Internal Quality Assurance Cell (IQAC)
SGT University

Annual Report (Aug 2016- July 2017)
Department of....Civil Engineering.....

Edited by
Department of....Civil Engineering.....
(Brief write-up)

About the Department

The Department of Civil Engineering puts in its best efforts to create outstanding engineers – with advanced teaching techniques and learning aids for students and state of the art research facilities for our students. Students are not only made experts in technical aspects but also in interpersonal skills, a vital ingredient to excel in the fast-paced world.
Traditionally Civil Engineering has played an important role in improving the civic life of society by harmonizing the natural resources available on earth. Some of the major areas in the field of Civil Engineering are design and construction of various structures like bridges, buildings, roads, tunnels and dams, developing new construction technologies, Design and development of Foundation systems, Geotechnical Engineering, Transportation and Traffic Engineering, Municipal and Sanitary services, surveying, GIS and remote sensing, and Hydraulics and Water Resources Engineering.

Also, Civil Engineers have found an important role in some newer areas like

- Design And Construction Of Waste Containment Systems,
- Disposal Of High Level Nuclear Wastes, And
- Protection of Ground water resources.

In recent years Civil Engineers are facing newer challenges in infrastructure development that is resulting into

- Development of newer type of foundation Solutions,
- Treatment of natural soils, and
- Development of newer materials.

Further, the role of specialized geotechnical engineers is vital and relevant for any structure to stand and stable on a suitably designed foundation system.

Transportation engineering deals with the planning, design and construction of roads, railways, airport, dock and harbors, as well as controlling and regulating the traffic flow.

Broadly a civil Engineer is expected to do planning, research, design and construction of buildings and roads; traffic and transportation, irrigation and power, water supply and sewage disposal, dam and reservoirs, ports and harbors, airways and navigation, treatment of industrial wastes and abatement of air pollution, noise pollution and disaster mitigation

Department at a Glance (2016-17)

Name of the Department: Civil Engineering Department

Year of establishment: 2015

1. Faculty with designations List of (Table..)

S.N	Name of Faculty	Designation
1	Mrs. Sweety Rajput	Assistant Professor
2	Mr. Kaushal Sharma	Assistant Professor
3	Mr. Abhishek Kumar	Assistant Professor
4	Ms. Malini Tiwari	Assistant Professor
5	Mr. Vipin Tiwari	Assistant Professor
6	Mr. Neeraj Verma	Assistant Professor
7	Mr. Anurag Choksey	Assistant Professor

2. Names of programmes offered (UG, PG, M.Phil., Ph.D., M.Sc., etc.)

S.N	Programme offered in UG	Programme offered in PG	Programme offered in Ph.D
1	B.Tech Civil Engineering	M.Tech (Structural Engineering)	Nil
2	B.Tech Civil Engineering (Infrastructure Engineering)	M.Tech (Environmental Engineering)	
3	B.Tech Civil Engineering (Civionics)	M.Tech (Geotechnical Engineering)	
4		M.Tech (Transportation Engineering)	
5		M.Tech (Water Resource Engineering)	

3. Education:

a). Hours of teaching in each subject

Under graduation: Total 35 - 40 hour for theory classes is allotted for each subject in a semester with credit of 3 for theory and 2 for practical in B.Tech 3rd sem and 5th sem of SGTU.

Post graduation: Total 35-40 hour of theory classes is allotted for each subject in a semester with credit of 3 for theory and 2 for practical in M.Tech 1st and 3rd sem of SGTU

Other trainings: Industrial exposure and industrial training for one month with credit of 1 in B.Tech 3rd and 5th sem of SGTU.

b). Continued Education (workshop, seminar, symposium, conferences)

i) Summary of the above, department wise (Total No.)

Event	**Attended**	**Organized**	**Paper / poster presented**	**Guest lectures delivered**	**Keynotes delivered**
Conference national	1		2		
Conference international					
Conventions					
Symposium					
Workshops	1				
Others					
Total	2		2		

ii). Details of above, Faculty member wise...

