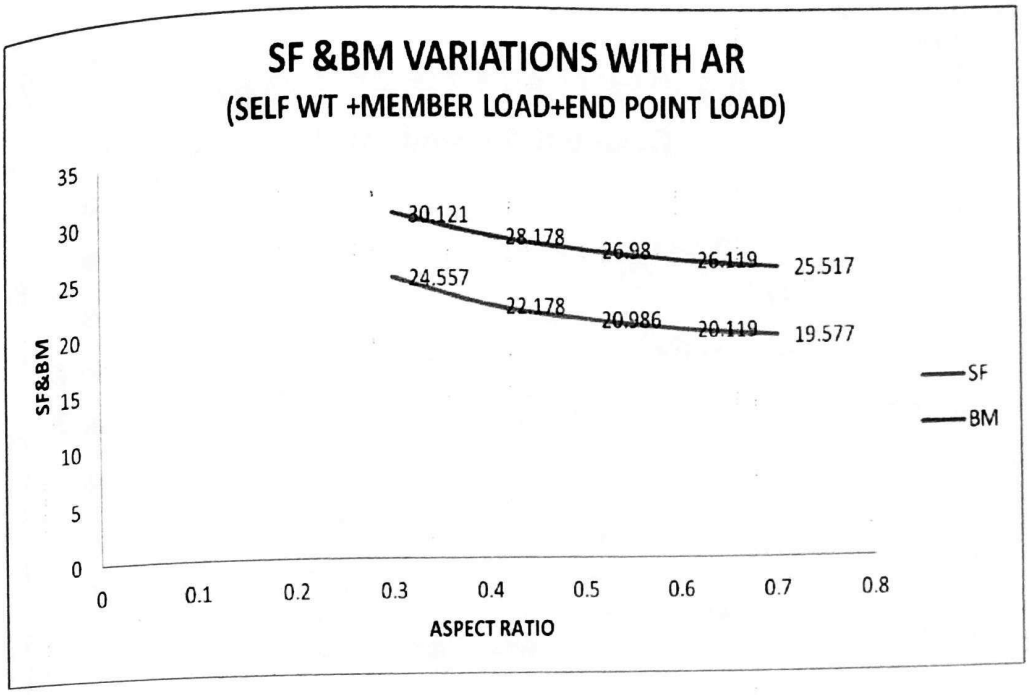


Fig.3

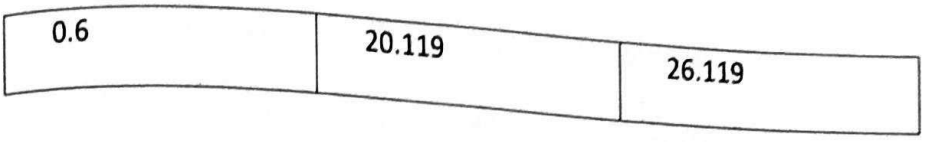
Observations

- In above graph , relation in between shear force and bending moment with aspect ratio is observed. Maximum bending moment and maximum shear force is 30.121 KN .m &24.577 KN respectively.
- Relation in obtained in shear force and bending moment is ,1.3*Shear force =bending moment

To find out optimum shear force and bending moments , following Fig.3.1 should be consider,

Table no 3.1

A.R.	S.F.	B.M.
0.5	20.986	26.98
0.55	20.55	30.424



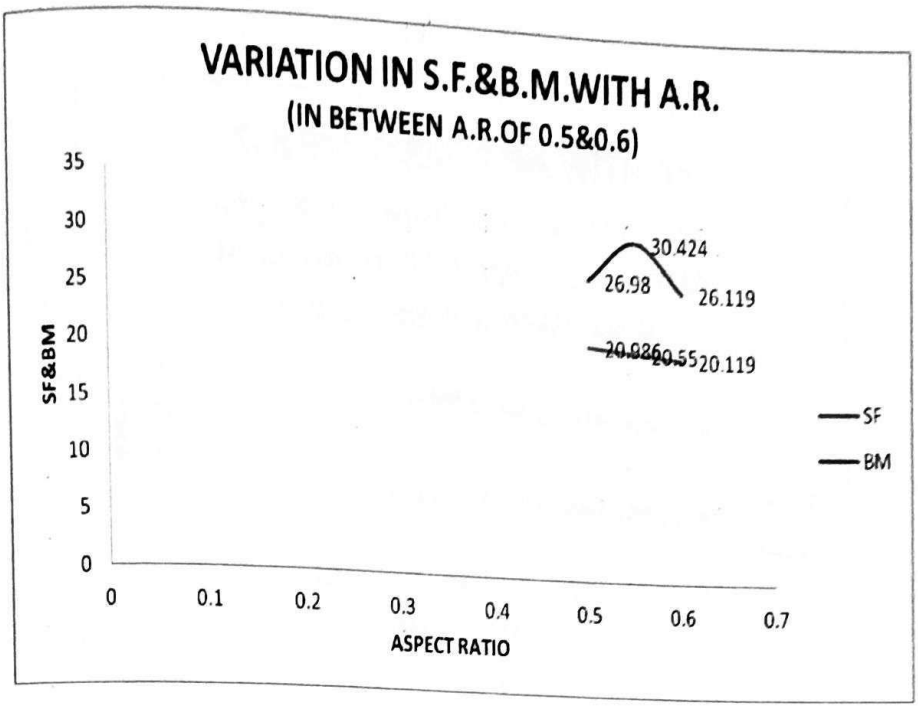


Fig.No 3.1

Observations

- In above graph , relation in between shear force and bending moment with aspect ratio In between 0.5&0.6 is observed.
- Optimum bending moment and maximum shear force is30.424 KN.m & 20.55KN respectively

Table no 4

A.R.	SF	BM
0.3	60.256	178.963
0.4	58.445	173.12
0.5	55.193	164.983

0.6	53.296	160.241
0.7	51.942	156.854

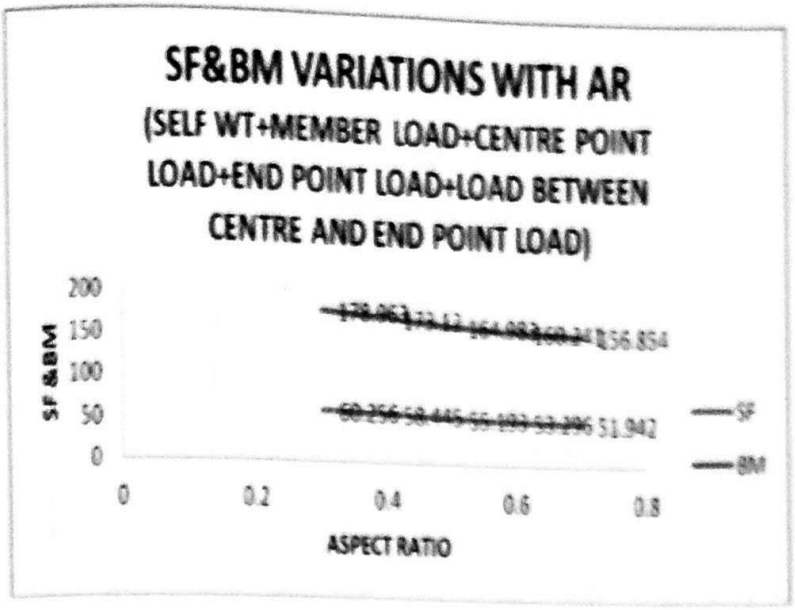


Fig.4

Observations

- In above graph , relation in between shear force and bending moment with aspect ratio is observed.
- Maximum bending moment and maximum shear force is 178.963 KN .m &60.256 KN respectively.
- Relation in obtained in shear force and bending moment is ,3*Shear force =bending moment

To find out optimum shear force and bending moments , following Fig.4.1 should be consider,

