



Bharatiya Vidya Bhavan's
Sardar Patel College of Engineering
(A Government Aided Autonomous Institute)
Munshi Nagar, Andheri (West), Mumbai – 400058



Date: 24-03-2017

CIVIL ENGINEERING DEPARTMENT

Year 2016-2017

Annual Report till March 2017

The Civil engineering department has been in existence since the establishment of this institute. The department has an excellent infrastructure and is AICTE approved. CED has faculty with specialization in environmental engineering, geotechnical engineering, structural engineering, transportation engineering, water resources engineering, materials engineering, Hydraulics and Fluid Mechanics, surveying, and construction engineering.

Apart from the undergraduate course, postgraduate courses offered in construction management and structural engineering. The department is approved by university of Mumbai for the Ph. D. program with an intake capacity of 45.

In addition, the department is selected as a QIP Centre by the AICTE. AICTE provides full financial assistantship for three years to the research scholars registered under QIP. Also, department can conduct number of short term courses in the area of civil engineering and complete financial assistantship will be provided by AICTE.

Prof. A. R. Kambekar took charge as a head of the Department of Civil Engineering since November 2017.

1. Financial Data

Proposed budget for the academic Year 2016-2017 of B. Tech. (Civil Engineering) and M. Tech. (Construction Management) is shown below

Program	Laboratory Development	Tuition fees component
B. Tech. (Civil Engineering)	Rs. 10,02,600	0
M. Tech. (Construction Management)	Rs. 1,60,000	Rs. 9,72,000

2. Research and Academic Initiative

(i) Research activities in the Department

Following projects are going on the Civil engineering Department under Seed money Research

- i. Development of portable device for water disinfection Using Silver.
- ii. Effect of Electrode Surface area to volume of Anodic chamber on the performance of Microbial fuel cell.
- iii. Transportation infrastructure Vulnerability and risk mapping for Metro cities of India.

(ii) UMA/UBA Activities

Civil Engineering department

Civil Engineering Department has successfully completed few projects through Ideas, Active Participation with Student engagement and Integration with existing projects. Civil Engineering Department of SPCE has introduced one course on Development Engineering for UG (Civil Engineering)

Following UG projects/PG Dissertation are completed with the aim to develop methodology to monitor performance of existing regional rural pipe water supply scheme:

- Feasibility analysis for improving the performance of four rural regional piped water supply schemes in Thane district. This includes:
 1. Augmentation of Rural Water Supply scheme.
 2. Assessment of rural pipe water supply scheme: a case study
 3. Monitoring and evaluation of regional rural pipe water supply scheme.
 4. Feasibility study and optimization of piped water supply system.

Civil Engineering Department of SPCE Mumbai is aiming further in active participation for Rural Development with successful participation by our faculty, students and Research scholars.

SPCE is working for the development of rural India. Under UBA/UMA SPCE has been allotted work of Thane district and working for nine villages in Bhivandi and Kalyan Cluster. Dr. A. R. Kambekar is working as an institute coordinator for UBA/UMA.

(iii) Consultancy and Testing

Civil Engineering Department is actively involved testing and consultancy of concrete, soil, water and other materials.

Consultancy summary for Department is given below,

Laboratory	Amount
Environmental Lab	2,33,021/-
Transportation Lab	45,937/-
Total	2,78,958/-

(iv) **Students achievements**

1. **Performance of B. Tech (Civil) Students in GRE 2016-2017**

Sr. No.	Name	GRE Score	Average
1	Avi Kripalani	325	4.5
2	Anshu Kripalani	314	4.5
3	Arjun Kadakia	322	4.0
4	Chintan Gandhi	328	5.0
5	Mukund Desai	310	3.0
6	Shambhavi Mishra	329	4.0
7	Pranali Kharde	329	4.0
8	Saurabh Raka	312	3.0
9	Ishan Kulkarni	322	4.0
10	Gayatri Thakare	321	3.5

2. **Publications by students in Journals/Conferences in 2016-17**

- Four M. Tech Construction Management students (under the guidance of Dr.A.R.Kambekar) have presented papers at National conference SWARDAM-2016, held at Government College of Engineering Aurangabad, based on the theme of UMA/UBA.
- Four M. Tech Construction Management students (under the guidance of Dr.A.N.Ghadge) have presented papers at International Conference on Advances in Civil and Environmental Engineering (*ICACEE-17*), Organized by Late G. N. Sapkal College of Engineering, Nashik.
- Two B.Tech students (under the guidance of Prof.S.J.Kumbhar) have presented paper in International Conference SWAYAZAS-2017, Organized by SIES, Nerul Mumbai on Recent Trends in Environmental Technology & Economy.

