V.V Sangha's
RAO BAHADUR Y MAHABALESWARAPPA ENGINEERING COLLEGE
Cantonment, Ballari - 583104

DEPARTMENT OF CIVIL ENGINEERING

SELF ASSESSMENT REPORT (SAR)

UNDERGRADUATE ENGINEERING PROGRAM (TIER-II)

(SEPTEMBER 2021)

PART A: Institutional Information

1. **Name and Address of the Institution:** **Rao Bahadur Y. Mahabaleswarappa Engineering College,**
(Formerly Vijayanagar Engineering)
Cantonment, Ballari - 583104

2. **Name and Address of the Affiliating University :** **Visvesvaraya Technological University, Jnana Sangama, Belagavi-590018**

3. **Year of establishment of the Institution: 1980**

4. **Type of the Institution:**

University

Deemed University Government

Aided

Autonomous

Affiliated √

5. **Ownership Status:**

Central Government

State Government

Government Aided

Self financing √

Trust

Society √

Section 25 Company

Any Other (Please specify)

Provide Details:

6. Other Academic Institutions of the Trust/Society/Company etc., if any:

Sl.No	Name of the Institution(s)	Year of Establishment	Programs of Study	Location
1	Veerasaiva College	1945	Non-Technical	Veerasaiva College Campus, Airport Road, Cantonment,
2	Smt. Allum Sumangalamma Memorial Women's College	1969	Non-Technical	Sri Togari Veerappanavara Datti Avarana, Allum Sumangalamma Road, Gandhinagar, ballari
3	Vijayanagar College	1964	Non-Technical	Hosapete,Ballari District,Karnataka
4	Kottureswara College	1967	Non-Technical	Koturu,Ballari District,Karnataka
5	Gangavathi Bhagyamma Rural College	1970	Non-Technical	Huvinahadagali, Ballari District, Karnataka
6	Ambli Dodda Bharamappa First Grade College	1972	Non-Technical	Harapanahalli, Ballari District, Karnataka
	Professional Colleges			
7	Rao Bahadur Y. Mahabaleswarappa Engineering College	1980	Technical	Veerasaiva College Campus, Airport Road, Cantonment, Ballari
8	Proudhadevaraya Institute of Technology	1997	Technical	Sha Bhavarlal Babulal Nahar Campus, T.B. Dam, Hosapete
9	Hanagal Kumareswara Polytechnic	1997	Technical	Veerasaiva College Campus, Airport Road, Cantonment, Ballari
10	Allum Karibasappa Institute of Management(MBA)	1998	Non-Technical	Veerasaiva College Campus, Airport Road, Cantonment, Ballari
11	Vunki Sanna Rudrappa Law College	1975	Non-Technical	Kappagal Road, Y. Nagesh Shastry Nagar, Ballari
12	Togari Veeramallappa Memorial College of Pharmacy	1985	Non-Technical	Kappagal Road, Y. Nagesh Shastry Nagar, Ballari
13	Kottur Swamy College of Education	1963	Non-Technical	Ballari,karnataka
14	Sha Babulal Bhavarlal Nahar College of Education	2004	Non-Technical	Sha Bhavarlal Babulal Nahar Campus, T.B. Dam, Hosapete

15	Kottur swamy P.G. studies in education	1993	Non-Technical	Kappagal Road, Y. Nagesh Shastry Nagar, Ballari
PU /High				
16	Setra Gurushanthappa Pre-University College	1942	Non-Technical	Kappagal Road, Y. Nagesh Shastry Nagar, Ballari
17	Kittur Rani Chennamma Girl's High School	1993	Non-Technical	Kappagal Road, Y. Nagesh Shastry Nagar, Ballari
18	Haraginadoni Basavanagowda Pre-University College	1963	Non-Technical	Kuditini, Ballari (T) & (Dt)
19	Vijayanagar Comp. Pre-University College	1963	Non-Technical	T.B.P. Munirabad, Koppal (Dt)
20	Kinnalu Poramambe Grurusiddappa High School	1968	Non-Technical	Hagaribommanahalli (T) Tambrahalli Ballari (Dt)
21	Akki Basamma Thotappa	1997	Non-Technical	Hagaribommanahalli (T) Tambrahalli Ballari (Dt)
22	Sha Seshaji Hastimal Jain	1999	Non-Technical	Harapanahalli, Davanagere (Dt)
23	V.V.Sangha High School	2006	Non-Technical	Harapanahalli, Davanagere (Dt)
24	Vivekananda public School	1993	Non-Technical	Devalapura, ballari Road, Siruguppa, Ballari (Dt)
25	Deshanuru Sadashivareddy High School	1999	Non-Technical	Deshanuru (P), Siruguppa (T) Ballari (Dt)
26	V. V. Sangha's Independent P U College, Hospet	2014	Non-Technical	College Road,Hospet
27	V.V.Sangha Independent P.U. College	2010	Non-Technical	Veerasaiva College Campus, Airport Road, Cantonment, Ballari
PRIMARY				
28	Heerada Sugamma Higher Primary School	1924	Non-Technical	H.S.M.H.P.School opp. K.S.R.T.C. Bus Stand, Ballari.

29	Silver Jubilee memorial Higher Primary School	1954	Non-Technical	Jumma Masidi Street, Ballari.
30	Vunki Marisiddamma Primary School	1993	Non-Technical	1st Main, Basaveshwara Nagar, Ballari
31	Gandharva Sangeeta Vidyalaya	2006	Non-Technical	Kappagal Road, Y. Nagesh Shastry Nagar, Ballari
PRE PRIMARY				
32	V. V. Sangha's Kindergarten School, Ballari	2014	Non-Technical	Veerasaiva College Campus, Airport Road, Cantonment, Ballari
33	V. V. Sangha's Kindergarten School, Hagaribommanahalli	2014	Non-Technical	Hagaribommanahalli (P) Ballari (Dt)
34	Vijayanagara Kindergarten School, Munirabad	2014	Non-Technical	Vijayanagar College Campus, TBP, Munirabad, Koppal (Dt)

7. Details of all the programs being offered by the institution under consideration:

Sl. No.	Program Name	Year of Start	Intake	Increase in intake, if any	Year of increase	AICTE Approval	Accreditation Status*
01	Civil Engineering	1980	40	50 40 60 120	1994 2002 2009 2011	F. 2-15/B-III/RC-MB/93/26885 dated 31/03/1994 F.No. 770-53-251(E)RC/94 dated 05/06/2002 F. No. 770-53-251(E)RC/94 dated 26/06/2009 F. No. SW/1-405698242/2011/EOA dated 01/09/2011	15/02/05 to 14/02/08 &19/07/08 to 18/07/11
02	Mechanical Engineering	1980	40	90 120	1994 2009	F. 2-15/B-III/RC-MB/93/26885 dated 31/03/1994 F. No. 770-53-251(E)RC/94 dated 26/06/2009	15/02/05 to 14/02/08 &19/07/08 to 18/07/11
03	Electrical & Electronics Engineering	1983	40	60 120	2005 2013	F. No. 770-53-251(E)RC/94 dated 19/09/2005 F.No. SW/1-1337581065/2013/EOA dated 19/03/13	15/02/05 to 14/02/08 &19/07/08 to 18/07/11
04	Electronics & Communication Engineering	1983	40	80 90 120	1994 1998 2005	F. 2-15/B-III/RC-MB/93/26885 dated 31/03/1994 F. No. 770-53-251(E)RC/98 dated 30/07/1998 F. No. 770-53-251(E)RC/94 dated 19/09/2005	15/02/05 to 14/02/08 &19/07/08 to 18/07/11
05	Industrial & Production Engineering	1986	30	50 40	1994 2002	F. 2-15/B-III/RC-MB/93/26885 dated 31/03/1994 F.No. 770-53-251(E)RC/94 dated 05/06/2002	15/02/05 to 14/02/08 &19/07/08 to 18/07/11
06	Computer Science & Engineering	1987	30	60 90 120 180	1994 2000 2005 2018	F. 2-15/B-III/RC-MB/93/26885 dated 31/03/1994 F. No. 770-53-251(E)RC/94 dated 25/10/2000 F. No. 770-53-251(E)RC/94 dated 19/09/2005 F. No. South-west/1-3516119678/2018	**30/06/2020 to 30/06/2023** **F.No 25-101-2010 NBA**
07	CSE (Artificial Intelligence & Machine Engineering)	2021	60	60	2021	F. No. South-west/1-9322850902/2021	Not Applied
08	Information Science & Engineering	2000	40	60	2001	F. No. 770-53-251(E)RC/94 dated 15/06/2001	Not Applied
10	Master of Business Administration	2006	60	--	--	F. No. 770-53-250(E)RC/94 dated 29/08/2006	Not Applied
11	M. Tech. in Computer Science & Engineering	2011	18	--	--	F. No. SW/1-405698242/2011EOA dated 01/09/11	Not Applied
12	M. Tech. in Mechanical Engineering (Production Management)	2012	18	--	---	F. No. SW/1-698260301/2012EOA dated 10/05/12	Not Applied
12	M. Tech. in Mechanical Engineering (Thermal Power Engineering)	2012	18	--	--	F. No. SW/1-698260301/2012EOA dated 10/05/12	Not Applied
13	M. Tech. in Civil Engineering (Structural Engineering)	2013	18	--	--	F. No. SW/1-1337581065/2013EOA dated 19/03/13	Not Applied
14	M. Tech. in Electronics & Communication Engineering (Digital Communication & Networking)	2013	18	--	--	F. No. SW/1-1337581065/2013EOA dated 19/03/13	Not Applied

8. Programs to be considered for Accreditation vide this application:

Sl.No	Programme Name
1.	Civil Engineering
2.	Mechanical Engineering
3	Electronics and Communication Engineering

9. Total number of employees in the institution:

A. Regular* Employees (Faculty and Staff):

Items		CAY 2020-21		CAY*m*1 2019-20		CAY*m*2 2018-19	
		Min	**Max**	**Min**	**Max**	**Min**	**Max**
Faculty in Engineering	**M**	119	124	114	122	139	145
	F	47	49	42	44	34	39
Faculty in Maths, Science & Humanities	**M**	12	12	12	12	11	11
	F	6	6	6	6	7	7
Non-teaching staff	**M**	76	83	75	77	145	149
	F	4	4	4	4	4	5

B. Contractual Staff Employees (Faculty and Staff): (Not covered in Table A):

Items		CAY 2020-21		CAY*m*1 2019-20		CAY*m*2 2018-19	
		Min	**Max**	**Min**	**Max**	**Min**	**Max**
Faculty in Engineering	**M**	2	2	1	1	1	1
	F	0	0	0	0	0	0
Faculty in Maths, Science & Humanities	**M**	0	0	0	0	0	0
	F	0	0	0	0	0	0
Non-teaching staff	**M**	12	12	16	16	8	8
	F	6	6	5	5	7	7

10. Total number of Engineering Students: **UG**

Item	CAY 2020-2021	CAY*m*1 2019-2020	CAY*m*2 2018-2019
Total no. of boys	1470	1396	1388
Total no. of girls	903	923	925
Total no. of students	2373	2319	2313

11. Vision of the Institution:

To build Professionally Excellent, Knowledgeable, Globally Competitive, Socially Responsible Engineers and Entrepreneurs.

12. Mission of the Institution:

M1	To Impart Quality Education in Engineering and Management.
M2	To Establish a Continuous Industry Institute Interaction, Participation, Collaboration to Contribute Skilled Engineers.
M3	To Build Human Values, Social Values, Entrepreneur Skills and Professional Ethics Among the Technocrats
M4	To Focus on Innovation and Development of Technologies by Engaging in Cutting Edge Research Areas.

13. Contact Information of the Head of the Institution and NBA coordinator, if designated:

i. Name: **Dr. T. Hanumantha Reddy**

Designation: **Principal**

Mobile No: **9448043949, 9448844232**

Email id: **principalrymec@gmail.com**

ii. NBA coordinator, if designated:

Name: **Dr . S. G Anuradha**

Designation: **Professor**

Mobile No: **9449975860**

Email id: anuradhasuresh13@rymec.in

CRITERION 1	VISION, MISSION AND PROGRAM EDUCATIONAL OBJECTIVES	60

1. VISION, MISSION AND PROGRAM EDUCATIONAL OBJECTIVES

State the Vision and Mission of the Department and Institute (5)

Vision and Mission of the Institute

Vision of the Institute

To produce professionally Excellent, Knowledgeable, Globally Competitive, Socially Responsible Engineers and Entrepreneurs**.**

Mission of the Institute

M1	To provide quality education in engineering and management
M2	To establish a continuous Industry Institute Interaction, Participation and collaboration to contribute skilled Engineers
M3	To develop human values, social values, entrepreneur skills and professional ethics among the technocrats
M4	To focus on innovation and development of technologies by engaging in cutting edge research areas.

Vision and Mission of the Department

Vision of the Department

To produce technically, professionally excellent, knowledgeable, socially responsible and globally Competitive Civil Engineers, committed for the sustainable development of the society.