S.N	**Faculty Name**	**Conference attended details**	**Paper publication details**	**Workshop details**
1	Ms. Malini Tewari	National Seminar on national resource management and environmental concerns at GB Pant University, Pantnagar	1. Effect of natural fines on mechanical behaviour of clean sand. 2. National Conference on Geoenvironmental Issues and sustainable urban development	Innovative construction machinery materials and methods

4. Publications: Nil

i) Journal articles

a). Summary of publication department wise (Total No.):

S. no.	Type	Total no. Of Articles	National	International	others
1	Indexed				
2	Non indexed				
3	Peer reviewed				
4	Non peer reviewed				

b) Details of the above (to be furnished faculty member wise). NIL

(papers published in peer reviewed journals (national / international, listed in National/International Database (For *e.g*. Web of Science, Scopus, Humanities International Complete, Dare Database, International Social Sciences Directory, EBSCO or any other indexing agency,Citation Index (source)google scholar, Research Gate, Scopus,SNIP, SJR Impact Factor … range / average, h-index)

S. no.	Article in Vancouver style	National/ international	Database	Citation index Range/ average	SJR / SNIP	h-index	Impact factor

Non -indexed publications
Popular press writings / others

ii) Abstracts published in conference proceedings. (Faculty member wise)

iii) Books with ISBN with details (faculty member wise): NIL

a) Chapters in Books
b) Edited Books
c) Books publishers
d) Monographs

5. Details of patents and income generated: Nil

6. Awards and Honours: Nil

Awards / recognitions received at the national and international level by (in Table. format...): NIL

a. Faculty
b. Others
c. Doctoral / post doctoral fellows
d. Students

7. Consultancy and Participation as expert, income generated, (brief note on each): NIL

8. Research

i). Details of the funded projects department wise: Nil

S. no.	Name of the faculty/ department	Name of PI	Funding agency	Indian agency / WHO / International / SGT University	Project title	Grants received	Completed/ ongoing/ new project submitted

ii) Details of other non funded / self funded projects: department wise (list only)

S.N	List of self funded projects	Project Coordinator
1	IOT based garbage Monitoring System	Mr. Neeraj Verma
2	IOT based Air Pollution and Sound Pollution Monitoring System	Mr. Abhishek Kumar
3	Base Isolation System	Ms. Malini Tiwari
4	Modification of Existing building into Green Building	Mr. Kaushal Sharma and Mr. Vipin Tiwari
5	Siesmic Damper	Mr. Anurag Chouksey

iii) Student projects: NA

Sno.	Name of the student	Name of Guide	Course PhD, MD, MDS, MSc, JRF, SRF	Funded/ self funded	Indian agency / WHO / International / SGT University	Project title	Grants received	Completed/ ongoing

- percentage of students who have done in-house projects including inter-departmental projects : 38%
- percentage of students doing projects in collaboration with other universities /industry / institute : Nil

9. Patient Care, please provide detail in enumerative figures during the year of consideration. (Write NA if not applicable)

Facilities available	NA
Operations / procedures	NA
ICU details	NA
Emergency Duties	NA
OPD clinics	NA

10. Other Significant Events

11. Courses in collaboration with other universities, industries, foreign institutions, etc.
MOOC Courses

12. Details of programmes discontinued, if any, with reasons: NIL

13. Examination System: Annual/Semester/Trimester/weekly

S.N	Mode	Marks	Converted marks
Internal Assessment			
1	Saturday assessment (3 assessment for each subject)	50 marks each i.e 150 marks for each subject	150/10 = 15 marks
2	Mid Sessional exam (CAT-I)	50 marks	50/5 = 10 marks
3	Attendance	5	5 marks
4	GD/ Seminar/ SIS/ Assignment	15	10 marks
Total marks			40 marks
External Assessment			
1	End term Examination	60	60
Total			60 marks

Total 100 marks examination will be conducted including internal and external assessment
Final exam will be conducted as per curriculum at the end of semester in which question paper need to be designed in following pattern:-

1. Part A total question 23
2. Part B total question 50
3. Total 73 question need to be prepared for 180 min. (3hr)

Internal Assessment:
Every Saturday will be engaged as assessment day of every subject under SGTU which involve the following points:-

1. MCQ's related to technical Subject (40%)
2. MCQ's/ Short Answer type questions related to reasoning and General Aptitude (30%)
3. Long Answer questions related Technical subjects (30%)