(v) **International Visit by Civil Engineering Faculty**

1. **Dr. Ajaykumar Ramdas Kambekar**, Associate Professor, Civil Engineering Department, Sardar Patel College of Engineering, Andheri (West), Mumbai, India has presented paper under TEQIP-II titled ***“PLANNING FOR A SMART SUSTAINABLE CITY-A CASE STUDY”*** at the ICCGE, 2016, 18th International Conference on Civil and Geological Engineering held at Hotel Regina Rooseveltplatz 15, A-1090 Wien, Vienna Austria during June, 16-17, 2016. The conference is organized by International scientific committee; World academy of science, Engineering and Technology.
2. **Dr Prashant P. Nagrale** Professor, Civil Engineering Department, Sardar Patel College of Engineering, Andheri (West), Mumbai, India has presented paper under TEQIP-II titled ***“IMPROVEMENT IN SUBGRADE PROPERTIES OF SUBGRADE SOIL DUE TO STABILIZATION AND ITS EFFECT ON PAVEMENT RESPONSE”*** at International Conference in Advances in Civil, Environmental, and Materials Research (ACEM-16)” at Jeju Island South Korea. The conference was held during 28.08.2016 to 01.09.2016.
3. **Prof Reshma Raskar Phule**, Assistant Professor Civil Engineering Department, Sardar Patel College of Engineering, Andheri (West), Mumbai, India has presented paper under TEQIP-II titled ***“ESTIMATING THE CYCLIC SOFTENING OF CLAYS***

AT FEW SITES OF WILLINGDON ISLAND, KOCHIN, KERALA, INDIA” 5th International Conference on Geotechnical and Geophysical Site Characterization (ISC’5) held at Queensland, Australia during 5-9 September 2016.

4. **Dr. Hansa Jeswani** Assistant Professor Civil Engineering Department, Sardar Patel College of Engineering, Andheri (West), Mumbai, India has presented paper under TEQIP-II titled *“SUSTAINABLE MANAGEMENT OF WASTEWATER IN THANE COMMON EFFLUENT TREATMENT PLANT”* on 15th September 2016 and chaired a session on 14th September 2016 on Nutrient Removal from Wastewater in 13th IWA conference on Small wastewater plant in Athens Greece.

(vi) NAAC and NBA Accreditation

Department is preparing for visit by NBA accreditation committee visit. All data for submission of NAAC report has been prepared in requisite format.

(vii) DSPACE utilization

In an effort towards digital document management, the department has been sharing data and information through institute level e-documentation system, DSPACE.

(viii) PG orientation

An orientation programme for newly admitted M.Tech. Construction management students was held in July 2017.

(ix) Expert Talk for UG and PG Students (Total=19)

1. A guest lecture by Industry Expert Mr. Manish Mokal (AFCONS), on “Durability of concrete” on 20-07-2016.
2. A lecture by Industry Expert Mr. Vivek Abhyankar (AFCONS), on “Glory of Civil Engineering. Few case studies and career options” on 22-07-2016.
3. A lecture by Industry Expert Mr. Rahul Joag (LERA), on “Tall Buildings” on 22-07-2016.
4. A lecture by Industry Expert Dr. Ganesh Kame , on “Design of Industrial Steel Buildings with Cold formed Steel Sections” on 28-07-2016.
5. A lecture by Industry Expert Mr. Kaustubh Raikar (Structwel Consultants), on “Health Assessments of Structures” on 04-08-2016.
6. A lecture by Industry Expert Mrs. Medha Moghe (JACOBS), on “Design of Industrial Structures and Awareness of International Codes” on 19-09-2016.
7. A lecture by Industry Expert Mr. Hemant Vadalkar (Vadalkar and Associates), on “Good Engineering Practices” on 22-09-2016.
8. A lecture by Industry Expert Mr. Nikhikl Pimputkar, Deputy Mangers, Technical Services, J K Cements, Mumbai, for UG & PG Students, on “White and Grey cement, Tile adhesive and Wall Putty” on 18-10-2016.
9. A lecture by Industry Expert Mr. Dilip Sharma from Genesis Infoserve Pvt. Ltd Mumbai, for UG & PG Students, on “Introduction to Building Information Modelling (BIM)” on 3-02-2017.
10. A lecture by Industry Expert Mr. Harsimran Singh Grewal from Tandon Construction Pvt. Ltd Mumbai, for UG & PG Students, on “Metro Rail Projects in India ” on 17-02-2017
11. A lecture by Academic Expert Miss. Garima Kansal from S.P.Jain, Mumbai, for UG & PG Students, on “Career Related to Civil Engineer” on 23-02-2017.