Table NO 4.1

A.R	S.F.	B.M

0.5	55.193	164.983
0.55	54.14	162.571
0.6	53.296	160.241

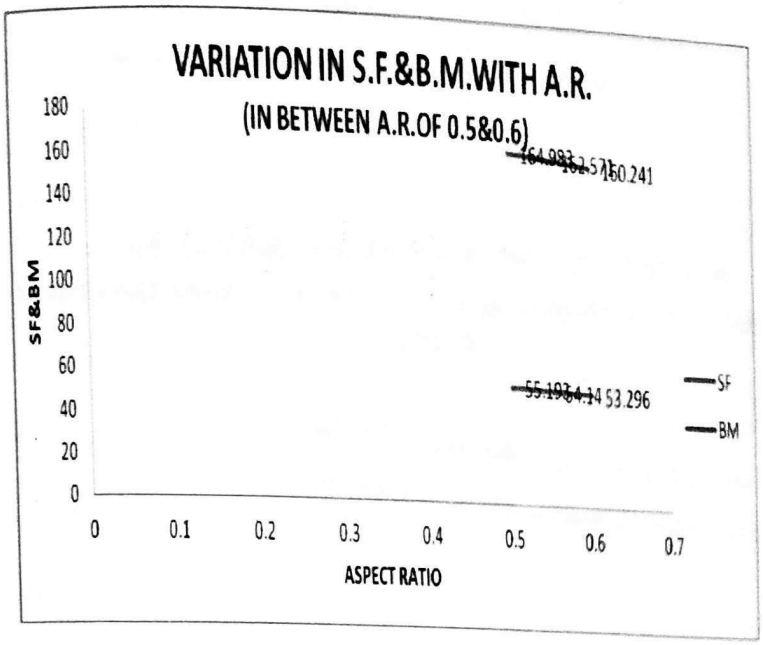


Fig. NO 4.1

Observations

- In above graph , relation in between shear force and bending moment with aspect ratio In between 0.5&0.6 is observed.
- Optimum bending moment and maximum shear force is162.571KN.m & 54.14KN respectively

Table NO. 5

A.R.	S.F	B.M.

0.3	24.236	30.196
0.4	22.178	28.178
0.5	20.986	26.986
0.6	20.119	26.119
0.7	19.577	25.577

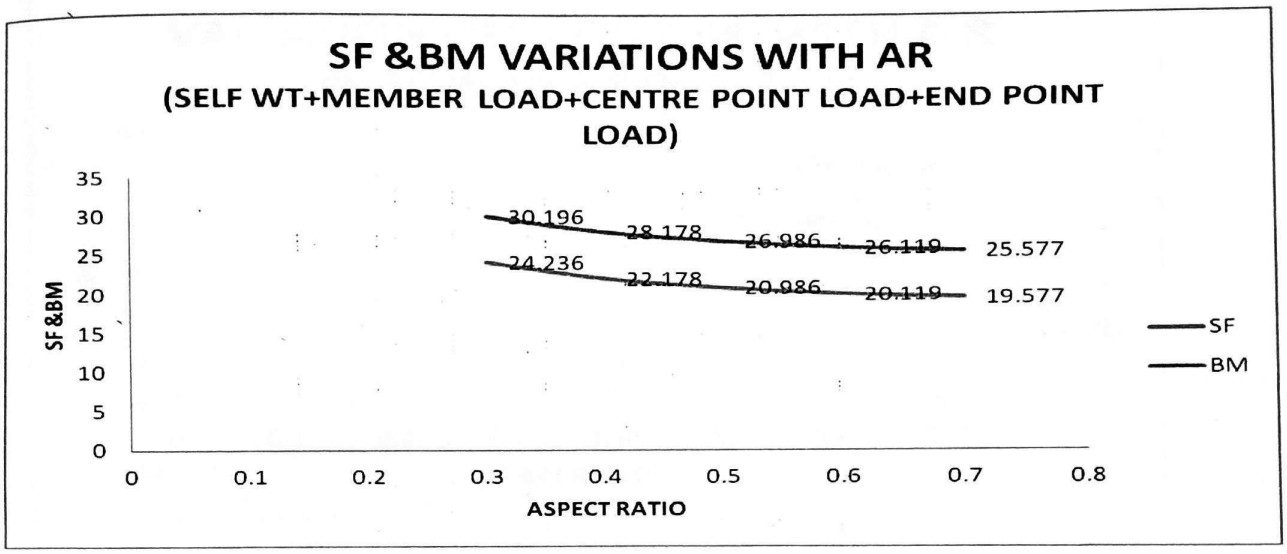


Fig.5

Observations

- In above graph , relation in between shear force and bending moment with aspect ratio is observed.
- Maximum bending moment and maximum shear force is 30.196 KN .m &24.236 KN respectively.
- Relation in obtained in shear force and bending moment is ,1.3*Shear force =bending moment

To find out optimum shear force and bending moments , following Fig.5.1 should be consider,

Table No 5.1

A.R.	S.F.	B.M.
0.5	20.986	26.986
0.55	20.55	26.55
0.6	20.119	26.119

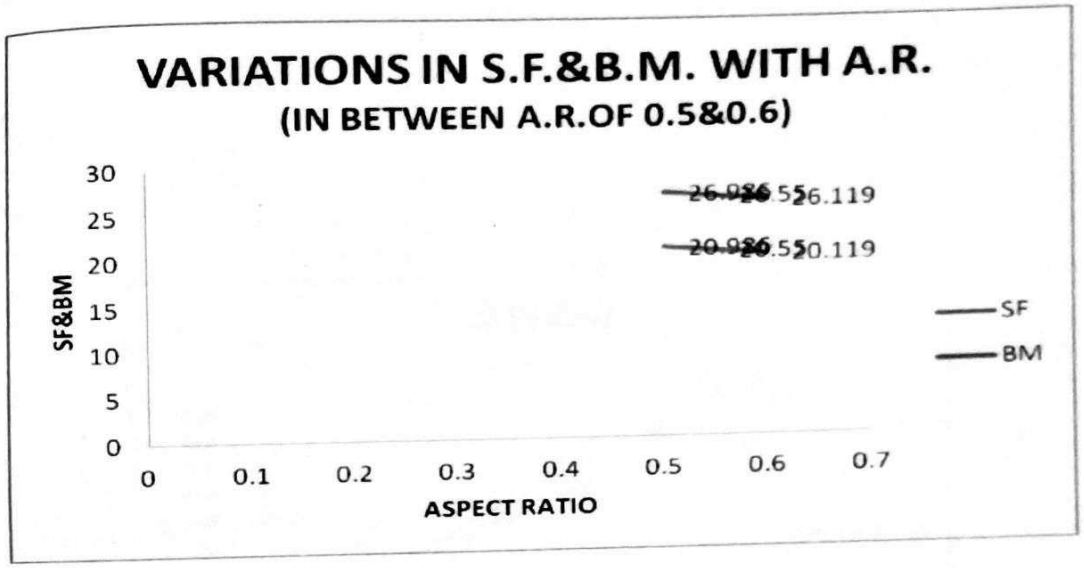


Table no 5.1

Observations

- In above graph , relation in between shear force and bending moment with aspect ratio In between 0.5&0.6 is observed.
- Optimum bending moment and maximum shear force is 26.55KN.m & 20.55KN respectively

Table.6

CU.M.	COST(Rs.)

0.83	3984
0.65	3120
0.52	2502
0.43	2064
0.37	1776

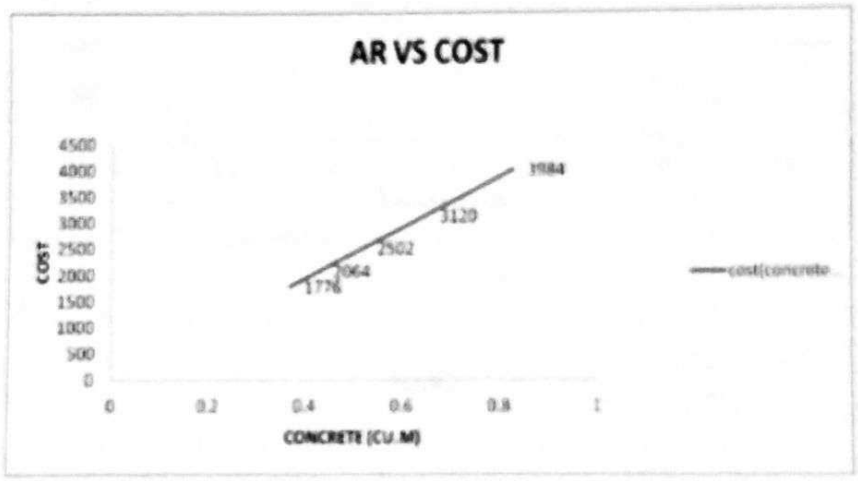


Fig.6

Observatios

- In above graph , relation in between concrete making in cu .m. and cost per cu.m.is defined.
- Maximum cost and minimum cost is as , 3984/-&1776/-respectively for 0.4 &0.83 cu. m .concrete.