14. Choice Based Credit System –Give brief note

a) The CBCS provides choice for students to select from the prescribed courses (core, elective or minor or soft skill courses).
b) The course structure of each programme consists of 10 Professional Electives and 4 open electives.
c) Each professional elective gives a choice of three to four courses out of which the student has to select one course.
d) Each open elective also is given a choice of three to four courses, which does not necessarily have any perquisites and offered to a student of any programme.
e) A student is introduced to "Choice Based Credit System (CBCS)" for which he/she has to register for the courses as per the following rules:
    i. There is no choice for I and II year courses.
    ii. Courses once registered are final and CANNOT be changed / interchanged or alternate choices will not be considered. However, if the subject/course that has already been listed for registration (by the HOD) in a semester could not be offered due to any unforeseen or unexpected reasons, then the student shall be allowed to have an alternate choice – either for a new subject (subject to offering of such a subject), or for another existing subject (subject to availability of seats), which may be considered. Such alternate arrangements will be made by the Head of Department, with due notification and time-framed schedule, within the FIRST WEEK from the commencement of class work for that semester.
    iii. A student has a choice of dropping a course or registering an additional course (from the list of open electives) with a minimum of 21 and a maximum of 29 credits in each semester, but the credits allotted for each semester is considered for promotion. However, dropping a course may be permitted only after prior approval from the faculty advisor and HOD and also within 15 days from the beginning of the current semester

15. Participation of the department in the courses offered by other departments, courses in collaboration with other universities, industries, foreign institutions, etc. NIL

16. Faculty selected nationally / internationally to visit other laboratories / institutions / industries in India and abroad (eg. Commonwealth fellowships, WHO fellowships, UNESCO fellowships etc): NIL

17. Faculty serving in

a) National committees :NIL
b) International committees :NIL
c) Editorial Boards :NIL

d) any other (please specify) :NIL

18. Faculty recharging strategies (Capacity Building programmes) (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs). (give details) NIL

19. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance (updated till date)

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. Of thesis/ dissertations guided till now (Ph.D. / M.Phil./ PG/ UG/Students)
Mrs. Sweety Rajput	B.Tech, M.Tech	Assistant Professor	Environmental Engineering	4 year	UG student- 05
Mr. Kaushal Sharma	B.Tech, M.Tech	Assistant Professor	Structural Engineering	3.4 year	UG student- 05
Mr. Abhishek Kumar	B.Tech, M.Tech	Assistant Professor	Structural Engineering	4 year	NIL
Ms. Malini Tiwari	B.Tech, M.Tech	Assistant Professor	Geotechnical Engineering	3 year	NIL
Mr. Vipin Tiwari	B.Tech, M.Tech	Assistant Professor	Structural Engineering	11 month	UG student- 05
Mr. Neeraj Verma	B.Tech, M.Tech	Assistant Professor	Transportation Engineering	11 month	UG student- 04
Mr. Anurag Choksey	B.Tech, M.Tech	Assistant Professor	Structural Engineering	5 month	NIL

20. List of senior Visiting Fellows, adjunct faculty, emeritus professors :- Nil

21. Programme-wise Student Teacher Ratio (Table)

Session	Programme	Semester	Total Number of Student
January 2017 – April 2017	B.Tech	4th sem MDU	15
		4th sem SGTU	19
		6th sem MDU	26
		8th sem MDU	19
	M.Tech	2nd sem	1
Total			**80/7 = 12:1**
July 2017 – November 2017	B.Tech	3rd sem SGTU	20
		5th sem MDU	16
		5th sem SGTU	15
		7th sem MDU	26
	M.Tech	1st sem	1
		3rd sem	1
Total			**79/7 = 11.5 =12:1**

22. Number of academic support staff (technical) and administrative staff: (in Table form)

Technical Staff	Administrative Staff
2	01

23. Establishment of Research facility / centre (during the year of consideration): In Progress

24. Student profile programme-wise (No. only):

Name of the Programme	Applications Received wherever known	Selected		Pass percentage	
		Male	Female	Male	Female
B.Tech 3rd sem	Application received =31 Student Enrolled =20	20	Nil	34.78%	Nil
B.Tech 5th sem	Application received =25 Student Enrolled =19	19	Nil	23.53%	Nil
M.Tech	Application received =1 Student Enrolled =1	1	Nil	100%	Nil