Mission of the Department

M1	To provide quality education, globally competitive for a successful career in civil engineering
M2	To encourage the student to pursue higher education with the state of mind for continuous upgradation
M3	To provide service for society through consultancy, construction protection and preservation of environment and research in civil engineering field.
M4	To produce exemplary professional Civil Engineers with Entrepreneurial skill

1.2 State the Programme Educational Objectives (PEO's)(5)

Programme Educational Objectives (PEO's) are

PEO's	PEO STATEMENT
PEO1	Graduate would develop successful career in Civil engineering to attend the various issues with high moral and professional standards
PEO2	Graduate would be able to work and meet the needs of sustainable development
PEO3	Graduate would develop the ability to pursue higher education with continuous engage in lifelong learning.

Indicate where the Vision, Mission and PEOs are published and disseminatedamong stakeholders (10)

Mission and Vision and PEOs are published on

- Institute web site (www.rymec.in)
- Laboratory Manuals
- Departmental News letter
- Internal Assessment (CIE) Books

Vision, Mission and PEOs are disseminated in

- Class Room
- Faculty Room
- HOD's Room
- Student Induction Program
- Teachers student Parent Meet
- Workshops, Student chapters, Civil Tech Programs and Technical Talks.

The Vision and Mission of the Department is disseminated through

The finalized Vision and mission Statements are made available in the institution and department website so that any person can access the web site will understand the vision and mission of the department and Institution.

The Vision and Mission are displayed in the HOD's room, department corridors, faculty room. This will help in disseminating the vision and mission of the department to all stake holders.

Alumni meet is conducted every year in the department, participant alumni will be made aware of the vision and mission.

Parent meeting is held once in a semester in the department, vision and mission of the Department are conveyed to the parents.

State the process for defining the Vision and Mission of the Department, and PEOs of the program (25)

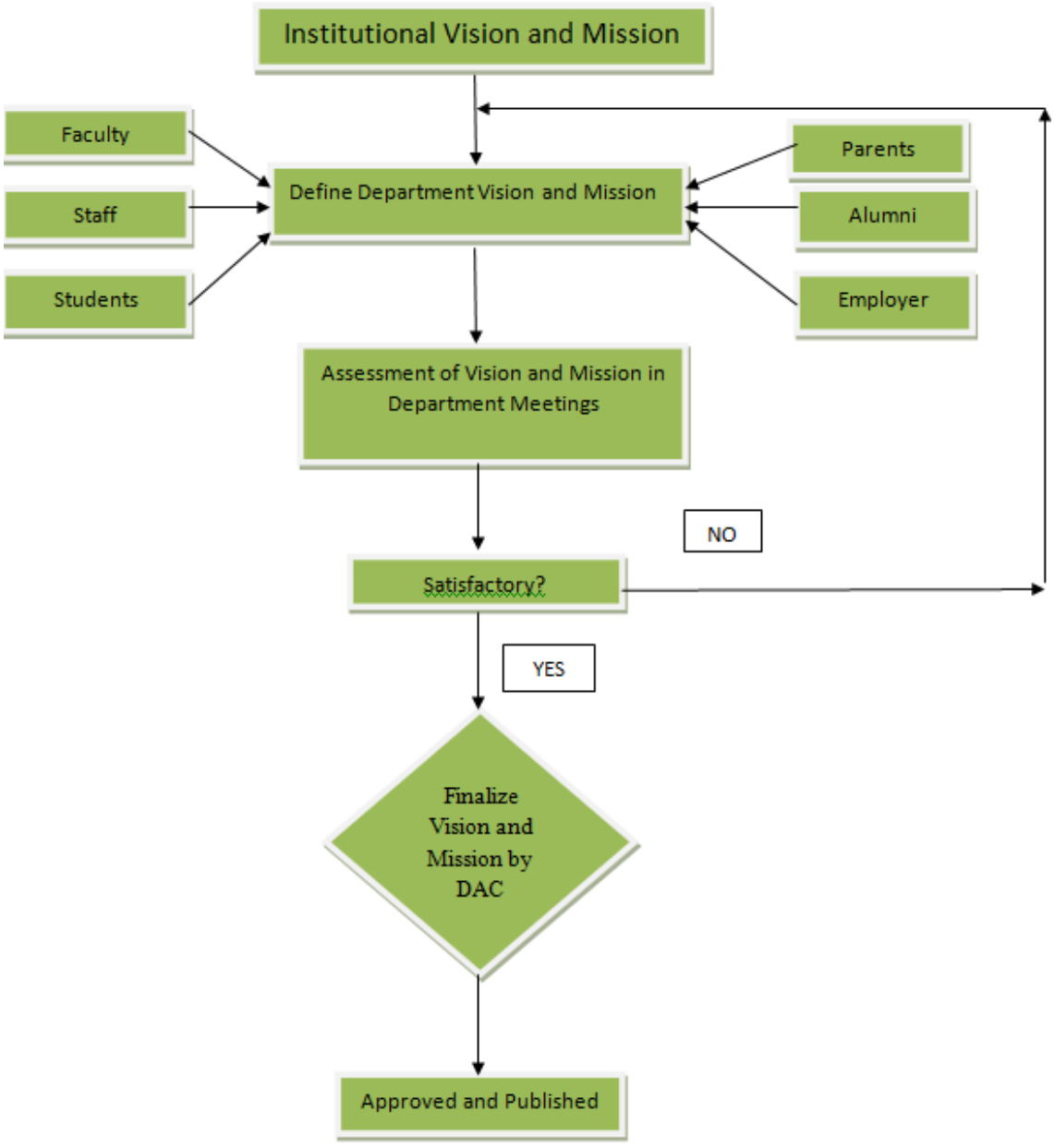


Fig 1.1 Flow Diagram showing the Process Defining the Vision and Mission of the Department

Department Vision and Mission statements are defined in line with Institutional Vision & Mission statements and consultative process involving internal and external stakeholders, industrial requirements, future scope and the societal requirement. In defining Vision and Mission Statement of department the following steps are followed and same as shown in fig 1.1

Step1: Vision and Mission of the institute are taken as basis for defining department Vision and mission statements.

Step2: Opinion were taken from stake holders of the department(Faculty, staff, students, parents, Employer, Alumni) on most critical area to be addressed by the department based on our expertise and available resources.

Step3: Once the information was collected and summarized, the draft of the Vision and Mission o f the department are formed and the same was discussed by HOD with the faculty in the meeting.

Step 4: The same communicated to the Alumni, Parents, Employers, students and the feedback is taken from these stakeholders.

Step5: If the same is accepted, Vision and Mission of the Department are finalized by Department Academic Committee or else the process is repeated.

The process for defining the PEOs of the program

The Programme Educational Objectives are established through a consultation process involving the core constituents such as: Student, Alumni, Faculty, Employers and Parents. The PEOs are established through the following process steps are followed and same as shown in the fig 1.2

Step 1: The PEOs are done in line with Institute and Department's Vision and Mission statements.

Step 2: The collaborative views are collected from various stake holders by the programme coordinator and formulation of PEOs with reference to PEOs of other institutions and Journal papers.

Step 3: The PEOs are developed by the team of faculty members and reviewed in the departmental meetings.

Step 4: The PEOs are presented in the Department Academic Committee (DAC) for additional inputs requirements for any change in the statements.

Step 5: Finalized Programme Educational objectives (PEOS) are published.

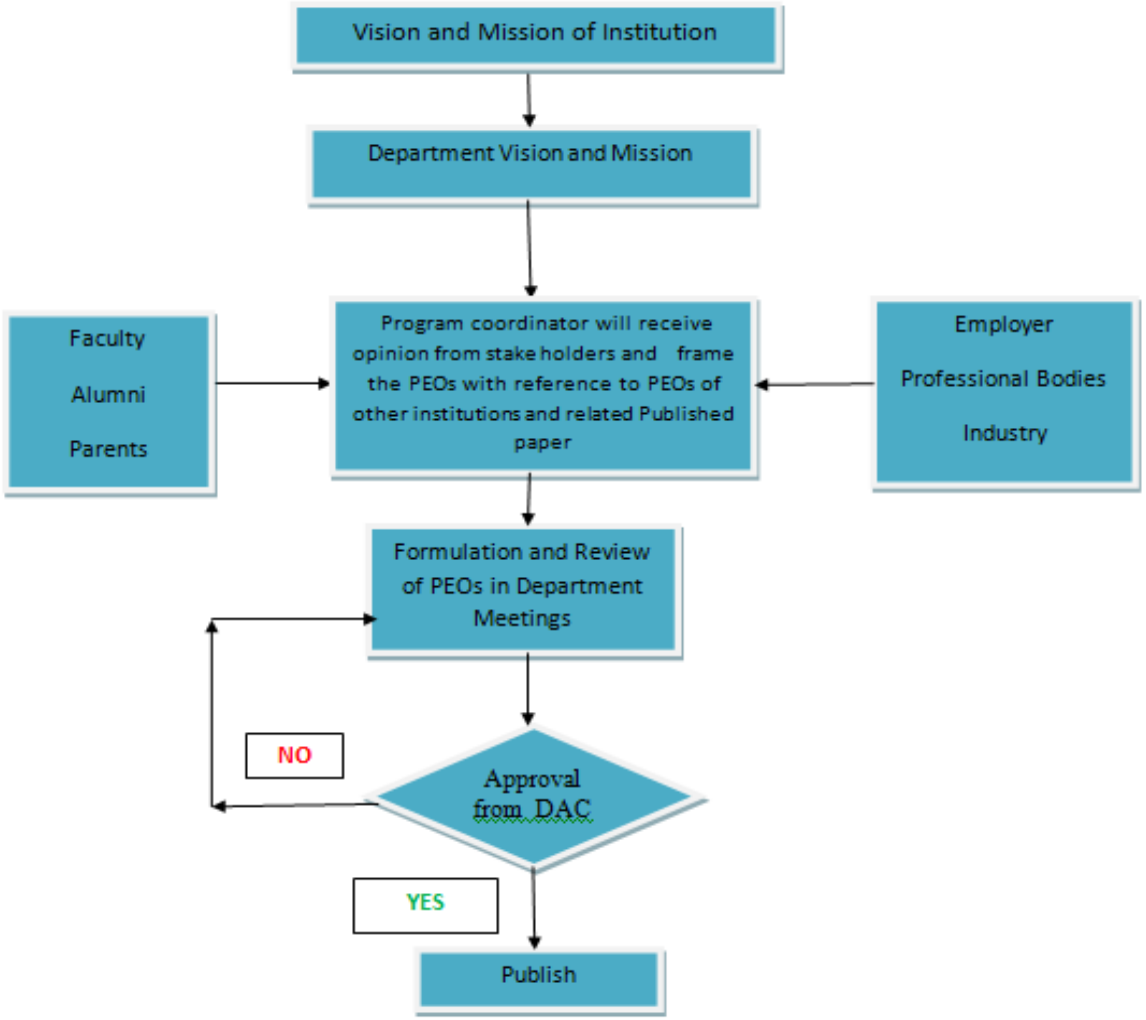


Fig 1.2 Flow Diagram Showing the Process for Defining the PEO's of the Department

1.5 Establish consistency of PEOs with Mission of the Department (15)

Table 1.1: Consistency of PEOs with mission of the department

PEO	MISSION	CORRELATION	JUSTIFICATION
PEO 1**:** Graduate would develop successful career in Civil engineering to attend the various issues with high moral and professional standards.	Mission 1- Quality Education	3- Substantial (High)	Students are trained through good class room teaching with very well-articulated Teaching Learning process (TLP). Student are trained inculcating the utilization of Codal provisions in the concerned subject provided by BIS Students are made to interact with industry through the professional body to enhance their knowledge.
	Mission-2: Higher Education	1- Slight (Low)	Students will be educated by the mentor about the higher studies and Its importance.
	Mission 3: Environment and Research	1-Slight (Low)	Electives are offered to the students in the Environmental field such as Air Pollution and control, Solid Waste management, Water Resource and Management to enhance the knowledge and their importance to meet the Sustainable Development.
	Mission 4:Entrepreneurial skills	3- Substantial (High)	Students will be trained to focus on the Entrepreneur skills through Bootcamp
PEO 2: Graduate would be able to work and meet the needs of sustainable development	Mission 1- Quality Education	1- Slight (Low)	Students are updated about the industry through the invited talk from the industry person.
	Mission 3: Environment and Research	3- Substantial (High)	Students will take the innovation project which is required in order to solve real life problems for the better society.
	Mission 4:Entrepreneurial skills	1- Slight (Low)	Students are encouraged to do internship during the semester break. This emphasizes upgradation of their knowledge and Entrepreneur Skills among them.

PEO 3 : Graduate would develop the ability to pursue higher education with continuous engage in lifelong learning	Mission 1- Quality Education	1-Slight (Low)	Providing skill & knowledge for continuous learning process motivates the students to indulge them in providing the sustainable solution.
	Mission-2: Higher Education	3- Substantial (High)	Speakers are invited to educate students about the importance of taking examinations such as Graduate Aptitude Test For Engineering (GATE), Graduate Record Examination (GRE), TOEFL to pursue their higher studies.
	Mission 3: Environment and Research	2-Moderate(Medium)	Research work carried out by the faculty in the Department will motivate the student to inculcate their thinking towards research.
	Mission 4:Entrepreneurial skills	1-Slight (Low)	Students are updated about the Entrepreneur Skills through the Invited talks conducted by the entrepreneurs.