To find out optimum cost of cantilever beam is shown in following Fig.6.1

Table No 6.1

Quantity(cu .m)	Cost(Rs)	A.R.
0.52	2502	0.5
0.46	2210	0.55
0.43	2064	0.6

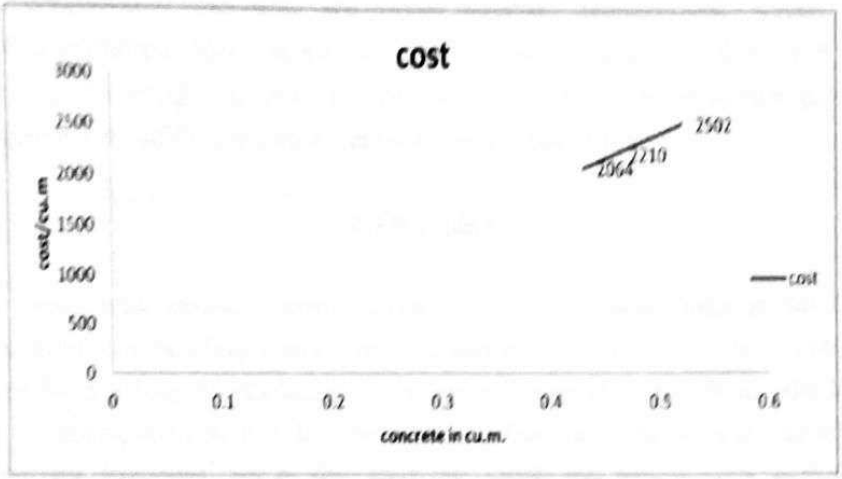


Fig.6.1

Observations

- In above graph , relation in between cu .m concrete and cost per cu. m of concrete.
- Optimum cost for our optimized beam is Rs.2210/-

4.2Beam laying system

Selection of a design space and an analysis method must be carefully determined since the analysis, both in terms of accuracy and efficiency, must be able to handle all possible designs in the chosen design space. That is, the larger the design space, the more sophisticated the analysis capability must be. For example, if larger shape design changes are expected during design optimization, mesh distortion in FEA could be a serious problem and a finite element model that can handle large shape design changes must be used.

A *performance measure* in a simulation-based design is the result of structural analysis. Based on the evaluation of analysis results, such engineering concerns as high stress, clearance, natural frequency, or mass can be identified as performance measures for design improvement. Typical examples of performance measures are mass, volume, displacement, stress, compliance, buckling, natural frequency, noise, fatigue life, and crashworthiness. A definition of performance measures permits the design engineer to specify the structural performance from which the sensitivity information can be computed.(Same as conventional beams.)

4.3Working

A cantilever beam with uniform cross section subjected to point load at the free end has maximum and minimum bending stresses at fixed and free respectively. The weight of the beam can be reduced by tailoring the thickness of the beam, where H, L and W are the height, length and width of the beam, respectively. It is necessary to find the cross-sectional dimensions of the state and objective variables. So in this analysis, width and height were defined as design variables which are independent variables and directly affect the solution of the problem. State variable is the first dependent variable, and so in this analysis maximum stress was defined as a state variable which acts as a constraint for the problem. Since the primary objective is to reduce volume without exceeding the allowable stress in the beam, volume was defined as an objective variable. This is the one variable in the optimization which needs to be minimized.

5.Merits and demerits

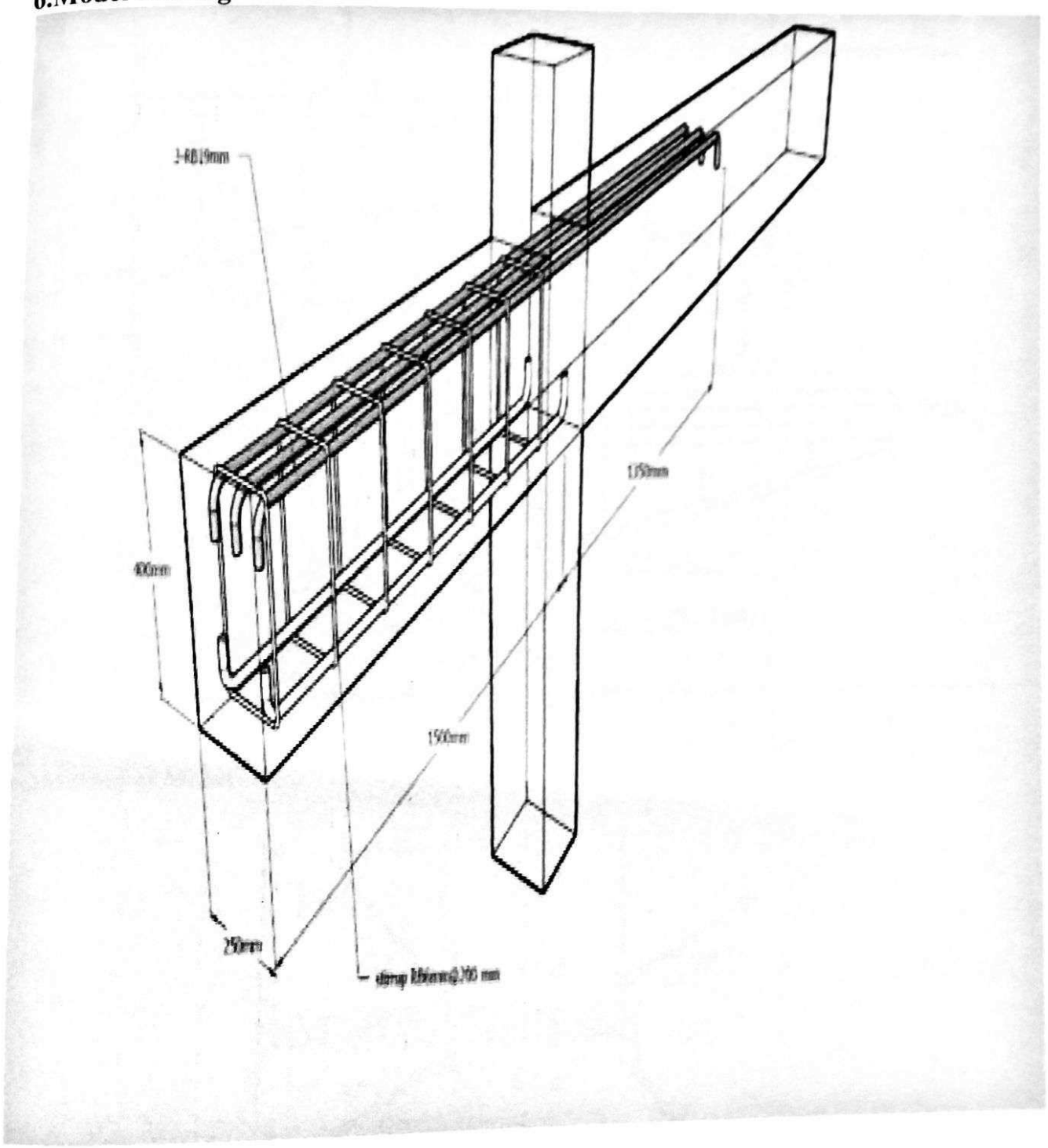
5.1.Merits

Best solution within domain of study.-
Here we design the optimum sized beam which differ from conventional beam but while design it is easy to understand because it link of method of construction similar to this beam.
To required less experiments to achieve optimum formulations.-
It is based on analytical method which based on STADD-Pro analysis method hence simple to understand.
Rectify problems remarkably easier manner-
It quite similar to conventional type beam ,hence problem obtained which easy to analysis.
Optimum safe design-
It carries maximum SF and BM under optimized size .hence it is very safe to design.