25. Diversity of Students (No. only):

Name of the Programme	% of Students from the Same University	% of students from other Universities within the State	% of students From Universities outside the State	% of students from other countries
M.Tech	NIL	NIL	100% (1 student)	NIL

26. Student progression (No. Only)

Student progression		Percentage against enrolled
UG to PG		Nil
PG to M.Phil.		Nil
PG to Ph.D.		Nil
Ph.D. to Post-Doctoral		Nil
Employed		Nil
□	Campus selection	Nil
□	Other than campus recruitment	Nil
Entrepreneurs		Nil

27. Diversity of staff (No. Only):

Percentage of faculty who are graduates of the same university	Nil
From other universities within the State	15% (1 faculty)
from universities from other States	85% (6 faculty)
From universities outside the country	Nil

28. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt: Nil

29. Present details of departmental infrastructural facilities regarding

a) Library (no. of Books and Journals)
b) Internet facilities for staff and students
c) Total number of class rooms
d) Class rooms with ICT facility
e) Students' laboratories
f) Research laboratories

S.N	Description	Total Count	Status
1	Library (no. of Books)	1818	Available
2	Library (no. Of Journals)	51	Available
3	Total number of class rooms	6	Available
4	Class rooms with ICT facility	6	Available
5	Students' laboratories	10	Available
6	Research laboratories	Nil	Work on Progress

30. List of doctoral, post-doctoral students and Research Associates

a) from the host institution/university : Nil

b) from other institutions/universities : Nil

31. Number of post graduate students getting financial assistance from the university. Nil

32. FEEDBACK System (Brief note):

Feedback system in University is categorized as follows

a) Centralized Feedback system (5 Point Analysis)

Centralized Feedback System is evaluated on 5 point analysis

Scale	Excellent	Very Good	Good	Satisfactory	Unsatisfactory
Grade	A	B	C	D	E
Score	5.0	4.0	3.0	2.0	1.0

Different parameters are taken into consideration while calculating feedback which includes

1. Quality of course content 2. Practical or applied content of teaching 3. Course coverage and delivery 4. Knowledge base of the teachers 5. Teacher's ability to co-relate the subject with other disciplines 6. Communication skills of the teacher 7. Sincerity and commitment level of teachers . 8. Teacher's accessibility outside the class 9. Teacher's testing methods to evaluate students 10. Learning outcomes 11. Encouragement by teachers for class participation 12. Fairness of internal assessment 13. Student's knowledge about course details, scheme of examinations and ordinances 14. Adequacy and quality of relevant labs 15. Library support 16. Support from administrative staff 17. Co-curricular and extra-curricular activities 18. Student-teacher relationship 19. Handling of student's grievances and 20. Career counselling and placement facilities

b) Mentor-Mentee System

Mentor-Mentee system is maintained right from 1st Semester – 8th Semester. Under the interaction section of Mentor's Diary, students provide feedback which is recorded for every 15 days.

c) Suggestion Box

There is provision of suggestion box on Ground Floor where students are welcomed to provide suggestions/feedback

33. Student enrichment programmes [give details of (special lectures / workshops / seminar) involving external experts.]

1. Invited Guest Expert Dr. D P Gupta, Former Director General (Road Development) & Additional Secretary Govt. of India, on March 03, 2016 in order to discuss "Recent Advances in Roads and Road Transport Sector".

2. Invited guest speaker Dr. Parmod Kumar Jain, Retired Chief Scientist-CRRI, on March 08, 2016 in order to discuss "New Materials for Road Construction".

3. Organized National Design Competition in association with CADD Center for students of civil engineering to display their talent in digital design skills. The competition has successfully conducted to perform 2D drafting.

4. Department of Civil Engineering organized Interactive session on STAAD Pro by TIET, New Delhi in which students have gained understanding of structural modelling. Students are introduced to the concepts of structure modelling, analysis, design and documentation. Trainer introduced the course in a very friendly way saying that STAAD Pro is comprehensive structural engineering software that addresses all aspects of structural engineering including model development, verification, analysis, design and review of results.