Table 1.2:Mapping of PEOs with mission of the department

PEO Statements	M1	M2	M3	M4
	Quality education	**Higher education.**	**Environment Prevention and Research**	**Entrepreneurial skills**
PEO 1**:** Graduate would develop successful career in Civil engineering to attend the various issues with high moral and professional standards.	3	1	1	3
PEO 2: Graduate would be able to work and meet the needs of sustainable development	2	--	3	1
PEO 3 **:** Graduate would develop the ability to pursue higher education with continuous engage in lifelong learning	1	3	2	1

CRITERION 2	PROGRAM CURRICULUM AND TEACHING - LEARNING PROCESSES	120

2. PROGRAM CURRICULUM AND TEACHING - LEARNING PROCESSES

2. Program Curriculum and Teaching – Learning Processes (120)

2.1 Program Curriculum (20)

2.1.1 State the process used to identify extent of compliance of the University curriculum for attaining the Program Outcomes and Program Specific Outcomes as mentioned in Annexure I. Also mention the identified curricular gaps, if any (10)

Civil Engineering Program Curriculum:

Rao Bahadur Y Mahabaleshwarappa Engineering College is affiliated to VTU, Belagavi, Karnataka since its Establishment in the Year 1997. The Curriculum for Civil Engineering program comprises of the Course content as prescribed by the University. The University maintains balance between various Disciplines such as Humanities, basic sciences, Environment sciences and Core engineering Courses. Hence the Civil Engineering Program Architecture follows the recommendations of the University time to time and accordingly modifies the curriculum. Further the Civil Engineering Curriculum is also upgraded continuously as per the directions from **Board of Studies (BOS)** of the University. The BOS conducts periodical meetings and sets guidelines and frame the syllabus based on the input received from Academicians, Professors working in various affiliated colleges and Construction Industry experts. Details of Program followed is presented in Table No 2.1.

Table 2.1: Structure of the program as per VTU Curriculum (2015 Scheme):

Year/Sem		Basic Sciences (BS)	Engineering Sciences (ES)	Professional Subjects-Core (PC)	Professional Subjects – Electives (PE),	Credits
I year	I Sem	10	14	-	-	24
	II Sem	10	14	-	-	24
II year	III Sem	4	-	24	-	28
	IV Sem	4	-	24	-	28
III year	V Sem	-	-	20	6	26
	VI Sem	-	-	20	6	26
IV year	VII Sem	-	-	18	6	24
	VIII Sem	-	-	17	3	20
Total Credits		**28**	**28**	**123**	**21**	**200**

Table 2.2: Overview of the Curriculum:

Course component	Curriculum Credit content (% of contribution)
1.Basic sciences	28/200=14%
2.Engineering sciences	28/200=14%
3.Professional Courses-Core	123/200=61.5%
4.Professional courses -Electives	21/200=10.5%

a. Basic sciences =28 credits

b. Engineering sciences = 28 credits

c. Professional Courses-Core = 123 credits

d. Professional courses –Elective = 21 credits

Total number of Courses in the curriculum (from semester 1 to 8) = a + b + c +d +e =200

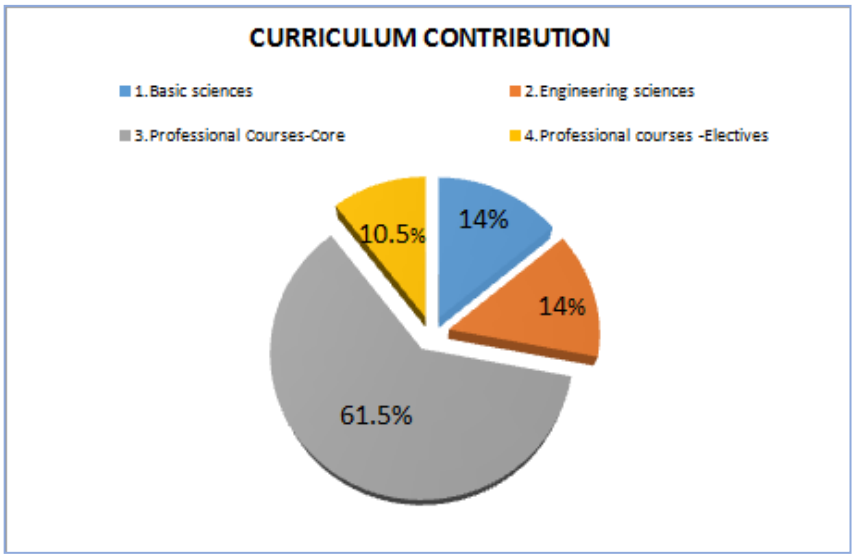


Fig 2.1: Curriculum Contribution (2015 scheme)

The Program Outcomes are as Prescribed by NBA and are listed in the Table 2.3

Table. 2.3: Statement of Program Outcomes

PO. No	Description
PO1	**Engineering Knowledge**
PO2	**Problem Analysis**
PO3	**Design/ Development of Solutions**
PO4	**Conduct Investigations of Complex Problems**
PO5	**Modern Tool usage**

PO6	**The Engineer and Society**
PO7	**Environment and Sustainability**
PO8	**Ethics**
PO9	**Individual and team work**
PO10	**Communication**
PO11	**Project management and Finance**
PO12	**Lifelong learning**

The Program Specific Outcomes (PSO's) are arrived based on the information/feedback collected from Stake holders (Alumni, Industry experts, employers). The Program Specific outcomes are stated in Table no 2.4, from the academic year 2017-18

Table 2.4: Statement of Program Specific Outcomes

PSOs	Description
PSO1	Ability to plan, estimate and supervise construction activities of civil engineering Structures.
PSO2	Ability to identify the soils of different nature through the geotechnical investigations and provide suitable foundation to the structures.
PSO3	Ability to plan, analyze and design and to solve Environmental engineering related Problems.

A. Process used to identify extent of compliance of University Curriculum for Attaining PO's and PSO's (6):

The process adopted in the Department to identify compliance of Civil Engineering program Curriculum for the attainment of PO's and PSO's is summarized below: At the outset, for all the Courses present in the curriculum the Course Outcome statements are developed by the course owner and for each COs, the mapping is made to each PO'S and PSO'S based on the content of Course outcomes and accordingly attainment levels of mapping is carried out. Then average attainment levels is computed from the aggregate attainment levels of all the courses existing in the curriculum and the details are shown in Tables No 2.5 to 2.6.

The attainment level for each PO's and PSO's is worked out similarly. The attainment for PO'S and PSO'S is considered fully attained if the average attainment level computed from the above tables is higher than TWO.

To identify the Extent of curriculum gaps and to recognize the attainment levels of PO's, PSO's a matrix is developed in the Department incorporating four years of Course Outcome

statements of all the courses and their attainment levels is computed for all PO's and PSO's. After mapping with all the PO's and PSO's the average attainment level of all Courses is computed. The details are shown in Table No 2.7

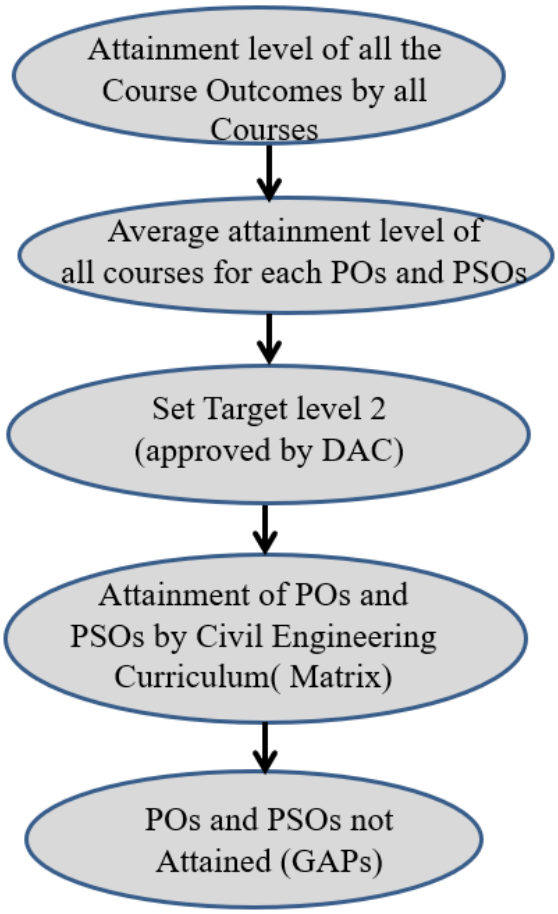


Fig 2.2: Process to describe the Attainment of PO's and PSO's with University–Curriculum

Table 2.5: Process Showing Attainment of PO's & PSO's by all the Course Outcomes of Civil Engineering Curriculum. (Scheme 2017)

Sem	Subject / Subject Code	Index	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1st Year	17CIV13	C103	2.0	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-
3rd Semester	EM-III 17MAT31	C201	2	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-
	SOM 17CV32	C202	1.75	2	-	-	-	-	-	-	-	-	-	2	1	-	-
	FM 17CV33	C203	3	3	1	-	-	-	-	-	-	-	-	2	-	-	-
	BS 17CV34	C204	2	2	-	-	-	-	-	-	-	-	-	1	-	-	-
	EG 17CV35	C205	2	2	2	-	-	-	-	-	-	-	-	2	-	2	-
	BMCT 17CV36	C206	2	1	-	-	-	-	-	-	-	-	-	1	1	-	-
	M TLAB 17CVL37	C207	3	-	-	3	-	-	-	-	-	-	-	-	1	-	-
	BASIC SUR LAB 17CVL38	C208	2	2	2	-	-	-	-	-	-	-	-	2	2	-	-
4th Semester	EM-IV 17MAT41	C209	2	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-
	ADS 17CV42	C210	3	2	2.25	1.5	-	-	-	-	-	-	-	2	1	-	-
	AH 17CV43	C211	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-
	CT 17CV44	C212	2	2	2	-	-	-	-	-	-	-	-	2	-	-	-
	BASIC GT 17CV45	C213	2	2	1	-	-	-	-	-	-	-	-	1	-	2	-

	AS 17CV46	C214	1.50	1.50	2	2	2	-	-	-	-	-	-	-	-	-	-
	FM & HM LAB 17CVL47	C215	2	2	2	1	-	-	-	-	-	-	-	1	-	-	-
	EG LAB 17CVL48	C216	1	-	-	1	-	-	-	-	-	-	-	1	-	-	-
5th Semester	DRCC 17CV51	C301	1.75	2	2	-	-	-	-	2	-	-	-	2	2	-	-
	AIS 17CV52	C302	3	2	2.3	-	-	-	-	-	-	-	-	2	2	-	-
	AGT 17CV53	C303	2	1.67	2	-	-	-	-	1.80	-	-	-	1.80	1	1	-
	CABPD 17CV54	C304	1	2	-	2	2	-	-	-	-	-	-	2	2	-	-
	RHTA 17CV553	C305	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-
	T E 17CV561	C306	2	2	2	2	-	-	-	-	-	-	-	2	-	-	-
	GT Lab 17CVL57	C307	2	-	-	2	-	-	-	2	2	-	-	-	-	2	-
	CHMT LAB 17CVL58	C308	3	3	3	-	-	-	-	-	-	-	-	2	-	-	-
6th SEM	CM&E 17CV61	C309	-	-	-	-	-	1.75	1.75	1.75	-	1	2	1	-	-	-
	DSS 17CV62	C310	2	3	3	-	-	-	-	2	-	-	-	2	2	-	-
6th Semester	HE 17CV63	C311	2	2	2	-	-	-	-	-	-	-	-	2	-	2	-
	WE&T 17CV64	C312	1	-	2	-	-	-	1.5	-	-	-	-	-	-	-	1
	SWM 17CV651	C313	2	-	2	-	-	-	1.5	-	-	-	-	1	-	-	1.5
	WRM 17CV661	C314	2	-	-	-	-	1.25	2	-	-	-	-	2	-	-	1
	SA Lab 17CVL67	C315	2	-	2	-	2	-	-	2	-	-	-	2	2	-	-