12. A lecture by Industry Expert Ms. Er. Prachee Dhavalikar & Mr. Abhijit Kane Mumbai, for UG & PG Students, on “Meet the Professional” on 27-02-2017.
13. A lecture by Industry Expert Mr. S. S. Bhonge, Superintending Engineers, P.W.D., Govt. of Maharashtra, for UG & PG Students, on “Legal Aspect in contract for construction” on 9-03-2017.
14. A lecture by Industry Expert Mr. D. G. Deshmukh Superintending Engineers, P. M.G.S.Y. Govt. of Maharashtra for UG & PG Students, on “Introduction to Road Survey ” on 10-03-2017.
15. A lecture by Industry Expert Mrs. Jyoti Mhapsekar of Strimukta Sangathan, for UG & PG Students, on “Waste Management” on 1-03-2017.
16. A lecture by Industry Expert Ms. Ritika Sen SPCE Alumni & Trade Analyst, for UG & PG Students, on “Experience Reflections and the Next in the Career” on 1-03-2017.
17. A lecture by Industry Expert Mr. Ramesh Kamble K. Raheja Construction Pvt., for UG & PG Students, on “Safety Management on Construction Site” on 14-03-2017.
18. A lecture by Industry Expert Mr. Kaushik Kayal Project Engineers, BARC., for UG & PG Students, on “Project Planning and Management” on 23-03-2017.
19. A lecture by Academic Expert Dr. Dewaikar, IIT Bombay., for UG & PG Students, on “Pile Foundation” on 24-03-2017.

(x) **Industrial Visit/Study Tour for UG and PG students (Total=08)**

1. A visit for T.Y. B.Tech (Civil) and M. Tech.(Construction Management) is organized to **Ralegan Siddhi and Hiverebazaar, Ahmednagar, Maharashtra Under UMA/UBA** on 29th and 30th July 2016
2. **Study tour to Precast India Pvt Ltd. Pune**
Study tour was arranged under the Industry Institute Interaction on 26th August 2016 for B.Tech Students and M. Tech 2nd year Structures students.
3. **Visit to The BIG 5 CONSTRUCT INDIA 2016 Exhibition.**

The Big 5 Construct India 2016 is an International Exhibition involving thousands of the latest construction products and technologies from 150+ companies and 15 countries such as Germany, UK, UAE, Turkey and Italy. The exhibition also covered, 20 Continuing Professional Development (CPD) certified workshops and conference sessions covering the latest hot topics including project management, BIM, LEED, business and market intelligence, sustainability, design and architecture, next generation housing solutions and cost saving strategies. Students of S. Y. B. Tech, Final Year B. Tech Civil Engineering as well as M. Tech. Construction Management along with Dr. P. G. Gaikwad, Prof. Snehit Kumbhar, Prof. Akansha Agrawal and Prof Manisha Shirvaikar visited to **Big 5 Construct India 2016 Exhibition, at Goregaon, Mumbai**, on 29th and 30th September 2016.

4. **Geological Field Visit to Gilbert Hill**

In order to study the geological aspects, a visit of S. Y. B. Tech Civil Engineering students is arranged to **Gilbert Hill, Andheri (w)**, on 16th September 2016.

5. **Industrial Visit to Rashtriya Chemicals & Fertilizers Ltd., Mumbai**

In order to study the Sewage Treatment Plant & Effluent Treatment Plant, a visit of B.Tech Civil Engineering students is arranged to **Rashtriya Chemicals & Fertilizers**, Mumbai, on 14th & 15th Oct, 2016.