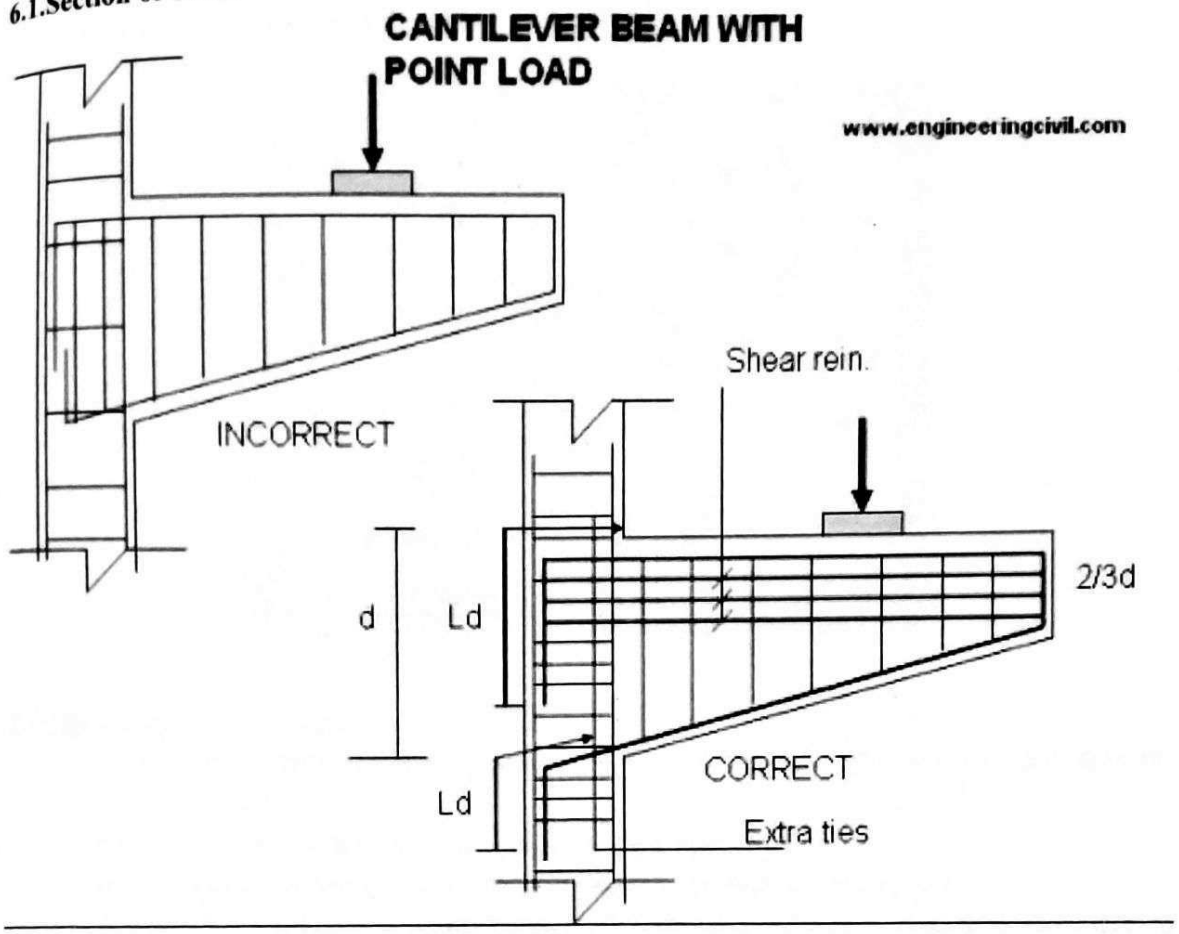
5.2.Demerits

More time consuming.-
It is analytical based hence it requires more time to understand the value of optimized size of beam.
More repetitions is required.-
To find out maximum SF &BM more calculation is carried out and hence ore no. of readings are required to decide.
Expensive to use.-
it is new techniques in India hence new to apply

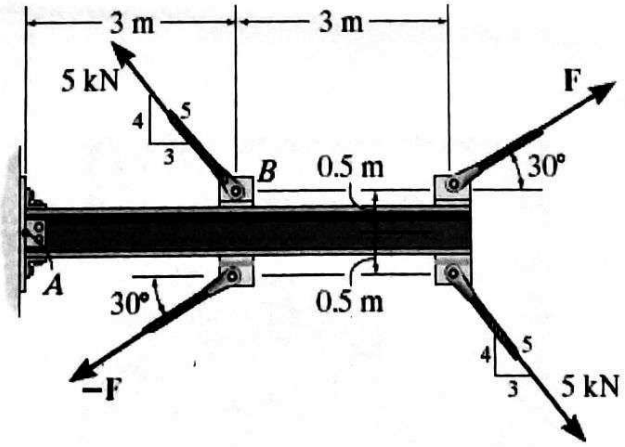
6.Model making



6.1.Section of beam



6.2Making of Model

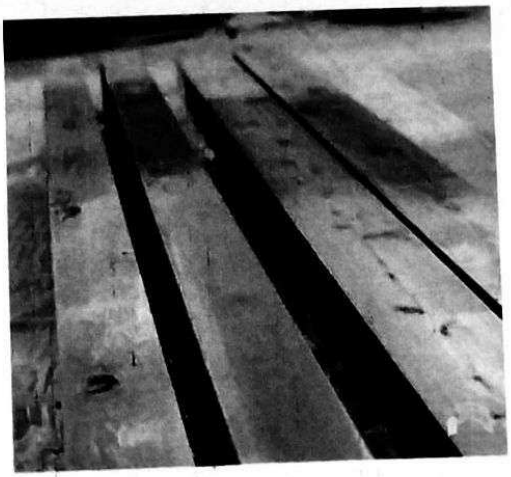


6.2.1Joining of plywood planks

6.2.2Installation of systems

1. Simply supported – a beam supported on the ends which are free to rotate and have no moment resistance.
2. Fixed – a beam supported on both ends and restrained from rotation.
3. Over hanging – a simple beam extending beyond its support on one end.
4. Double overhanging – a simple beam with both ends extending beyond its supports on both ends.
5. Continuous – a beam extending over more than two supports.
6. Cantilever – a projecting beam fixed only at one end.
7. Trussed – a beam strengthened by adding a cable or rod to form a truss.

6.3finishing



conclusion

These methods were applied to a general problem, pertinent to a cantilever beam of rectangular cross-section and the results were analyzed Following table consider ,as a conclusions.

Sr. No.	case	Load	Relation in SF & BM	M.F.for SF	M.F. for BM
1.	Self weight+ Member load	6	B.M.=2.5 *S.F	17.72	7.1
2.	Self weight+ Member load+ point load(mid)	6	B.M.=1.0*S.F.	2.79	2.59
3.	Self weight+ Member load+ point load(end)	6	B.M.=1.3 *S.F.	3.8	4.83
4.	Self weight+ Member load+ point load(mid)+point load(end)	18	B.M.=1.3 *S.F	1.25	1.59
5.	Self weight+ Member load+ pointload(mid)+ point load(end)+point load(between mid&end load)	24	B.M.=3.0*S.F.	2.45	7.25

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Appendices

SVERI's
College of Engineering, Pandharpur

Department of Civil Engineering

Industrial Visit Record

A.Y.: 2018-19

SVERI's College of Engineering, Pandharpur

Civil Engineering Department

Industrial Visit

Class: SE-(Civil) A.Y.: 2018-2019

Date- 24-08-2018

To,

The Principal/Dean Students,

COE, Pandharpur

Subject : Permission for industrial visit of SE CIVIL

Respected Sir,

As per curriculum laid down by Solapur University, Solapur for SE (CIVIl part.I) , the subject of **Building planning & costruction** , Geology , Structural mechanics , fluid mechanics & concrete Tech. includes industrial visits . In the Processing of same we have sent letter related to industrial spots. In view of this , we requested you to grant us the permission to arrange visit of SE CIVIL on 28/08/2018 To 30/08/2018.