	Extensive Survey 17CVL68	C316	2	1	-	-	-	2	2	-	2	-	-	1	-	-	2
7th Semester	MIWW 17CV71	C401	2	-	-	-	-	-	2	-	-	-	-	2	-	-	2
	DRCC& SS 17CV72	C402	3	2	3	2	-	-	-	-	-	-	-	-	2	-	-
	HIE 17CV73	C403	3	3	2	-	-	-	-	-	-	-	-	-	2	-	-
	DOB 17CV741	C404	2	1	2	-	-	-	-	-	-	-	1	-	2	-	-
	UTP 17CV751	C405	2	2	2	2.5	-	-	-	-	-	-	2	2	2	-	-
	EE LAB 17CVL76	C406	2	-	-	-	-	-	2	-	-	-	-	2	-	-	2
	CAD LAB 17CVL77	C407	2	2	2.5	2	3	-	-	-	-	-	2	2	2	-	-
	PROJECT PHASE-I 17CVP78	C408	1.78	1.91	1.88	1.20	1.06	1.92	1.96	1.67	2.09	1.56	1.31	1.87	2.13	0.78	0.83
8th Semester	QSCM 17CV81	C409	3	3	-	-	-	-	-	-	-	-	-	2	3	-	-
	DPSC 17CV82	C410	2	2	2	-	-	-	-	-	-	-	-	-	1.50	-	-
	HS 17CV832	C411.1	2	2	2	-	-	-	-	-	-	-	-	2	-	-	-
	PD 17CV833	C411.2	2	2	2	-	-	2	-	1	-	-	-	-	-	-	-
	INTERNSHIP 17CV84	C412	2.12	1.78	1.70	2	2	2.5	2	2	1.95	2.15	1.95	2.15	1.85	1	1
	PROJECT WORK 17CVP85	C413	1.70	2.08	2.23	1.17	1.83	2.03	2.33	1.94	2.25	1.52	1.89	2.00	2.46	1.00	1.50
	SEMINAR 17CVS86	C414	2	1.9	2.5	2	2	2	2.5	2	1.95	1.95	1.95	1.95	2	1	1
Average			**2.07**	**2.04**	**2.17**	**1.84**	**1.98**	**1.96**	**1.98**	**1.80**	**2.05**	**1.80**	**1.73**	**1.87**	**2.07**	**1.16**	**1.38**

Table2.6: Process Showing Attainment of PO's & PSO's by all the Course Outcomes (Scheme 2015)

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO	PSO2	PSO3
C103	2	2.4													
C201	2	2.5													
C202	1.75	2										2	1		
C203	1.75	1	1										1		
C204	2	2										1			
C205	2	2	2									2		2	
C206	2	1										1	1		
C207	3			3									1		
C208	2	2	2									2	2		
C209	2	2.5													
C210	3	2	2.25	1.5								2	1		
C211	2	2	2												
C212	2	2	2									2			
C213	2	2	1									1		2	
C214	1.5	1.5	2	2	2										

C215	2	2	2	1								1			
C216	1			1								1			
C301	1.75	2	2					2				2	2		
C302	3	2	2.3									2	2		
C303	2	1.67	2					1.8				1.8	1	1	
C304	1	2		2	2							2	2		
C305	2	2													
C306	2	2	2	2								2			
C307	2			2				2	2					2	
C308	3	3	3									2			
C309						1.75	1.8	1.8		1	2	1			
C310	2	3	3					2				2	2		
C311	2	2	2									2		2	
C312	1		2				1.5								1
C313	2		2				1.5					1			1.5
C314	2					1.25	2					2			1
C315	2		2		2			2				2	2		
C316	2	1				2	2		2			1			2

C401	2						2	2							2
C402	3	2	3	2									2		
C403	3	3	2										2		
C404	2	1	2								1		2		
C405	2	2	2	2.5							2	2	2		
C406	2						2					2			2
C407	2	2	2.5	2	3						2	2	2		
C408	2.46	2.45	2.44	2.3	1.85	2	2.3	2.4	2.62	1.7	2	2.07	2.25	2	2
C409	3	3										2	3		
C410	2	2	2										1.5		
C411.1	2	2	2									2			
C411.2	2	2	2			2		1							
C412	2.12	1.78	1.7	2	2	2.5	2	2	1.95	2.15	1.95	2.15	1.85	1	1
C413	2.46	2.45	2.44	2.3	1.85	2	2.3	2.3	2.62	1.7	2	2.07	2.25	2	2
C414	2	1.9	2.5	2	2	2	2.5	2	1.95	1.95	1.95	1.95	2	1	1
Average	**2.08**	**2.03**	**2.1**	**2**	**2.09**	**1.94**	**2**	**1.9**	**2.19**	**1.7**	**1.863**	**1.751**	**1.78**	**1.667**	**1.55**
Target	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**

Table .2.7 & Figure No.2.3 shows the details of percentage attainment of PO's and PSO's by Civil Engineering Curriculum.

Table 2.7: The Compliance of Civil Engineering curriculum with POs & PSOs

PO'S / Student batches	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
Attainment 2017-21(CAY)	2.07	2.04	2.17	1.84	1.98	1.96	1.98	1.80	2.05	1.80	1.73	1.87	2.07	1.16	1.38
Attainment 2016-20(CAYm-1)	2.11	2.00	2.02	1.84	2.00	1.96	1.97	1.68	2.29	1.88	1.68	1.76	1.75	1.57	1.61
Attainment 2015-19(CAYm-2)	2.08	2.03	2.10	1.98	2.09	1.94	2.00	1.93	2.13	1.70	1.86	1.76	1.74	1.67	1.55
Target Level	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

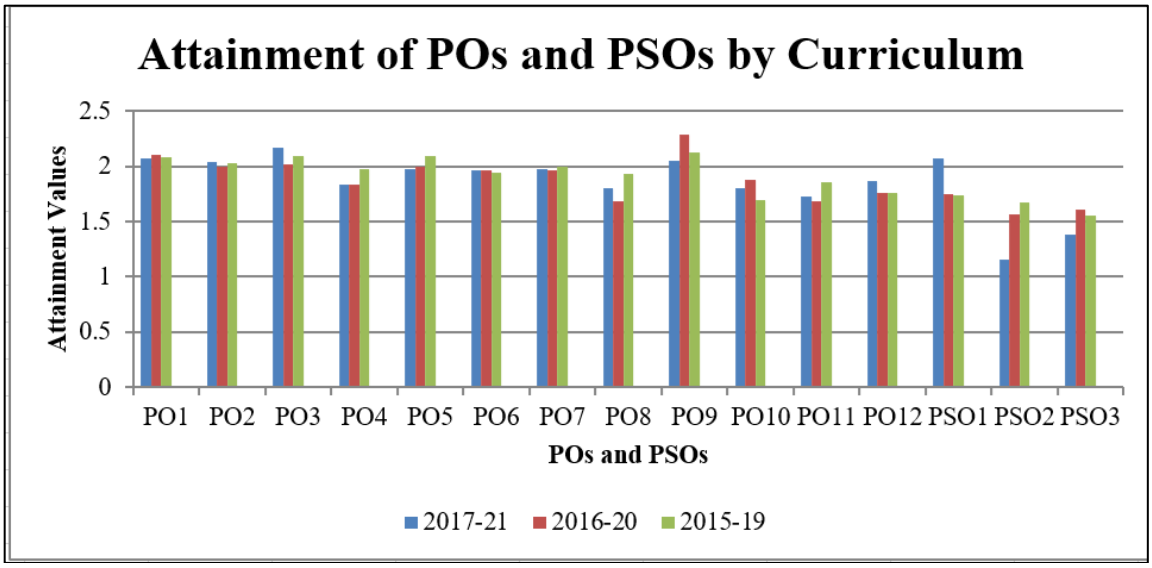


Fig 2.3: Attainment of POs and PSOs by Civil Engineering curriculum(for Schemes 2017,2015 and 2010)

B. List of curricular gaps for the attainment of defined PO's and PSO's

The following PO's and PSO's are partially attained by the University curriculum which are identified as Gaps as per computations made in the Table no.2.5 to 2.6 Stakeholders combined with CO's attainment level as shown in Figure No.2.3.

The following PO's and PSO's are fully attained by the curriculum	The following PO's and PSO's are partially attained by the curriculum
1. Engineering Knowledge (PO1) **2. Problem Analysis (PO2)** **3. Design/ Development of Solutions (PO3)** **4. Individual and Team work. (PO9)** **5.Program Specific Outcome 1. (PSO1)**	**1. Conduct Investigations of Complex Problems (PO4)** **2. Modern Tool usage (PO5)** **3. The Engineer and Society (PO6)** **4. Environment and Sustainability (PO7)** **5. Ethics (PO8)** **6. Communication (PO10)** **7. Project Management and Finance (PO11)** **8. Life-long Learning (PO12)** **9. Program Specific Outcome 2 (PSO2)** **10. Program Specific Outcome 3 (PSO3)**

To fulfill the Gaps as identified in the Civil Engineering, Curriculum, the Department has conducted additional courses such as invited talks, seminars, workshops & personality development programs as exhibited in Table No. 2.9 to 2.12.

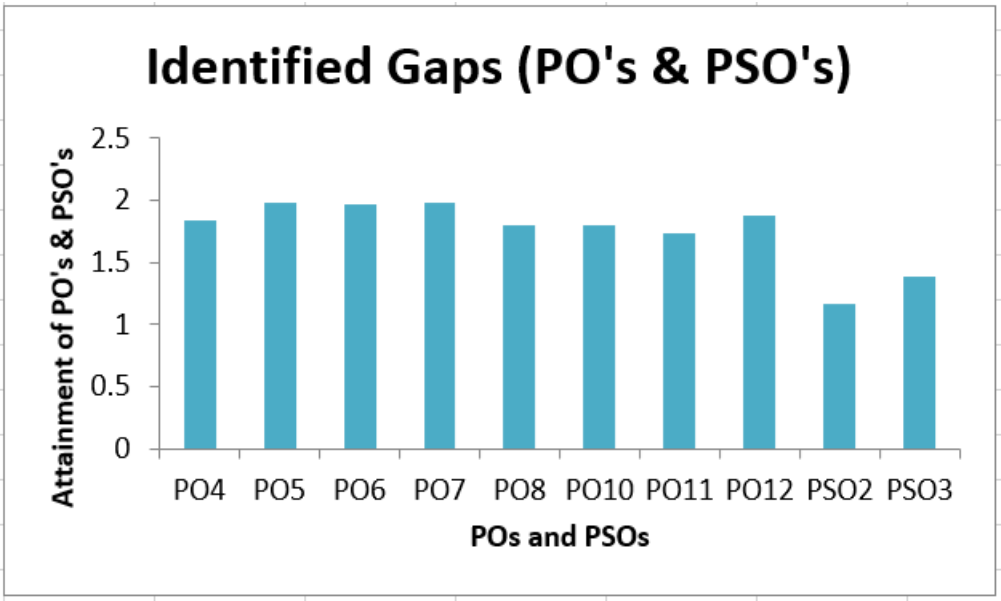


Fig 2.4: Identified Gaps in PO's & PSO's (2017 scheme)

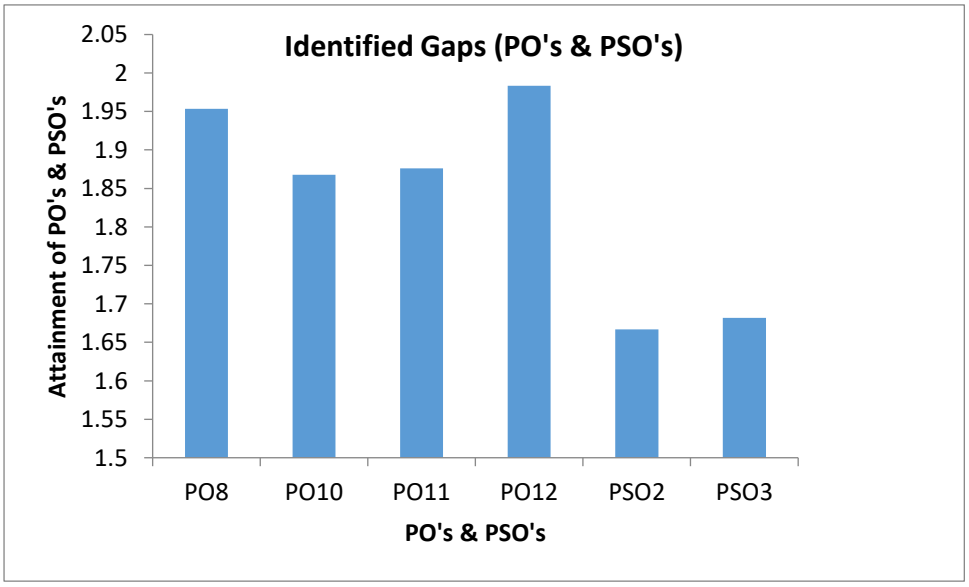


Fig 2.5: Identified Gaps in PO's & PSO's (2015 scheme)

2.1.2 Statement of Delivery details of the Content beyond the syllabus and curriculum gap for Attainment of POs and PSOs (10)

A. Initiation taken up to include identified gaps in to the curriculum.

A meeting of all the Members of Department Advisory committee (DAC), Construction

industry professionals, Alumni's and all other faculty members was called in the Department on 16.06.2017 to identify the curriculum gaps based on the needs of Construction Industry. After deliberations made between the members the industry professionals and Alumni opinions, that, the Graduates produced from the Institutes are not competitive enough to face the challenges of the industry, as they are not inculcated with enough technical knowledge and field/site problems expected to face in their Profession. During the Proceedings of the meeting, the experts after discussions identified and suggested some modifications in the Program structure (gaps) to fulfill the needs of the construction Industry. Lastly the experts advised to modify the syllabus in the succeeding BOS meetings.