6. Industrial Visit to ANAR Chemicals Ltd. & The Green Environment Services CO-OP. Society Ltd VATVA., Ahmadabad Gujrat

A visit for Elective batch (Industrial Waste Treatment) of B.Tech (Civil) is organized to **ANAR Chemicals Ltd. & the Green Environment Services CO-OP. Society Ltd VATVA**, GIDC, Ahmadabad to study dyes & textile effluent treatment plant on 24 March, 2017.

7. Industrial Visit to Amul Milk Dairy ,Anand,Gujrat

A visit for Elective batch (Industrial Waste Treatment) of B.Tech (Civil) is organized to **Amul Milk Dairy, Anand**, to study Dairy Process & Effluent Treatment Plant on 25 March, 2017.

8. Industrial Visit to Spectrum Techno Consultants Pvt. Ltd.Mumbai.

A visit for Elective batch (**Appraisal & Implementation of Infrastructure Projects**) of B.Tech (Civil) is organized to **Spectrum Techno Consultants Pvt. Ltd.Mumbai**, to study of DPR of Highway Project.on 7March, 2017.

(xi) Courses/Workshop Organised for UG and PG Students (Total=05)

1. Workshop on “ Quantity estimation software for Autoscan & Autosteel”

A Three Days workshop on Quantity estimation software for Autoscan & Autosteel, was organised with collaboration of Newton Software Pvt.Ltd., Pune on 16-18 Feb, 2017.

2. Workshop on “Concrete Mix Design”

A Two Days workshop on Concrete Mix Design, was organised with collaboration of Ambuja Pvt.Ltd., Mumbai on 10-11, March,2017.

3. Workshop cum training on “Remote Sensing, GIS & GPS”

A Three Days workshop was organised on Remote Sensing, GIS & GPS, with 10-12March, 2017.

4. Workshop cum training on “ Construction planning & management in Infrastructure Sector”

A Three Days workshop on Construction planning & management in Infrastructure Sector, was organised with collaboration of Newton Software Pvt.Ltd., on 17-18 & 24 March, 2017.

5. Workshop cum training on “Three day training cum workshop on Geographic Information Systems (GIS)- open source, licensed and desktop software”

A Three Days workshop on Three day training cum workshop on Geographic Information Systems (GIS)- open source, licensed and desktop software, , was organised on 24 -26,March, 2017.

3. Achievements

- (i) Prof. A.N.Ghadge has been awarded the degree of Doctor of Philosophy in Civil Engineering by IIT,Karagpur & Prof.Reshma R. Raskar has been awarded the degree of Doctor of Philosophy in Civil Engineering by IIT,Bombay

(ii) **About PhD Programme in Civil Engineering Department**

1. Completed Ph.D. Thesis of **Mr. Surendra Kumar Katkar**, Title: **“Probabilistic Analysis of Pavement Maintenance Predictions of Rural Roads”**.
2. Completed Ph.D. Thesis of **Mr. Atulya P. Patil** , Title: **“Mechanistic Approach and its Economics for Stabilized Flexible Pavement”**. to **University of Mumbai**