Thanking you .

Yours sincerely,

(Prof. M.S.Survase)
CC –SE civil

(Prof. R.D.Kapse)
Subject Teacher

(Dr. P.M. Pawar)
H.O.D(civil Dept.)

To,
HoD(Civil)
Permitted on following condition.
1) No other site seen are allowed.
2) Discipline & decorum be maintained.
3) Schedule of industrial visit be strictly followed.
4) Subject teacher shoud give presentation about the outcomes of visits.

24/08/18

DATE	DETAILS OF JOURNEY					SPOT OF VISIT	OBJECTIVE
	FROM	TIME	TO	TIME	Dist.		
28/08/ 2018	PANDHARPUR	12.00am	Aihole	6.00am	241 km	Ancient architectrual school	Architectural concept in building planning and construction.
	Aihole	1.00pm	Hosapete	4.00pm	126km	Tungabhadra dam & ~~Halt~~ Hault	Concept of structural mechanics & fluid mechanics. (Strength of material & Fluid mechanics)
29/08/ 2018	Hosapete	7.00am	Hampi	7.30am	13km	Hampi ancient village	Architectural concept in building planning and construction , Engineering geology & town planning.
	Hampi	6.00pm	Badami	9.00pm	140km	Kudalsangam & Halt	Architectural concept in building planning & design (Building conscruction & Drawing)
08/ 2018	Badami	12.00p m	Pattakadal	12.30p m	22km	UNESCO'S World Heritage site. 10 major temples	Harmonius blend of architectural forms from northern & southern India. Culturl of 7th century. (Building conscruction & Drawing)
	Pattakadal	4.00pm	Pandharpur (vijapur)	10.00p m	250km		

SHRI VITHAL EDUCATION & RESEARCH INSTITUTE'S

COLLEGE OF ENGINEERING, PANDHARPUR.

Department of Civil Engineering

Academic Year 2018-19 SE- I

Roll No.	Full Name	Mobile No	HOSTEL / LOCAL	SIGN	Roll No.	Full Name	Mobile No	HOSTEL/ LOCAL	SIGN
1	/BENARE SHIVANI VIVEK	9270053406	LOCAL		36	JADHAV AJIT ANNA	9921852536	HOSTEL	
2	/BHOSALE KAJAL SANJAY	7350607438	HOSTEL		37	JAYKAR SAJAN ANIL	9921409306	LOCAL	
3	/BODAKE SANJIVANI SAMBHAJI	9921422700	HOSTEL		38	KALE PRAMOD BIRUDEV	9503116388	HOSTEL	
4	/CHAVAN ROHINI RAMCHANDRA	9763459650	LOCAL		39	KAMBLE MANTHAN LAXMAN	9860834301	LOCAL	
5	/DESHMUKH PRANJALI SATISH	9561240850	HOSTEL		40	MORE SATYAWAN TUKARAM	9767292441	LOCAL	
6	/Gadade Amruta Audumbar	8975578905	LOCAL		41	MULLA SAQIB SAJID	7350308783	HOSTEL	
7	/GAIKWAD MAYURI PRATAP	9921253826	HOSTEL		42	NAGANE RANJEET RAOSAHEB	9822967473	HOSTEL	
8	/GAIKWAD SRUSHTI JALINDAR	9922188262	LOCAL		43	PADOLE DIGAMBAR CHANDRAHARSHA	9552313599	HOSTEL	
9	/JADHAV ASMITA SANJAY	9822114010	HOSTEL		44	PAWAR PRAVIN RAGHUNATHRAO	9921910210	HOSTEL	
10	/JADHAVAR AISHWARYA DINKAR	9421353638	HOSTEL		45	PUJARI PRAFULL PRASHANT	9403729992	LOCAL	
11	/KAMBLE DNYANESHWARI KRUSHNA	7798247595	HOSTEL		46	RAUT HARSHAD DATTATRAY	9850385982	HOSTEL	
12	/KECHE ANJALI DATTATRAY	9763892323	HOSTEL		47	RONGE KAPIL BHIMRAO	9890731732	LOCAL	
13	/KEMKAR SAYALI VISHWANATH	8412813120	HOSTEL		48	SHAIKH AMIR SHILAVAR	9306571211	HOSTEL	
14	/KEVALE ANKITA NAMDEV	8806691245	HOSTEL		49	SHINDE SHUBHAM HARI	7028822703	LOCAL	
15	/KHUNE POOJA BALASAHEB	7588163550	HOSTEL		50	SHIVPUJE SURAJ SUNIL	9922340490	HOSTEL	
16	/LANGOTE SHWETA ASHOK	9404650591	LOCAL		51	SURVASE AJINKYA ANAND	7757925521	LOCAL	
17	/MADANE GEETANJALI DATTA	9922118853	HOSTEL		52	TARANGE VIJAYKUMAR SHAM	9011415949	HOSTEL	
18	/NAGTILAK PRANALI KAMLAKAR	9155836815	LOCAL		53	TARAPURKAR ANIKET VISHWAS	9763890171	LOCAL	
19	/PARSE KAVITA BHIMA	9112779945	HOSTEL		54	GHODAKE SACHIN SHIVAJI	9158062858	HOSTEL	
20	/PAWAR RUTUJA BHASKAR	9850626529	LOCAL		55	VITEKARI SHUBHAM RAVINDRA	9423334978	HOSTEL	
21	/VAYADANDE MANISHA BHAUSAHEB	9975761101	LOCAL		56	URADE VIJAY JAMBUWANT	7709118673, 8668503668	HOSTEL	
22	AAFAQ AHMED	7298637163	HOSTEL		57	BHOSALE ABHAYRAJE RAMESH	9623492216		
23	ATKALE PRAMOD PRADHAN	9890989776	LOCAL		58	BORAMANIKAR AKASH MADHUKAR	7410101002		
24	BABAR SWAPNIL BALASAHEB	9420674317	HOSTEL		59	CHAVAN MALHARI BHAGWAN			
25	BADGUDE ROHIT RAMESH	9503238050	HOSTEL		60	KALBHOR JAGDISH PANDURANG	8600176236		
26	BANSODE LAXMAN PANDURANG	9767562781	LOCAL		61	LAKHOLE SAURABH DINKAR			
27	BHARATI MAHESH PANDURANG	9766857414	HOSTEL		62	PAWAR AVINASH VISHNU	7028339510		
28	BHOSALE PRAVIN BHARAT	7588609299	HOSTEL		63	SADDALGI SAMARTH SHIVKUMAR			
29	BURADE ASHISH PRAMOD	9763447457, 9156491817	HOSTEL		64	SAVANT PRATIK ANILKUMAR	8329493584		
30	CHATE DNYANESHWAR DINKAR	9970302022	HOSTEL		65	WAGHMARE VIKRAMSHEEL SUNIL	7028547054		
31	DOLLE SANTOSH ISHWAR	8007400792	HOSTEL		66	/LAWATE AHILYABAI MOHAN	8291083043		
32	GANGA SHIVANAND BASAVRAJ	9527046057	HOSTEL		67	/MALAVE AMRUTA NAGESH	8860522605		
33	GAVALI SAURABH ASHOK	8605029824	HOSTEL		68	/SARODE PRAJAKTA BABASAHEB			
34	GORE AMIT SAJJAN	9890170645	HOSTEL		69	/WAGHMARE ROHINI HANUMANT	8007958603		
35	GURAV SATYAJEET BHARATRAO	7719020143	HOSTEL						

(Prof. M. S. Survase)
Class Coordinator

(Dr. P. M. Pawar)
HOD Civil Engg

SHRI VITHAL EDUCATION & RESEARCH INSTITUTE'S

COLLEGE OF ENGINEERING, PANDHARPUR.

ISO 9001-2000 Certified Institute & Accredited by Institutes of Engineers, India,
Gopalpur -Ranjani Road, Gopalpur, P.B. No. 54, Tal - Pandharpur- 413 304,
Dist. Solapur (Maharashtra) Ph.: (02186) 225083, Fax: (02186) 225082.
(NBA Accredited and NACC Accredited)
Approved by AICTE, New Delhi and affiliated to Solapur University, Solapur)
E-mail : coe@sveri.ac.in Website: www.sveri.ac.in

Date: 17/09/2018

To,
The Head Civil Engg.Dept
SVERI's COE Pandharpur.