If some such Course contents to attain PO's and PSO's re not inculcated in the curriculum provided by the affiliated University then the Institution/Department applies additional efforts to impart such knowledge by covering aspects through **"CONTENTS BEYOND SYLLABUS".** The process followed is shown in Figure No.2.6.

Subsequently after the Identification of curriculum Gaps as stated in section 2.1.1.and to accomplish the same a letter Dated 16.6.2017 was submitted to The Registrar, VTU by the Principal, RYMEC, requesting him to include the contents of PO's and PSO's which are not attained from the University curriculum for the Academic Year 2016-17. If the University adopts measures to include the aforesaid contents into the university curriculum higher level of attainment of the PO's &PSO's is possible directly through the curriculum itself.

B. Initiation taken up by the Department to fill the Gaps:

The following activities/events are conducted to fill the gaps considered as Content beyond the syllabus:

1. Workshops

2. Invited talks

3. Tech- festivals

4. Seminars

5. Field trips/visits

6. Training programs

Table No. 2.8, 2.9,2.10, and 2.11 shows the details of programs Conducted in the Department to meet the contents beyond the curriculum for respective academic years:

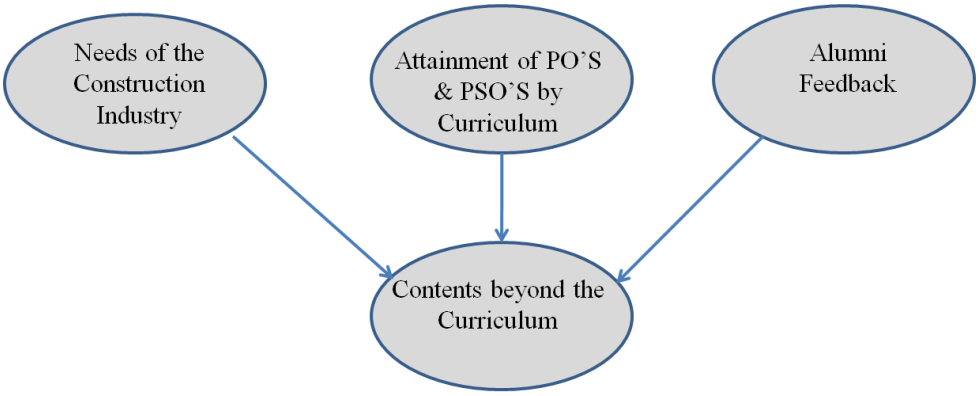


Fig 2.6 Flow chart showing identification of Content beyond the curriculum.

C. Mapping of content beyond syllabus with the PO's and PSO's.

Table 2.8: PROGRAMS CONDUCTED TO FULLFIL THE CURRICULUM GAP FOR THE BATCH 2017-21: (for the Academic Year 2019-20)

Sl. No	Gap	Action taken	Date-Month-Year	Resource Person with designation	% of Students
1	PO5,PO 8,PO12, PSO1	Technical Talk on "Building Information Modeling (BIM)" covers modern tools, ethics with lifelong learning including concepts of structural engineering.	28/02/2020	Er. Pradeep Kumar K., Director, MEDINI Software Technologies, Bengaluru.	75
2.	PO1,PO 6,PO8,P O12	A National Webinar on "Why do REBARS in RCC Corrode" by Ultra Tech Cement, India Ltd. covers ethics with lifelong learning including concepts of structural engineering	13/11/2019	Resource Person from Ultra Tech Cement, India Ltd.	75
3	PO1,PO 4,PO6,P O7,PO9, PO10,P O12,PS O2	Workshop on Geotechnical investigation in Structural Engineering	08/07/2019	PROF.Govinda raju.L,UVCE	70

Table 2.9: PROGRAMS CONDUCTED TO FULLFIL THE CURRICULUM GAP FOR THE BATCH 2017-21: (for the Academic Year 2018-19)

Sl. No	Gap	Action taken	Date-Month-Year	Resource Person with designation	% of Students
1	PO1,PO6,PO8,PO10,PO11,PO12,PSO1	Workshop On "Ready Mix Concrete(ICI)"(For RMC 7thsem) covers ethics with life-long learning including concepts of structural engineering	25/8/2018	UDAYA KUMAR S. G. Heidelberg Cement India Limited, Bengaluru	75
2.	PO1,PO3,PO6,PO8,PO10, PO12	Field Visit to HMA mix plant covers communicates society, complex engineering problems along with life-long learning.	27/2/2019	Faculty Members of Civil Engg. Dept. and Site Engineer Chandrashaker M.	70
3.	PO1,PO,6,PO7,PO8, PO10,PO12,PSO1	Technical Field Visit to Hydraulic Structures covers ethics, communicates society, complex engineering problems along with life-long learning.	27th March 2019	Faculty Members of Civil Engg. Dept. and Engineers from TB Dam	82
4.	PO1,PO,6,,PO10,PO11,PO12,PSO3	Field Visit to Moka Water Treatment Plant covers ethics(best practices) and life-long learning.	8th March 2019	Faculty Members of Civil Engg. Dept. and Engineers at Moka Treatment Plant	66

Table 2.10: PROGRAMS CONDUCTED TO FULLFIL THE CURRICULUM GAP FOR THE BATCH 2016-20: (for the Academic Year 2017-18)

Sl. No	Gap	Action taken	Date – Month-Year	Resource Person with designation	% of Students
1	PO5, PO12, PSO1	Training Program on "Auto CADD" covers modern tools, with lifelong learning including concepts of structural engineering	9/10/17 to 11/11/17 & 12/3/18 to 14/4/18	SiddiqeeShaik AutoCAD, Ballari	83
2	PO5, PO12, PSO1	Training Program on "E-TABS" covers modern tools, with lifelong learning including concepts of	2/11/2018 to 15/11/2018	Balamurlli Krishna AutoCAD, Ballari	75

		structural engineering			
3	PO1, PO6, PO9, PO10, PO12	Tech-fest Civi-Tech 2018 covers engineering knowledge, Engineer and society, Individual and team work, communication and lifelong learning.	13/4/2018 & 14/4/2018	Dr.Srishaila J M Mr. Basavaprabhu	80

Table 2.11: PROGRAMS CONDUCTED TO FULLFIL THE CURRICULUM GAP FOR THE BATCH 2016-20: (for the Academic Year 2016-17)

Sl. No	Gap	Action taken	Date-Month-Year	Resource Person with designation	% of Students
1	PO6, PO7, PO12	Workshop on "Solid Waste & Waste Water Management in Urban & Rural India-Present Scenario & Challenges" covers Engineer and the society, Environmental and sustainability and Lifelong learning.	26/08/2016 & 27/08/2016	1.Dr. Govindaraju Guptha, Professor, GEC, Goa 2.Dr. C. Sadashivaiah, HOD& Professor, HMSIT, Tumkur 3.D.R.KumarSwamy, Chief Environmental Officer,KSPCB, Bengaluru 4.Dr. BasavarajManu,Assoc.Professor,NITK,Suratkal 5. Dr.G.P.Shivashankar, Professor,PES, Mandya 6.S.M.R.Prasad, Vice President,E.M.Dept.JSW 7. Dr. R.T. SrinivasRao, General Manager, Environment Management JSW Steel Ltd., Ballari.	90

2.2 Teaching-Learning Processes (100):

2.2.1 Describe processes followed to improve the quality of Teaching and Learning (25)

A. Adherence to Academic Calendar.

Since the Institute is affiliated to VTU, Belagavi, hence all the program dates will adhere to the calendar of the University. The Department Calendar of events is prepared based on

University and Institute calendar of events as mentioned above and is provided to all the students and faculties before commencement of the semester.

B. Use of various instructional methods and pedagogical initiatives.

Various Instructional methods and pedagogical initiates involved in teaching learning process are listed below:

1. Lecturing using Black board
2. Lecturing through Tutorials and Remedial classes
3. Power point presentation
4. NPTEL videos
5. Models
6. Industrial tours/Field demonstrations /Real World citations
7. Distribution of Handouts
8. Demonstrations in the class room
9. Debates and quiz

ICT tools applied in the department along with online pedagogical methods:

1. Great learning application
2. Zoom application
3. Google meet
4. Google classroom
5. NPTEL videos
6. YouTube Videos

C. Methodologies to support weak students and encourage bright students.

All the students in a semester are classified as Bright or debilitated in each course taking into consideration about his/her overall CGPA, previous SEE and current semester IA performance.

Initiatives and Implementation details of Assisting Poor academic Performers:

The department process of monitoring, guiding and assisting slow learners is as below

- A separate list of students scored below 15 marks for Non CBCS Scheme/12marks for CBCS Scheme in the internals is identified and are given additional coaching by conducting Remedial and tutorial classes.
- Additional coaching is given to slow learners through Remedial and tutorial classes and is prepared to face the exams with confidence.

- A group of students are allocated to each Faculty who act as mentor to address the grievances of each student and after counselling, suitable suggestions/ advise is given and the Department will try to resolve the issues of mentee.

Impact analysis on the performance for Poor academic Performers

- Improvement in the Internal Assessment marks.
- Improved results and less number of failures in each subject.

Initiatives and implementation details of Encouraging Meritorious Students

- Indian Concrete Institute (ICI) student chapter.
- Seminar and Deminar activities.
- Model making, quiz, paper presentation through "SHILPI" forum.
- Sponsored to attend conferences, workshops and publish papers.
- Motivated to take up innovative projects and apply for funding.
- Encouraged to participate in various competitive exams/quest/quiz.
- Inspired to take up competitive examinations like GATE, PGCET etc.,
- Meritorious students are awarded through Academic excellence Award function.

Impact analysis for Outstanding & Brilliant Students:

Table 2.12: Students Qualified in Competitive exams

Registration No	Name of Student	Year of passing	Competitive exams
CE20S71202084	LOKESH M	2020	GATE
GC108	S KIRAN	2020	PGCET
GC098	SYED TAZAMOOL	2020	PGCET
GC121	POORNIMA METI	2020	PGCET
GC106	ANE MOUNIKA	2020	PGCET
GC006	SUBHASH REDDY L	2019	PGCET

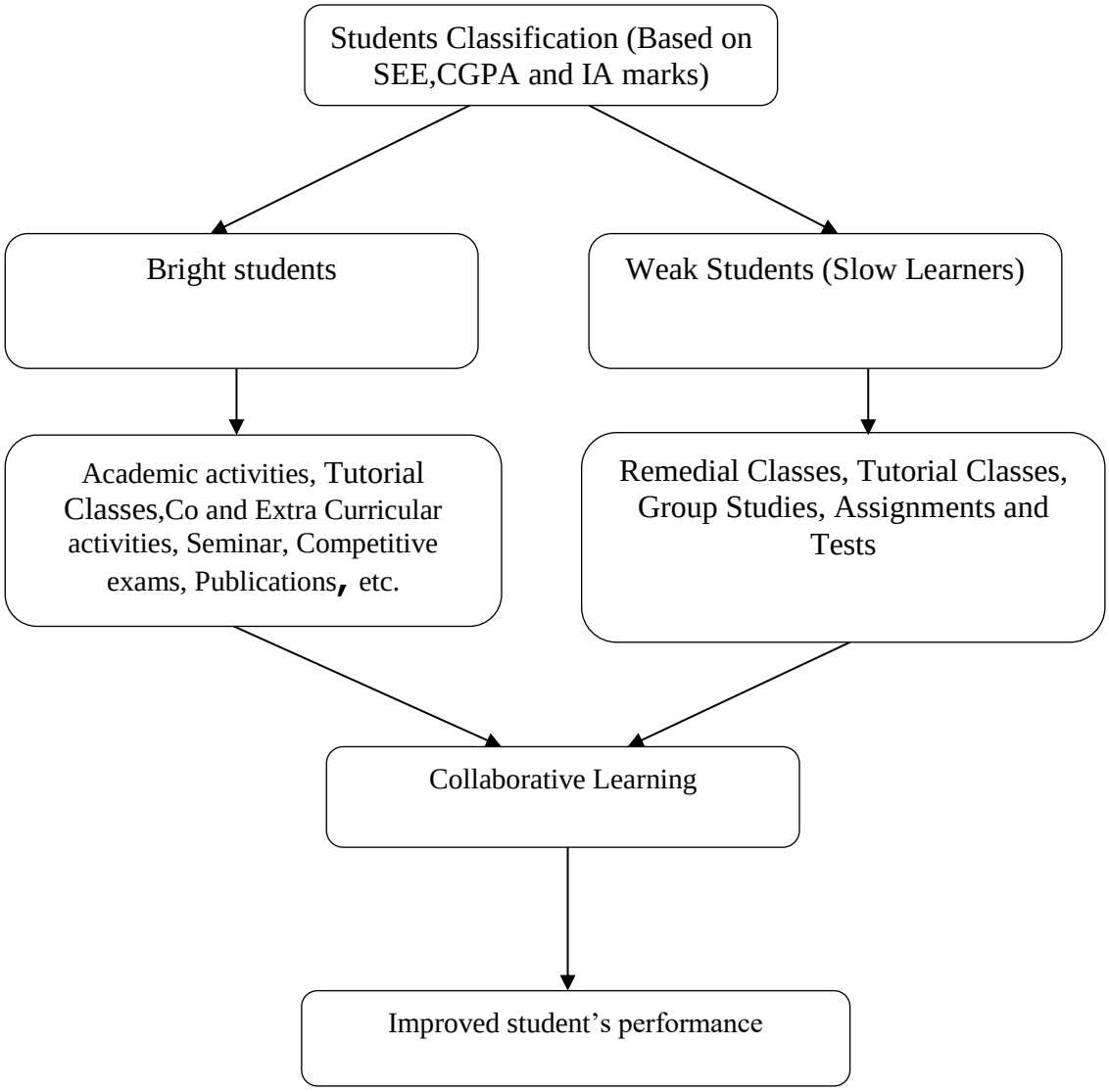


Figure 2.7: Flow diagram showing process followed to improve students' performance

D. Quality of Class room Teaching.

All classrooms are provided with blackboard, LCD projectors and Audio facility. All the theory courses are delivered through lectures, NPTEL and NITTR recorded videos using these facilities. Students are encouraged to interact and discuss with the faculty during lecture and get their doubts cleared. For the courses involving numerical and designs, problems from the University question papers are solved in the class. Numerical examples with twist in the data or solutions are also discussed or given as assignment. A minimum of 85% attendance is to be attained by the student to appear for the University examination. The University stipulates maximum number of four heads as backlogs in first and second semester to enter third semester and these eligibility criteria depends on

the prevailing scheme. The students attendance is monitored every week and the list of the students with low attendance is displayed in the notice board. All these regulations prompt the students to be regular and serious in their studies.