5. The Civil Engineering Department conducted a guest lecture on 19/04/2017 in solid waste management. The department invited Mr. Saubhagya Dixit , working as " Scientist Grade B ", Urban Pollution Control Division (UPC- III), Central Pollution Control Board, Ministry of Environment, Forest & Climate Change, Govt. of India.

34. Changes in Teaching Guidelines. (List the teaching methods adopted by the faculty for different programmes.)

S.N	Teaching Methodology adopted
1	Project Based Learning
2	Problem Based Learning
3	Student Interactive session
4	Student Seminar
5	Case Study
6	Teacher's Seminar
7	Focus Group Discussion
8	Spot Group Discussion
9	Tutorials
10	Assignments

35. Changes adopted in monitoring learning outcomes

36. Extension activities.

37. "Beyond syllabus scholarly activities" of the department:-

Industrial Visits conducted by department for practical learning of students

1. Industrial Visit to BRICK KILN on 24-09- 2016
2. Organized an education trip to Roorkee & Haridwar in which different hydraulic structures shown & explained to the students were aqueduct, level crossing, syphone, earthen & damp; concrete canals fluming of canal etc.

3. Industrial Visit in Basai Village at Water Treatment Plant.

4. Civil department conducted 'Ridhi Sidhi' flat construction site visit for all year students at Gurgaon sector -99.

5. 10 days survey camp was organized for Civil Engineering 3rd year students. At Survey Camp, students obtained extensive hands-on experience in the use of land surveying instruments and in the essentials of survey practice. Measurements of distances and angles, survey calculations, sources of error, and corrections and adjustments were introduced. Concepts of higher order survey techniques and global positioning systems were reviewed and illustrated.

6. Department has organized a 3 days Educational Trip of 3 rd and 4 th year students to Banbasha & Nainital. The students were taken to Sarada Barrage & made familiar with different components of barrage like under sluice portion, weir portion, head regulator, operation of gate, guide bunds, spurs, silt extractor, fish ladder and offtakes canal.

38. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

a) Strengths :-
   a. Qualified Faculties with Teaching as well as Industry Experiences.
   b. Well Developed Faculty Rooms and Class Rooms, Laboratories, Model Room
   c. Strong Links with Private and Government Organisations in the form of Industrial Visits, Workshops, and Guest Lectures.
   d. All running courses are as per UGC Guidelines and also at par with other major universities in the Country.
   e. High Quality Academic Program.

b) Weaknesses :-
   a. Less Student Strength
   b. Less non teaching staff
   c. Lack of research facility in the campus.
   d. Weak Global Connections.
   e. No faculty exchange or student exchange programmes.

c) Opportunities :-
   a. More number of Projects can be undertaken.
   b. Providing stipend to the new upcoming post graduate students
   c. Participation of Students in Technical Festivals of Other Reputed Universities
   d. More Participation of Students in Research Activities.
   e. Students can be Trained for the competitive exams.

d) Challenges :-

a. To motivate students towards competitive exams.
b. Running of New Courses
c. Strong Links with Private and Government Organisations in the form of Industrial Visits, Workshops, Guest Lectures .
d. Obtaining Financial Aid from the government for Projects.
e. Filling Vacant Posts of Teaching as well as Non-Teaching Staffs.

39. Best Practices of the department

e) Empowering Learners with Flexibility FRICS (Flexible Research Integrated Credit System)
f) Flexibility to Design own Curriculum.
g) Option for selecting Intra/ Inter disciplinary subject(s) of own choice & interest.
h) PBL/ RBL (Project/ Research Based Learning) System Building of Research Aptitude by offering 1 Mini-Projects & 1 Main-Project Work.
i) Innovative teaching methodology with modern-aids
j) Continuous monitoring of students -Monitoring/Assessing performance of students to make improvements or take corrective action.
k) Motivating, developing, and directing students so that they can work better as a employee.

40. Future plans for the department

Civil Engineering department has planned following activities to be implemented in upcoming semesters:-

1. Industrial visits for practical exposure
2. More workshops on design software like STADD PRO, ETAB, AUTOCAD etc.
3. Guest Lectures by expertise
4. Survey Camp
5. In house projects