Subject: S.E. Civil Industrial visit report of academic year 2018-19 SEM-I.

Respected sir,

We have organized an industrial visit for the class S.E.Class From date. 28/8/2017 to 30/8/2017. Under this industrial visit we have made arrangement to give the practical expose to the students for the following points and ANNEXURE-I is attached with important photographs during visit,

1) Humpy : We have visited old buildings and Temples constructed in stone masonry at Humpy in 15th century..

2) Tungabhadra Dam: We have visited Tungabhadra dam and students got practical approach of components of dam and Hydropower generation.

3) Aihole: We have Aihole village where architecture school was there in 15th century and many temples and buildings were constructed in stone masonry.

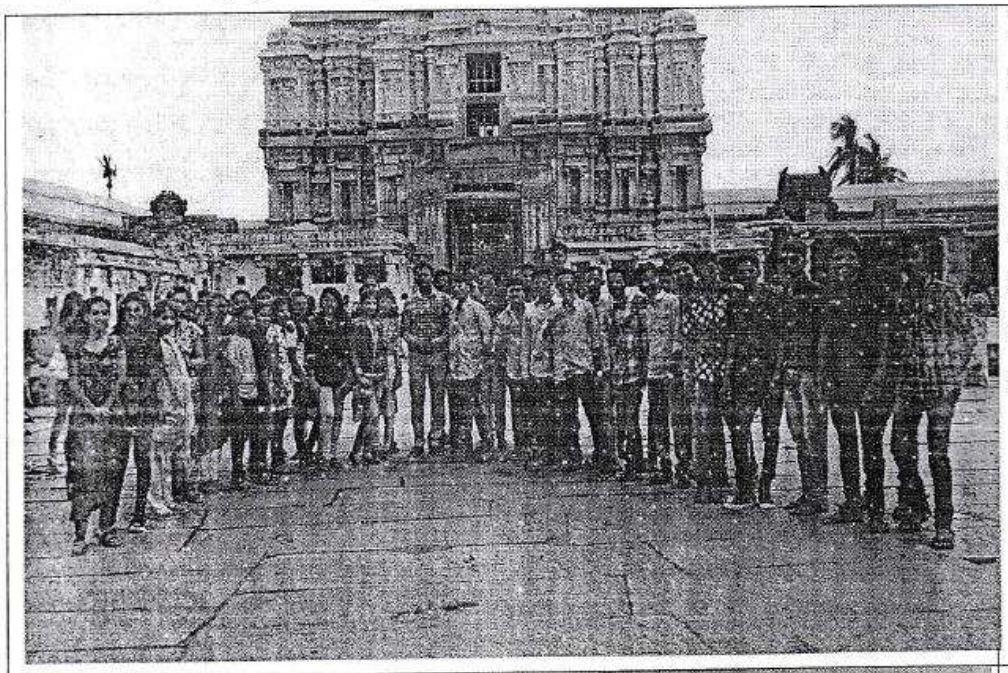
Yours Sincerely

Mr. M. S. Survase
Class Coordinator

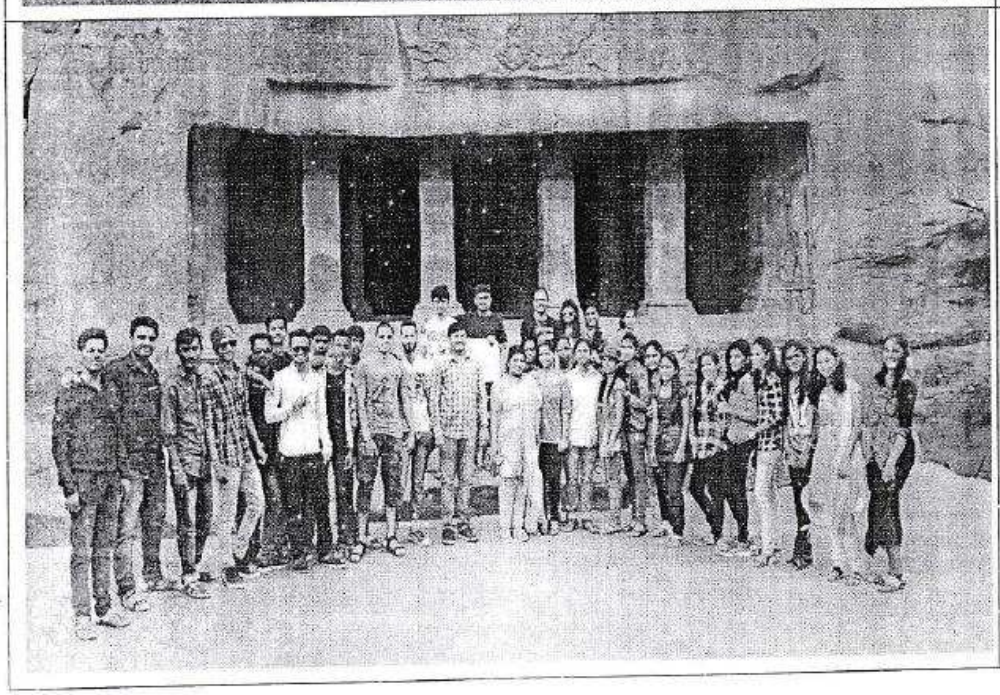
HoD Civil

ANNEXURE-I

Important photographs during industrial visit and description.



The photograph shows old buildings and Temples constructed in stone masonry at Humpy.



The photograph shows Badami caves constructed in big rock.

SVERI's College of Engineering, Pandharpur

Civil Engineering Department

Industrial Visit

Class: TE-(Civil) A.Y.: 2018-2019

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** Accreditated Institute, ISO 9001:2015 Certified Institute.
Accredited by The Institution of Engineers (India), Kolkata and TCS, Pune.

Ref.:- COEPR/(CIVIL)2018-19/1804 Date:- 02/03/2019

To,

Executive Engineer,

Bhatghar Hydro Power Station,

A/P Nare Colony, Tal:-Bhor

Dist:-Pune, 412206

Subject:-Permission to Visit Bhatghar Hydro Power Station.

Respected Sir,

As per curriculum of Solapur University, students of SE and TE civil class are interested to visit Bhatghar Hydro Power Station to study working system of Hydro Power Station.

So I kindly request you to permit us for this technical visit and spare one technical person to give information. List of students is attached herewith.

Your help in this regard is highly appreciated.

Thanking you in anticipation.

Date of visit:-14/03/2019

SE student:-69 TE student:-71

Total students:-140

No of faculty members:-08

Visited to Bhatghar HPS on dated 14.03.2019

Acquainted 14/3/19

(Dr. P M. Pawar)

HOD-Civil Engg.

MAHAGENCO

MAHARASHTRA STATE POWER GENERATION CO. LTD.

Tele. no.: 020 - 25637610
020-25632717
Fax no.: 020 - 25630359
Email: segenpune@mahagenco.in

Office of the Supdtg. Engineer
Renewable Energy Circle, "Prakash Bhavan"
Plot No.106, 5th floor , Senapati Bapat Road,
Pune - 411 016.

Ref No.: SE / REC / MON/Pune/ 00353 Date: 11 MAR 2019

To,
The Head of the Department,
Shri Vithal Education & Research Institute's,
College of Engineering,
Pandharpur - 413304

E-mail : crhimbkar@coe.sveri.ac.in

Sub: Grant of permission for industrial visit at Bhatghar Hydro Power Station.

Ref: Your office letter no.COEPR/Civil/2018-19/1804 dtd 02/03/2019.

Dear Sir/Madam,

With reference to above, this is to inform that the permission is here by granted for Industrial visit of Mechanical Engineering students of your college on 14th Mar 2019.