Based on the request from the faculty and considering the importance of the subject, additional teaching hours are allotted in the Time table as tutorial classes.

E. Conduct of Experiments.

Initiatives and implementation details of improving Laboratory Experience in Conducting Experiments:

- Student Batches for each experiment are made depending on the type of experiment, laboratory and availability of equipment.
- The faculty provides instruction elaborately to each experiment and also illustrates using recorded videos like NPTEL and NITTR.
- The faculty will monitor the progress of experiments carried out by each batch of students.
- The faculty checks/verifies the observations recorded in the observation book with calculations until the results and conclusions are drawn by the students.
- The students will enter the entire observations in observation book and submit the record in the subsequent week with all the information related to the test/experiment.
- Viva questions/question bank is provided to students prior to the University examinations.
- At the end of the semester an internal practical test is conducted in line with university practical examination and marks are awarded.
- The performance of Students in the Laboratories are evaluated by the faculties for 20/40 marks is presented in the Table No. 2.13

Table 2.13: Division of marks followed for evaluating student's performance. (CBCS 2015 & 2017 Scheme)

Level	Evaluation Type	
1.	Continuous Evaluation for each experiment.	**7**marks
2.	Laboratory Internal Test and Record submission.	**10**marks
3.	Attendance.	**03 marks**
	Total	**20 marks**

F. Continuous Assessment in the laboratory.

Implementing Quality procedures in conducting Laboratory Experiments:

Quality of conducting experiments is improved in the Laboratory by adopting the following procedures;

- Providing Do's and Don'ts (Display Board)
- Methodology to conduct experiments is as per the prevailing I.S. Code procedures.
- Providing Laboratory manual
- Maintaining log book for every laboratory
- Presentation through Videos (recorded NPTEL and NITTR videos)
- Demonstration of experiments in the laboratory
- Continuous monitoring the students through evaluation of the observation book and record regularly
- An Extra laboratory class is arranged for students who remained absent for regular classes.
- Providing the question Bank
- Good results in laboratory university examination.

Impact analysis for improved Teaching Learning Process:

The following positive outcomes are observed after adopting innovative Teaching learning processes:

- Improved Performance in internal assessment tests
- Improved performance in external examinations
- New view points and new project ideas derived from the students.
- Better bondage between students and faculty.
- Better employment opportunities after graduation.

G. Student feedback of Teaching Learning Process and action taken.

Feedback on faculty from students will be collected once in every semester at the Institute level. Using the information of the feedback the institute will initiate appropriate steps to issue memos to faculty either with appreciation or advice to improve his/her performance.

2.2.2 Quality of Internal semester Question papers, Assignments and Evaluation (20)

A. Process for internal semester question paper setting & evaluation and effective process implementation.

Process followed to monitor quality of internal assessment test question papers:

The Department follows guidelines of VTU to conduct IA test and award the marks as per the guidelines of affiliated university. VTU gives compendium that contains rules and regulation to be followed for conducting IA tests.

Awarding of Internal Assessment Marks:

The following procedure is maintained to award IA marks

The Internal Assessment test is conducted as per the prevailing schemes of the University in the respective academic years.

- For 2015 CBCS, the IA test is conducted for 30 marks and reduced to 15 marks as per VTU evaluation norms and 5 marks is allotted for assignment, and the final marks are declared as average of best of two IA tests.
- For 2017 and 2018 CBCS, the IA test is conducted for 50 marks and reduced to 30 marks as per VTU evaluation norms and 10 marks is allotted for assignment, and the Final marks are declared as average of three IA tests.
- The Assignment marks are awarded based on the performance of the student in writing assignment, seminar, and others as prescribed in the syllabus.

Conducting Procedure for Internal Assessment Test:

HOD will nominate a Faculty as an internal assessment test coordinator to monitor the whole process and he will constitute a committee, which will oversee the process of monitoring the quality of question paper, scheme of evaluation and reviews the evaluation of IA books.

- Three set of question papers will be submitted by each faculty to the Committee
- One among of the three set of question papers will be selected for the scrutiny.
- After the scrutiny appropriate modifications are suggested to faculty, if the is not as per the guidelines.
- The committee gives guidelines for IA Question paper preparation.
- It is recommended to set the question paper having Blooms taxonomy levels of CO is in line with Blooms taxonomy levels of IA question paper.

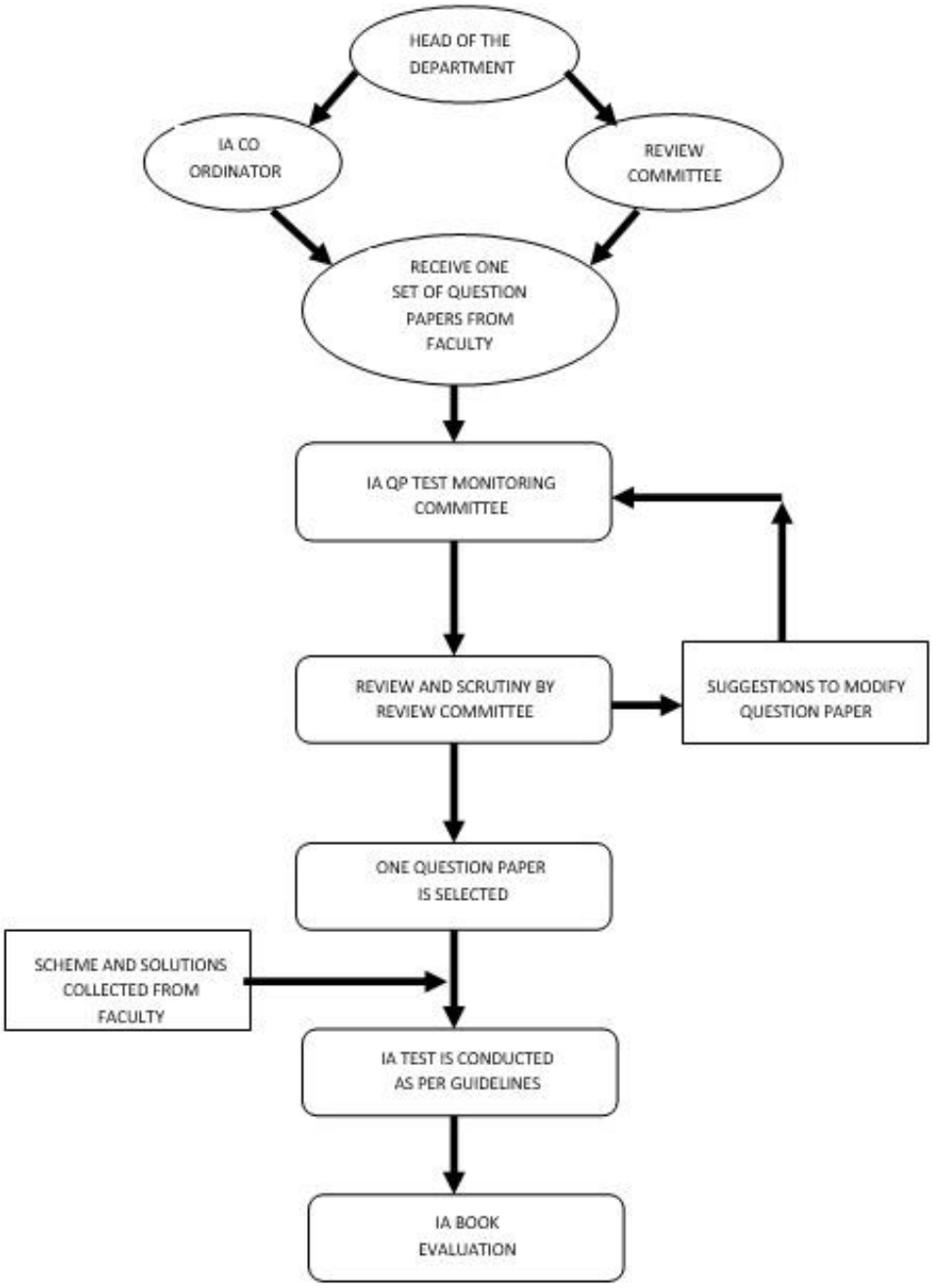


Fig 2.8: Flowchart to conduct Internal Assessment Test

Awarding of Internal Marks:

Based on the performance of students in Three IA Tests, final IA marks is computed as Average of the three IA tests. The above procedure of awarding the IA marks is based on the VTU Regulations. Practical classes have one Internal Assessment test.

Makeup Internal Assessment Test:

Makeup Internal Assessment test is allowed for those Students who have scored low Average marks, not attended internals due medical and other related issues.

B. Process to ensure questions from outcomes/learning levels perspective

In setting the internal assessment question paper Blooms Taxonomy is adopted as prescribed by the learning objectives of University and attainment of PO's and PSO's. Mapping of PO's and PSO's is verified before finalizing the Question paper. The scrutiny of the question papers is made by DAC.

C. Evidence of CO's coverage in class test/mid-term tests

University prescribes course outcomes and same will be attained through teaching learning process.

D. Quality of Assignment and its relevance to CO's

A minimum of three assignments is to be written by a student. Questions for assignments are prepared in-line with CO's, PO's and PSO's. The students are encouraged to refer contents from various sources to complete the assignments and this promotes self-learning. The Blooms taxonomy levels of assignment are generated in such a way as to comply the gap in the BTL of the Course Outcomes in the IA question paper.

2.2.3 Quality of Student Projects (25):

A. Identification and allocation methodology of Projects;

The following Committee/Committee Members are constituted to make the regulations and to evaluate the Projects:

1. HOD
2. Project Review Committee
3. Project Guide
4. Project Co-ordinator

A **Project Review Committee (PRC)** is constituted by Head of the Department, along with the Project Coordinator comprising of senior Faculty members representing all specializations. The HOD nominates one of the Faculty as Project Coordinator to monitor all Project related activities. An external subject expert evaluates all projects and declare best and average project based on the rubrics of the project.

Selection of Project Field:

- The students are given option to choose their field of interest from different streams/fields.
- Project Batch Formation:
- Project batches are formed based on area of interest and considering their individual grades of previous semester and overall academic background.

The process of initiating and offering projects for the students is made by keeping the following views and perspectives:

- The Projects in the Department are so chosen so as to benefit the society and have direct application in the field of Civil Engineering and also that helps students to prospective thinking about their higher studies and career after graduation.
- The students are guided to select projects so that, current Civil Engineering issues or burning problems faced by construction industry are selected as Projects. Considering the possibilities of choosing fields with a view of innovative ideas and focusing on thrust areas such as energy, environment, and use of alternative building materials.
- The Project fields are also chosen, so as to strengthen the Attainment of Program outcomes and Program Specific outcomes which are identified as Gaps as per the table No 2.9 and also in line with the Department Mission and Vision.