(iii) **Publications**

- (a) One of the Research Paper Titled: **“Improvement in Subgrade Properties of Subgrade Soil due to Stabilization and its effect on Pavement Response”** accepted for publication in International Journal of Geomechanics (**Techno – Press Journal**) (**Author: Dr. P P. Nagrale and Mr. Atulya Patil.**)
- (b) Paper Title: **“Mechanistic Approach for Stabilized Flexible Pavements”** has been selected for presentation in the **12th Transportation Planning and Implementation Methodologies for Developing Countries (TPMDC 2016)** conference organized by the Transportation Systems Engineering group at Indian Institute of Technology Bombay, during 19-21,December, 2016) (**Author: Dr. P P. Nagrale**)
- (c) Paper Title: **“Laboratory Investigation on Optimum Quantity of Stabilizers”** has been selected for presentation in **Indian Geotechnical Conference IGC- 2016, organized** by Indian Institute of Technology, Madras, during 15-17, December, 2016.) (**Author: Dr. P P. Nagrale**)
- (d) Paper Title: **“Treatment of Biomass Gasifier Wastewater in Rotating biological contactor”** has been selected for Publication in The Indian Journal of Technical Education, 1-7; ISSN 0971- 3034, Volume.) (**Author: Dr. H.S.Jeswani**)
- (e) Paper Title: **“Evaluating the Effectiveness of Material Management System in Residential Projects”** has been selected for presentation in International Conference on Advances in Civil and Environmental Engineering (**ICACEE-17**), Organized by Late G. N. Sapkal College of Engineering, Nashik,10-11 Feb,2017. (**Author: Dr.A.N.Ghadge**)
- (f) Paper Title: **“Factors Affecting Labour Productivity in High Rise Building Construction Projects”** has been selected for presentation in International Conference on Advances in Civil and Environmental Engineering (**ICACEE-17**), Organized by Late G. N. Sapkal College of Engineering, Nashik,10-11 Feb,2017. (**Author: Dr.A.N.Ghadge**)
- (g) Paper Title: **“Assessment of Risk and Hazards of construction activities in Residential Projects”** has been selected for presentation in International Conference on Advances in Civil and Environmental

Engineering (*ICACEE-17*), Organized by Late G. N. Sapkal College of Engineering, Nashik, 10-11 Feb, 2017. (Author: **Dr.A.N.Ghadge**)

- (h) Paper Title: “Investigating the Factors Influencing Delay in Infrastructure Projects” has been selected for presentation in International Conference on Advances in Civil and Environmental Engineering (*ICACEE-17*), Organized by Late G. N. Sapkal College of Engineering, Nashik, 10-11 Feb, 2017. (Author: **Dr.A.N.Ghadge**)
- (i) Paper Title: “Critical Review on performance evaluation of Sequencing Batch Reactor working on Dairy waste treatment” has been selected for presentation in International Conference on Recent Trends in Environmental Technology & Economy at SIES, Nerul on 10-11 Feb, 2017. (Author: **Prof.S.J.Kumbhar**)
- (j) Paper Title: “Treatment of Sanitary Wears/Nappies Using Anaerobic Decomposition”, International Conference on Technological Advances in Climate-Smart Agriculture and Sustainability (TACSAS 2017), SRTMU’s Research Journal of Science Vol. No. 5, ISSN: 2277-8594, 16-18 Jan 2017. (Author: **Prof.P.D.Deshmukh**)
- (k) Paper Title: ““Disposal of sanitary wears/nappies in different parts of the world: A review”, Thirty-second National Convention of Environmental Engineers Challenges in Environment Management of Growing Urbanization, August 2016.(Author: **Prof.P.D.Deshmukh**)

(iv) Courses Attended by Faculty:

1. Three Faculty members from Department have attended one week STTP on “Interpersonal Skills & Management” on 2-7 Jan, 2017 at SPCE, Mumbai.
2. Three Faculty members from Department have attended one week STTP on “NanoScience & NanoTechnology ” on 2-7 Jan, 2017 at SPCE, Mumbai.
3. Two Faculty members from Department have attended one week STTP on “River Flood Analysis & Modelling” on 19-23, Dec, 2016 at SVNIT, Surat.
4. Three Faculty members from Department have attended One day training on “Environment Management with ETP/STP” on 14-15 Oct, 2016 at RCF, Mumbai.
5. Dr.A.R.Kambekar has attended FDP on Pedagogy, accreditation, research & entrepreneurship was organised by ESCI on 22-23 Nov, 2016 at Port Blair.
6. Dr.P.G.Gaikwad has attended Training on Quality Initiatives in technical & higher educational institutions, was organised by ESCI on 7-9 Sep, 2016 at Hyderabad.

4. Future Plans

4.1. Short Term Plan

- Utilise collaboration with CADD Center to deliver certificate courses in MSP/PRIMAVERA in CED
- Promote innovative thinking in students with quality initiatives such as interdisciplinary projects, technical competition.
- Tie up with Industry for placement of PG students.

4.2. Long Term Plan

- Commencing new PG programme in “Environmental Engineering”
- Increasing PG programme intake
- Launching industry sponsored laboratory
- Starting certificate courses in CAD/CAM/CAE/Project Management
- Introducing value added courses in curriculum

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CIVIL ENGINEERING DEPARTMENT