Sr. No	No. of students + Staff members	Name of HPS	Date	Time
1	50 Students + 4 Staff	Bhatghar	14th Mar 2019	10:00 hrs to 12:00 hrs
2	50 Students + 4 Staff	Bhatghar	14th Mar 2019	14:00 hrs to 16:00 hrs

Terms & conditions:

1. You can report to Shri.S.P.Inamdar. Additional Executive Engineer, contact no. 9420692015 during the period of visit.
2. Students shall abide by the rules & regulations of the company & observe discipline during visit.
3. They shall make their own arrangement for residential accommodation, transportation, lodging, boarding etc.
4. They should contact our Security Officer prior to commencement of visit and obtain suitable gate pass for entry at 10:00 am.
5. At least one staff member must be present along with the students to take care of their safety & security within & outside the premises during visit.
6. The visit is allowed as per your request only & it will not create any right or obligation on the company.
7. Students should possess Identity Card during the visit. No loose clothes allowed.
8. They shall follow all safety rules and use own protective equipments like apron and safety shoes as per factory rules. (Shoes are compulsory).
9. The visit should be in two groups, precaution shall be taken so that normal working in the plant is not hampered.
10. Mobile will not be allowed strictly. (To be kept on silent mode)

11. One day industrial visit fee is ₹ 100/- per student and shall be payable in the form of Demand Draft in favor of "Maharashtra State Power Generation Company Ltd., Payable at Pune", (18% GST extra) or through RTGS. The DD/ RTGS payment shall be remitted to this office before visit; otherwise said permission stands cancelled.

Following are the Company's bank details for RTGS payment mode.

1. Account Name: - MSPGCL, PUNE
2. Account No.:- 04510200000320
3. IFSC code:-BARB0POOSEN
4. Account type:-Current account
5. Branch Name: - Bank of Baroda, SB Road Pune-411016

RTGS payment screenshot invariably mailed on mail id :

"segenpune@mahagenco.in" and "ee_monitoringpune@mahagenco.in"

Thanking you,

Yours faithfully,

Superintending Engineer,
REC, Pune

Copy to:
1.Executive Engineer Bhatghar HPS, Dn. Mob. No. 8411968687 – For information.
2.The Addl. Executive Engineer, Bhatghar H.P.S. (Mob 9420773093):- **Please confirm the payment is received or not, if not received visit should be cancelled.**
3. F&A,REC,Pune

SVERI

Chetan Limkar <crlimkar@coe.sveri.ac.in>

RE: Subject:-Permission to Visit Construction site at (Rohiniyard) Dive agar.

1 message

Nishant Khade <nishant.khade@dasoffshore.com> Thu, Mar 7, 2019 at 4:39 PM
To: crlimkar@coe.sveri.ac.in
Cc: Datta Khade <dattakhade81@gmail.com>, "rajkumar.jagtap" <rajkumar.jagtap@dasoffshore.com>, Rohini DAS <rohiniyard.das@gmail.com>

Dear Mr. Limkar,

We appreciate your interest in visiting our Rohini yard.

We will be happy to have you at our yard on said dates.

As Rohini yard is in development stage, we won't be able to host you for any kind of refreshments.

Regards,

Nishant Khade

Director

das group

DAS OFFSHORE ENGG. PVT. LTD.

ISO 9001:2015,BS-OHSAS-18001:2007, EMS 14001:2015,U&R Stamp Certified Company

'Sagar Uday 'Plot No F-3, Agroli Village

CBD Belapur, Navi Mumbai-400614

Tel: - 91-22-67606760

Fax:- 91-22-27570795

Email: info@dasoffshore.com

www.dasoffshore.com

Date: 06/03/2019

To,

The Principal/Dean Students,

SVERI's COE Pandharpur.

Subject: Permission for industrial visit of TE Civil.

Respected Sir,

As per curriculum laid down by Solapur university, solapur for TE Civil (Part II), the subject of Geotechnical Engg II, Advanced Concrete Technology, Structural Steel Design and Drawing includes visits. In the Processing of same we have sent letter related to Industrial spot. In view of this, We requested you to grant us the permission to arrange visit of TE Civil on 12/03/2019 to 14/03/2019.

Thanking You,

Yours Sincerely,

(Prof.C.R.Limkar)	(Prof. S.J.Mobite) (Prof.~~S.C.Bagal~~)	(Prof.M.G.Deshmukh)	(Dr. P. M .Pawar)
Class Cordinator	Subject Teacher	Subject Teacher	HOD Civil Engg.

(Prof. A.A.Sangave)

permitted as per schedule

SHRI VITHAL EDUCATION & RESEARCH INSTITUTE'S

COLLEGE OF ENGINEERING, PANDHARPUR.

Department of Civil Engineering

Payment Towards Industrial Visit of T E-II (CIVIL) Students For The Academic Year 2018-2019. Visit date from 12-03-2019 to 14-03-2019. **Students 55 X 566 = 31130.**

Roll No.	NAME OF STUDENT	Amount	Sign.
1	/BHISE KIRAN KISAN	566	K.K.Bhise
2	/BHOSALE KAJAL BHARAT	566	Bhosale.
3	/CHIKMANE ANKITA ANIL	566	
4	/DAHIHANDE JYOTI GAURISHANKAR	566	Jyoti
5	/DESHMUKH SNEHA SHIVAJIRAO	566	
6	/DESHMUKH SUSHAMA MAHADEV	566	
7	/DHUMAL HARSHADA PANDURANG	566	H.P.Dhumal
8	/KAMBLE ASHWINI ARVIND	566	
9	/KATE PRANITA ANAND	566	Pakate.
10	/KUMBHAR ANJALI GANPAT	566	A.G.kumbhar.
11	/MASAL AISHWARYA NILKHANT	566	Aishwary.
12	/PAREKAR MRUNALI BIRUDEV	566	MParekar.
13	/PATIL RUTUJA NAGESH	566	Rpatil.
14	/PAWALE SHRADDHA RAJENDRA	566	Shraddha
15	/PAWAR MRUNAL MADHUKAR	566	Mrunal.
16	/POLAS POOJA PRUSHOTTAM	566	Polaspf
17	/PUJARI PRIYANKA TUKARAM	566	Priyanka P.
18	/RONGE POOJA BABRUVAHAN	566	
19	/SHIKHARE SADHANA NAGNATH	566	
20	/WAGHMODE PRAJAKTA SOPAN	566	
21	/ZENDE PRIYA BRAMHADEO	566	Zende P.B.
22	/JAGTAP PRAGATI MITU	566	Pragati
23	/DONGARE SHUBHANGI KANHOBARAO	566	SKD
24	/ THORAT AISHWARYA A.	566	
25	/SARTAPE PRANALI RAJENDRA	566	Pranali
26	ATKALE AKASH SHASHIKANT	566	Atkale
27	BABAR GANESH SHANKAR	566	Ganesh
28	BANDGAR SHUBHAM SHIVAJI	566	SSB.
29	BHARTI SHRINIVAS VISHNU	566	Bharti
30	Gadase Akash Sureshrao	566	Akash
	Balance c/d	**16980**	

	Balance b/d	16980	
31	GAIKWAD KAPIL VIJAY	566	
32	GAWADE AJAY SANTOSH	566	
33	Gore Krishna Devidas	566	
34	GURAV SANKET SHRIRANG	566	
35	HONMANE SAGAR SIDDHESHWAR	566	
36	JADHAV VAIBHAV DEVIDAS	566	
37	KADAM SHUBHAM SUNIL	566	
38	KADAM VIRAJ MARUTI	566	
39	KANGUDE YOGESH BALKRISHNA	566	
40	LONDHE AVINASH RAJENDRA	566	
41	MALI PRATHAMESH KRISHANA	566	
42	MULANI MOIN LATIF	566	
43	NARSALE SUHAS JAYHIND	566	
44	PAWAR SAURABH BABAN	566	
45	PUJARI HANAMANT SHRISHAIL	566	
46	SAWANT GAURAV VITTHAL	566	
47	SAWANT SHAILESH SHASHIKANT	566	
48	SHAIKH SHOAIB SALIM	566	
49	SHINDE GANESH MADAN	566	
50	SOUDAGAR PRASAD SHIVAJI	566	
51	THENGAL ABHIJIT DATTATRAYA	566	
52	PUJARI PRAKASH RAJKUMAR	566	
53	GADADE ABASAHEB DADASO	566	
54	PATIL PRASAD MANIKRAO	566	
55	KADAM SAGAR	566	
	Total:-	31130	

(Rs. Thirty One Thousand One Hundred Thirty Only.)