B. Types and relevance of the projects and their contribution towards attainment of PO's & PSO's

Table 2.14: General Mapping of Project Fields with POs and PSOs

SL. NO	AREAS OF PROJECTS	In line with POs	PSO's
1	STRUCTURAL ENGINEERING	PO1, PO3, PO5, PO8, PO9, PO10 & PO12	PSO1
2	CONSTRUCTION TECHNOLOGY	PO1, PO8, PO9&PO12	PSO1
3	TRANSPORTAION ENGINEERING	PO1, PO8, PO10&PO12	-
4	ENVIRONMENTAL ENGINEERING	PO1, PO6, PO7, PO8, PO10&PO12	PSO3
5	CONCRETE TECHNOLOGY	PO1, PO8, PO9&PO12	-
6	IRRIGATION ENGINEERING	PO1, PO6 &PO12	-
7	GEOTECHNOLOGICAL	PO1, PO8, PO10& PO12	PSO2

	ENGINEERING		

Note: The mapping of the POs and PSOs may vary depending on the of the project work carried out.

C. Process of Monitoring and Evaluation

Project Evaluation process is divided into four phases;

Phase I: Under this phase Literature Survey and problem identification for the project is made.

Phase II: Preliminary studies and progress:

Under this phase synopsis and methodology of the project is submitted by the students.

Phase III: Evaluation of Projects and Publishing the Papers:

All the Projects are continuously monitored/ evaluated by the respective Committee.

General Guidelines to the Guide:

- Student's attendance is monitored by the respective Guides regularly.
- Students are instructed to maintain observation book to record all their experimental findings and observations for which the guide signature is obtained regularly.
- Also, the students maintain photographs and videos as evidence of their work.
- The students are also encouraged to publish/present their findings in National, International journals or Conferences.
- The evaluation of the projects is made as per the Common Rubrics as shown in the Table 2.17.

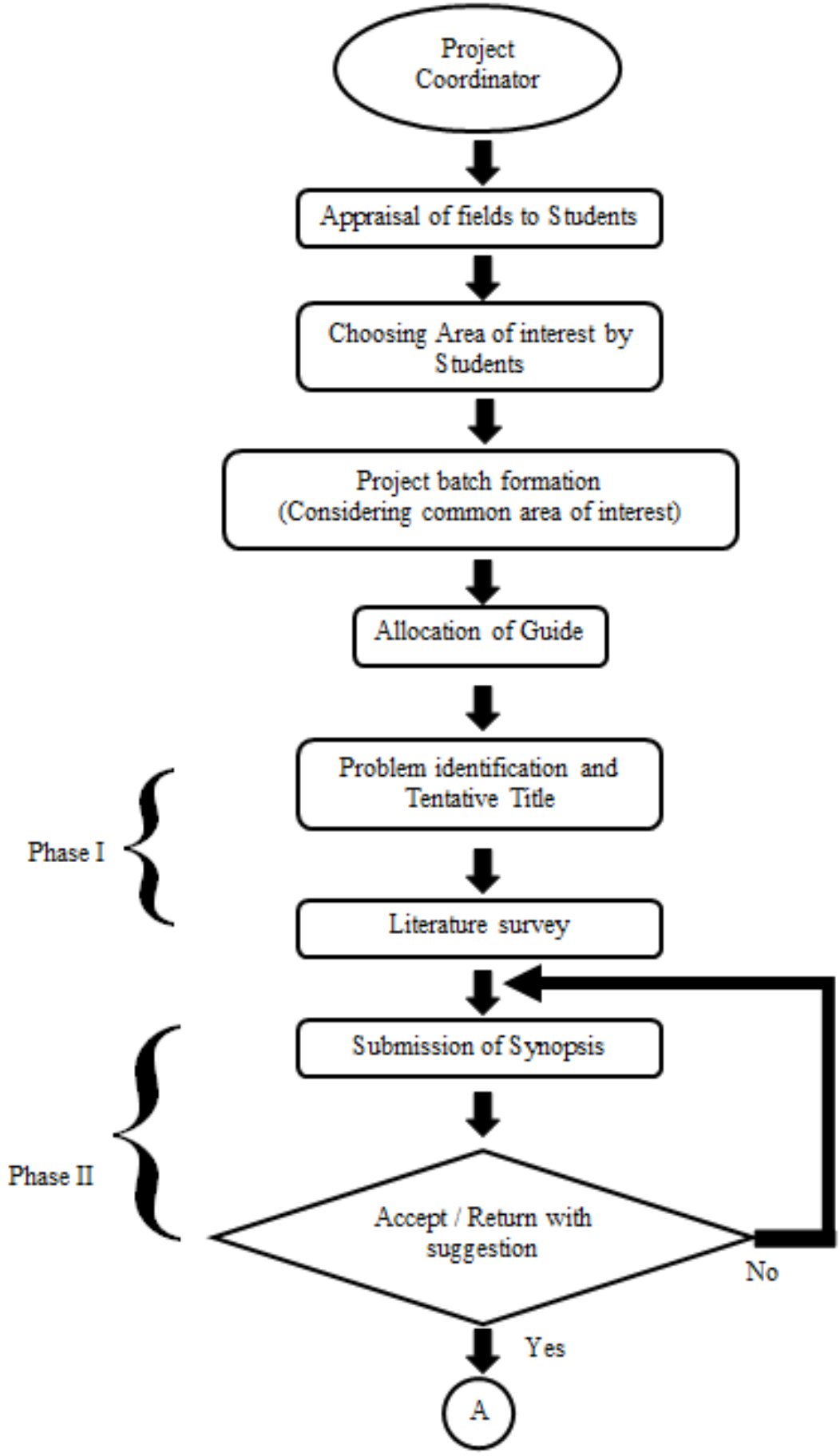
Phase IV: Submission of the final Project report:

Before Internal examination the students are asked to present project findings before PEC. After presentation to PEC, the PEC will suggest any additional work to be carried out to so as to improve the results, or any such modifications that will give overall enhancement in the output of the project work.

After the completion of the project work, reports are submitted to the Department before the stipulated date. The students have to prepare the project report in line with the University guide lines for font size, style, color of the report etc. Total of Two copies, one to Department Library and one copy to the Guide are submitted.

Table 2.15: Phases of Project work

SL.No	Phases in Project work	Date	Activities to be covered
1	Phase-I	Sixth week (VII semester)	1. Literature survey and identify the problem. 2. Tentative title of the Project is decided.
2	Phase–II	Tenth week (VII semester)	1. Submission of Synopsis. 2. Methodology of the Project.
3.	Phase–III	Fourth week (VIII semester)	1. Progress of the project. 2. Final results and Conclusions of the project.
4.	Phase–IV	Tenth week (VIII semester)	1. Submission of the final project report. 2. Publishing/presenting a paper in a journal/conference.


Project Coordinator
Appraisal of fields to Students
Choosing Area of interest by Students
Project batch formation (Considering common area of interest)
Allocation of Guide
Problem identification and Tentative Title
Literature survey
Submission of Synopsis
Accept / Return with suggestion
No
Yes
A
Phase I
Phase II

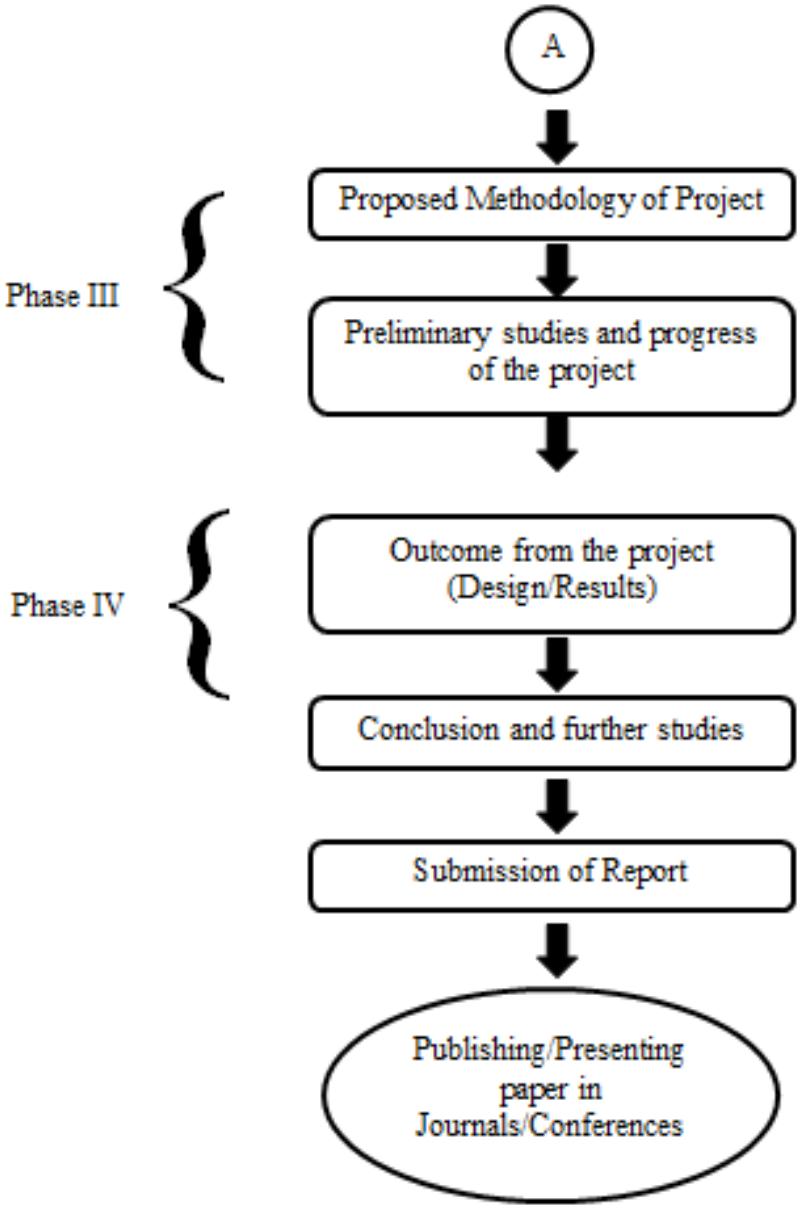


Figure No: 2.9: Process Followed for Project Execution.

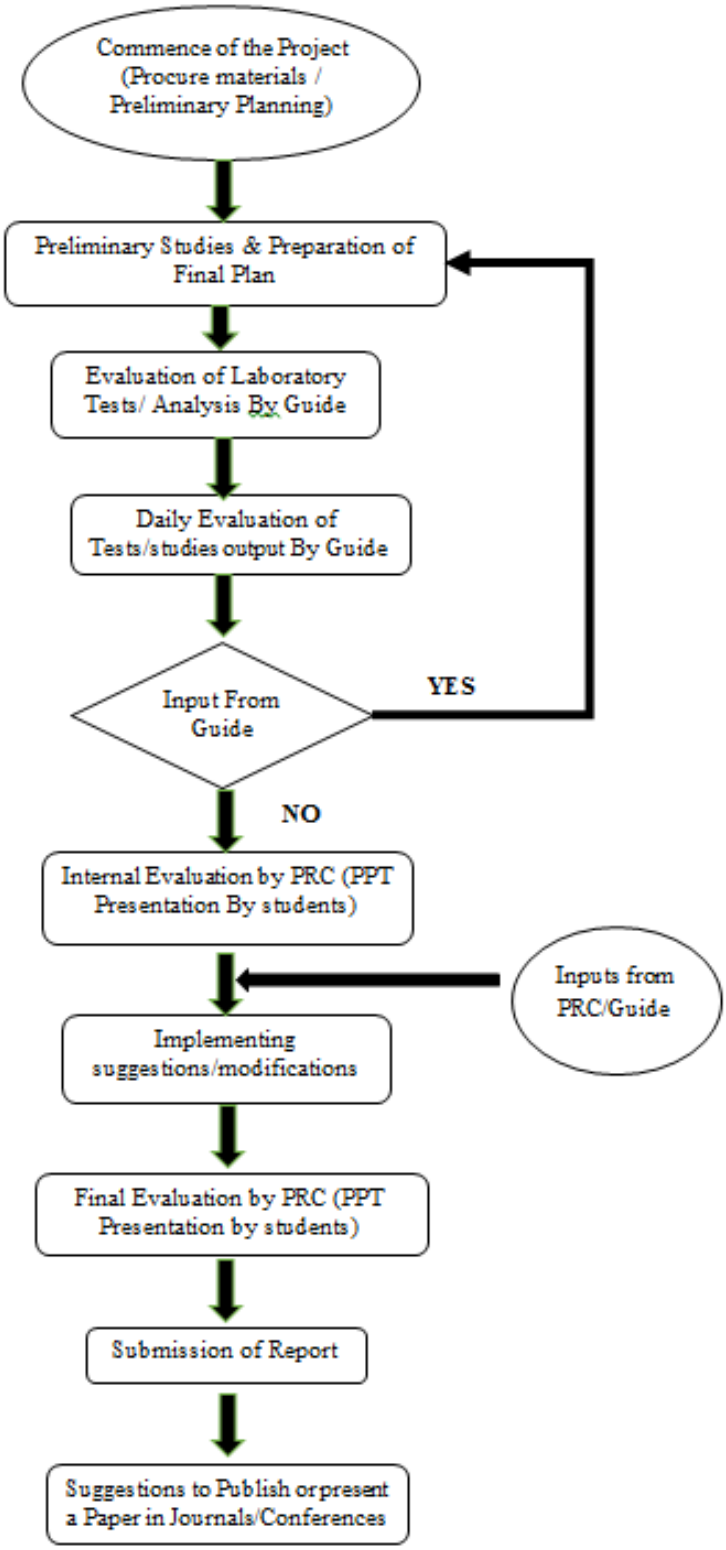


Figure 2.10: Process Followed for Project Evaluation.