Prof. C. R. Limkar
Class Coordinator

Dr. P.M.Pawar
HOD Civil Dept.

Mr.R.G.Zarkar
REGISTRAR

Dr.B.P.Ronge
PRINCIPAL

VISIT REPORT-TE Class

Place of visit- Jawaharlal Nehru Port Trust, Tal-Sheva, uran Dist- Thane.

Date of visit- 12th March, 2019

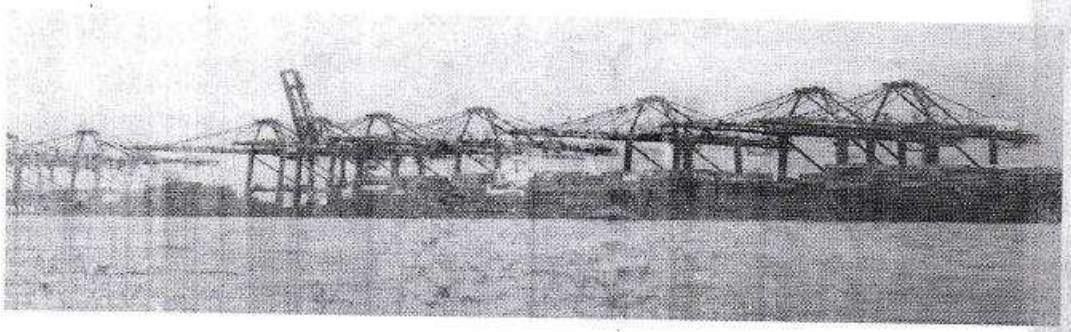
Visit In charge- Prof. Limkar C.R

Staff member: - Prof. A.B.Kokare, Prof./S.J.Mohite, Prof.S.M.Patil, Prof.Saddam Pathan, Prof. A A Sangave

Aim of visit- To understand working of port.

Salient feature of Jawaharlal Nehru Port Trust-

1. Commisoned on 26 may 1989.
2. Total land area acquire is 2584 hectares.
3. Here, It handles container, liquid bulk & cement ships.
4. It has three dedicated container terminal namely JNPCT, NSICT& GTIPL.
5. It has got four ISO certification as ISO 9001:2008, ISO 2700:2005, ISO 1400:2004,& OHSAS 18001:2007 CERTIFIED PORT.
6. Ranked 24 among top 100 container ports in the world.
7. Handles about 60% of total container handled by all major ports in India.
8. Handled 64.30 million tones of cargo including year 2010-11 & larger of handling 10 million tonnes container.



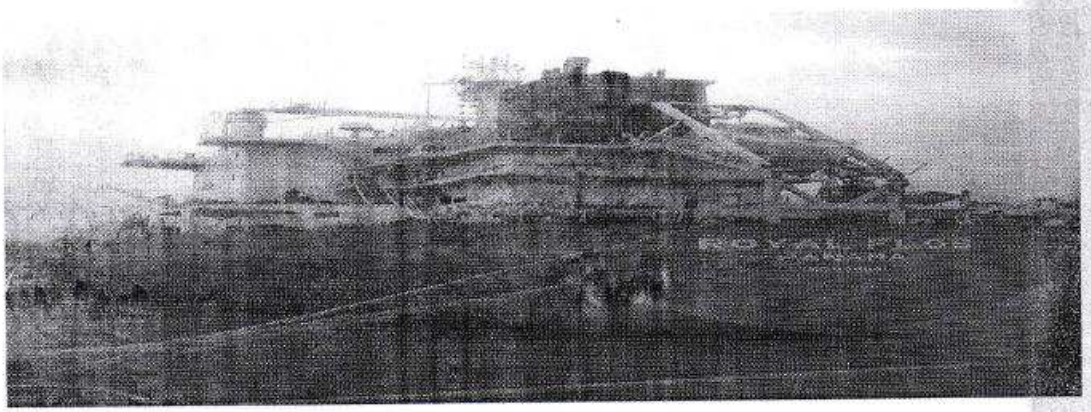
JNPT has three container terminals-

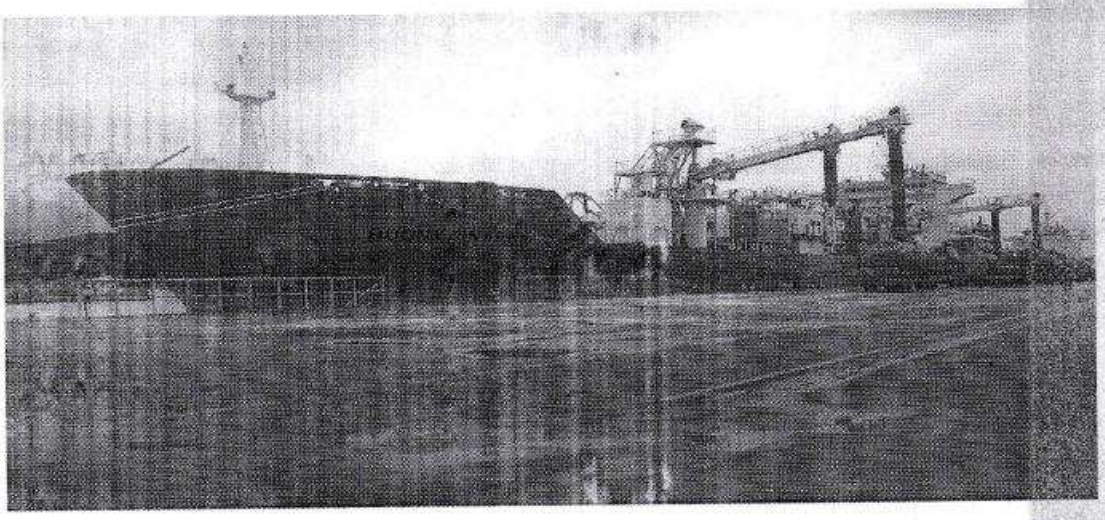
1. Jawaharlal Nehru port container terminal.
2. Nhava Sheva International container terminal.

3. Gateway Terminal India Pvt. Ltd.

JNPT announced of port handled 65-75 million tonnes of Total Cargo during financial year 2011-12 which is all time record.

Out of this, container cargo was 58.25 million tones liquid cargo is of 6.66 million tonnes with remaining 0.84 million tonnes made up of dry bulk and wet bulk JNPT is operating of more than 100% capacity and it remains largest among the major ports in INDIA in container handling with a market share of 55.63%.





Nhava –sheva port:

A brand new port has been established opposite the Elephanta Islands , Mumbai Maharashtra. It has risen from the sea by reclaiming about 132 hectares of land and it is supposed to relieve pressure on the old Bombay port and also to decongest the metropolis of heavy vechicular traffic.

JN PORT : Existing Facilities				
CONTAINER TERMINAL	JNPCT	NSICT	APMT	TOTAL
QUAY LENGTH(Mtrs.)	680	600	712	1,992
DRAUGHT (Mtrs.)	12.5	12.5	12.5	---------
DESIGN CAPACITY IN MIL. TEUs (In Million Tonnes/Year)	1.1	1.2	1.8	4.1 (51.25)
REEFER POINTS (Nos.)	390	772	880	1,972
RMQCs (Nos.)	9	8	10	27
RTGCs (Nos.)	18	29	40	87
RMGCs (Nos)	5	3	3	11
Yard Area(Nos.)	71.4	25.84	54.57	151.81
JNP CFS & BUFFER YARD (in hectares)	25.42	-------	----------	25.42
LIQUID CARGO BERTH (BPCL)				
QUAY LENGTH	300 Mtrs . (Sea) /280 Mtrs. (Shore)			
DESIGN CAPACITY	5.5 Million Tonnes / Year			
SHALLOW DRAUGHT BERTH				
QUAY LENGTH	445 Mtrs.			
DESIGN CAPACITY	1.2 MILLION TONNES / YEAR			

It sure is a grand vision which, if implemented as per the proposed schedule, would change the face of JN Port and make it the definitive first-choice facility for the trade.