D. Process to assess individual and team performance

The following key factors are considered for evaluating student's individual and team coordination or harmony during the execution of a project is listed below:

Rubrics for individual performance;

- Display of skills/capabilities
- Ready to shoulder responsibilities
- Exhibiting confidence level in the project field
- Communication abilities of students during presentations
- Individual contribution to the project work

Rubrics for team performance;

- Coordination and harmony
- Involvement in the project work
- Preparation of Power point presentation
- Preparation of the project work report

E. Quality of completed projects/working prototypes

CRITERIA TO DEFINE BEST PROJECTS

Guidelines for selection of Best Projects:

Best Projects;

1. Project work is strictly based on Rubrics adopted in the Department.
2. Project work is based on adhering to basics and fundamentals in the related field.
3. Mapping of Course outcomes of project with Program Outcomes and Program Specific Outcomes is strong.
4. Projects are funded by agencies and Paper is published in National/International journal and conferences.
5. Objective/Aim of the Project addresses current burning issues in the field of Civil Engineering.
6. The evaluation of best project award is made by one external Guest Professor.

Table 2.16: Rubrics for best and average project (2019-20):

SL.No	Component	Criteria	Exceptionally Well Executed [M>80%] Best	Good with room for improvement [65 to80%) Average
1	LITERATURE SURVEY	Significance of the field and impact	Projects topic selection is made after thorough investigation of field problems in core civil engineering subjects with a note on	Project topic is selected, giving some importance to local and current problems in construction

			current research work is considered.	industry.
2	INTENT OF PROJECT	Goals and Objectives of the project	All objectives of the proposed work are well defined; Steps to be followed to solve the defined problem are clearly specified	Good justification to the objectives; Methodology to be followed is specified but detailing is not done
3	PAPER PRESENTATION	Quality of journal	Well reputed journals like Scopus (National and international journal)	Average reputed journal (National and international journal)
4	FUNDED FROM AGENCY	Funds from Government and Private agencies	YES	NO
5	PROBLEM IDENTIFICATION	Current burning issues related to Civil Engineering field	YES	NO

Rubrics for best and average project (2018-19):

Performance Indicator	**Criteria**	**Exceptionally Well Executed (Best projects Rubrics)[M>80%]**	**Average projects Rubrics [M65%-80%]**	**BTL Mapping**	**POs**
Innovativeness and addressing current burning issues	**Emphasis is given to Bright ideas from students & Project work involves current problems in Civil Engineering**	Ideas & bright views are received from students also focusing on current issues in civil Engineering as observed in real world.	The project work focuses on topics which have been done routinely & doesn't include real life problems.	L5, L6	PO1, PO2, PO3, PO9, PO12,
Literature Survey and Previous studies	**Journals referred**	Thorough investigation of number of national and International Journal on the field chosen is made, papers published and some very standard foreign text books	Literature Survey is mainly focused on existing standard text books and conference papers.	L2	PO1, PO2
	Reference to Current and previous works	Thorough reference to previous works carried out in the college or any reputed technological center is made.			

	or projects carried out				
	Significance of the field and impact	Projects topic selection is made after thorough investigation of field problems in core civil engineering subjects, with a note on current research work is considered.			
Defining the problem and adhering to basics and fundamentals	**Conceiving Problem and project work executed as per the engineering fundamentals**	Based on the literature information the Project is well defined and planned about the extent of work and all parameters to be taken up in the project work are defined. The project may be an extension of any research work from a paper published or a previous project work	The problem is well defined but strict adoption Codal procedures and fundamentals are not maintained.	L3	PO3, PO5, PO4
	Feasibility and availability of necessary materials and software	Depending on the project work, the materials/equipments/software are obtained in advance and important ground work is made and well planned to initiate the project with prior laboratory studies.			
Execution and results	**Quantum & Intensity of work**	The work is made as planned previously and strictly the schedule of work is followed without any lags. All the variables/components are taken in to the work as per the synopsis or extent of work planned	The project work is executed but the output or the results obtained are inconsistent.	L4 L5	PO1, PO2, PO3, PO5, PO7, PO10
	Out Put	Excellent results are arrived at and new discoveries/products/models are developed in the project. .			
Presentation Skills, Documentation& Individual Performance	**Presentation/ Demonstration**	The whole work is presented neatly and explained by all students involved and sharing their contribution to the work and display of pictures and videos is made during presentation	The project batch lacks good communication skills and poor documentation.	L6	PO7, PO8
	Paper Presentation	The results are formatted and a Paper is published in journals Paper was either presented in a very good conference or journal with good impact factor.			
	Role as a Team member	The individual is able to blend with other batch members very well and shares the work effectively. The assigned work is immediately executed.			
	Subject Knowledge& Interest	The individual is a topper in the class, having deep, sound subject background and immense interest to learn and always at the front when instructions are given.			

Table2.17: Common Rubrics for the projects followed in the Department.

Performance Indicator	Marks (Maximum)	Criteria	Exceptionally Well Executed (Best projects Rubrics)[M>85%]	Average projects Rubrics [M70%-85%]	BTL Mapping	POs
Innovativeness and addressing current burning issues	**30**	**Emphasis is given to Bright ideas from students & Project work involves current problems in Civil Engineering**	Ideas & bright views are received from students also focusing on current issues in civil Engineering as observed in real world.	The project work focuses on topics which have been done routinely & doesn't include real life problems.	L5, L6	PO1, PO2, PO3, PO9, PO12,
Literature Survey and Previous studies	**25**	**Journals referred**	Thorough investigation of number of national and International Journal on the field chosen is made, papers published and some very standard foreign text books	Literature Survey is mainly focused on existing standard text books and conference papers.	L2	PO1, PO2
		Reference to Current and previous works or projects carried out	Thorough reference to previous works carried out in the college or any reputed technological center is made.			
		Significance of the field and impact	Projects topic selection is made after thorough investigation of field problems in core civil engineering subjects, with a note on current research work is considered.			
Defining the problem and adhering to basics and fundamentals	**50**	**Conceiving Problem and project work executed as per the engineering fundamentals**	Based on the literature information the Project is well defined and planned about the extent of work and all parameters to be taken up in the project work are defined. The project may be an extension of any research work from a paper published or a previous project work	The problem is well defined but strict adoption Codal procedures and fundamentals are not maintained.	L3	PO3, PO5, PO4

		Feasibility and availability of necessary materials and software	Depending on the project work, the materials/equipment's /software are obtained in advance and important ground work is made and well planned to initiate the project with prior laboratory studies.			
Execution and results	**70**	**Quantum & Intensity of work**	The work is made as planned previously and strictly the schedule of work is followed without any lags. All the variables/components are taken in to the work as per the synopsis or extent of work planned	The project work is executed but the output or the results obtained are inconsistent.	L4 L5	PO1, PO2, PO3, PO5, PO7, PO10
		Out Put	Excellent results are arrived at and new discoveries/products/models are developed in the project. .			
Presentation Skills, Documentation& Individual Performance	**25**	**Presentation/ Demonstration**	The whole work is presented neatly and explained by all students involved and sharing their contribution to the work and display of pictures and videos is made during presentation,	The project batch lacks good communication skills and poor documentation.	L6	PO7, PO8
		Paper Presentation	The results are formatted and a Paper is published in journals Paper was either presented in a very good conference or journal with good impact factor.			
		Time Management& Involvement	The individual is highly focused on the work, and strictly follows timings as per the time table.		L6	PO4, PO6, PO7
		Role as a Team member	The individual is able to blend with other batch members very well and shares the work effectively. The assigned work is immediately executed.			
		Subject Knowledge& Interest	The individual is a topper in the class, having deep, sound subject background and immense interest to learn and always at the front when instructions are given.			

F. Evidence of Papers Published/Awards received by projects;

Table.2.18 Details of the Sponsored Projects

Sl. No	Project Batch	Name of the Faculty	Title of the Project	Year	Sponsoring authority	Seminar/Exhibition	Publications in Journals /Conferences etc.	Financial Aid Received. Rs
1	Mr.ShridharHosamani & Group	Prof. M.R.VIJAYA KUMAR,mrvk.rymec@gmail.com ph:9886893258	FIBER REINFORCED CONCRETE (USING NATUARL FIBERS AND UNCONVENTIONAL FIBRES)	2013	KSCST			4000
2	Mr.Pramodsimha &group	Prof. M.R.VIJAYA KUMAR, mrvk.rymec@gmail.com ph:9886893258	MIX DESIGN PROCEDURE OF HIGH PERFORMENCE CONCRETE USNG UNCONVENTIONAL MATERIALS		KSCST			4400
3	radeep& group	Prof. M.R.VIJAYA KUMAR, mrvk.rymec@gmail.com ph:9886893258	STUDY OF LIGHT WETGHT CONCRETE AND MAKING OF PANELS AND BLOCKS USING LOCALLY AVAILABLE INDUSTRIAL BY PRODUCTS		KSCST	YES(Seminar)	Conference	5500
4	Mr.I.Karthik &group	Prof. M.R.VIJAYA KUMAR, mrvk.rymec@gmail.com ph:9886893258	SOLID WASTE MANAGEMENT AND SEARCH FOR ALTERNATE PROCEDURES FOR WASTE TREATMENT, RECYCLING AND MANAGEMENT.	2014	KSCST	YES(Seminar)		5500
5	Mr. Mahamadali & group	Prof.T H Patel and Prof J M Srishaila	The Student project “ IMPACT OF MINING ACTIVITIES ON GROUND WATERQUATITY	2015	KSCST	YES(Seminar)		5000

			IN SANDUR TOWN,BALLARI DISTRICT					
6	Miss.Shabhana& Group	Mr. Anilkumar S Katageri Asst. Professor	The Student project " ANALYSIS OF FLOURIDE CONTENT IN GROUND WATER OF MOLKALMURU TOWN, CHITRADURGA DISTRICT, KARNATAKA	2015	KSCST	YES(Seminar)		6000
7	Mr. Yerriswamy G and group	Prof. M.R.VIJAYA KUMAR mrvk.rymec@gmail.com ph:9886893258	TO INVESTIGATE ON THE VERMICOMPOSTING PROCESS BY USING VARIOUS NATURAL AND AGRICULTURAL PRODUCTS BY EMPLOYING DIFFERENT EARTHWORK SPECIES	2017-18	KSCST			5000
8	Mr. Shivkumar B and group	Mr. SUNIL UMACHAGI Asst. Professor	DESIGN AND DEVELOPMENT OF ANAEROBIC BIODIGESTER FOR INDIVIDUAL HOUSE IN KOLAGALLY VILLAGE, BALLARI USING THE AVAILABLE DOMESTIC BIODEGRADABLE WASTE	2017-18	KSCST		Journal	5000
9	J R SANDHYASHREE and group	Mr. SUNIL UMACHAGI Asst. Professor	A NEW PATHWAY TO SUSTAINABLE DEVELOPMENT OF AQUACULTURE AND AGRICULTURE IN AN AQUAPONICS SYSTEM COUPLED WITH MICRO	2018-19	KSCST			4500

			BIEAL FUEL CELL					
10	Diwakar Reddy U and group	Dr.J M Shrishila Asst. Professor	EXPERIMENTAL INVESTIGATION ON FLEXURAL BEHAVIOR OF NATURAL FIBRES REINFORCED CONCRETE BEAMA(M20)	2018 -19	KSCST		Conference	6000
11	VINESH M and group	Mr. MANOHAR P Asst. Professor	TREATMENT AND REMOVAL OF COLOR FROM TEXTILE INDUSTRIAL EFFLUENTS BY RICE HUSK AND RICE HUSK ASH	2019 -20	KSCST			5000
12	SHRAVAN K and group	Mr. M R VIJAY KUMAR	TO STUDY THE ENGINEERING PROPERTIES OF BLOVKS AND RAMMED EARTH MADE BY CLAYS, FIBERS AND POZZOLANS BY APPLYING LOW COST HOUSING TECHNOLOGY	2019 -20	KSCST			5500
13	MANIKANT A D and group	Mr. Shashikumar P M Asst. Professor	REJUNATION OF LAKE BY ARTIFITIAL FLOATING ISLAND	2019 -20	NAIN			60000
14	TAZMOOL and group	Mr. MANOHAR Asst. Professor P	ELECTRICITY GENERATION FROM PLASTIC WASTE IN THE TREATMENT OF RIVER GANGA USING STEAM TURBINE	2019 -20	NAIN			250000

15	SHARAVAN and group	Mr. ADANAGOUDA Asst. Professor	ANALYSIS OF ON-STREET AND OFF-STREET PARKING IN BALLARI USING VISSIM	2019 -20	NAIN			210000
16	Aksrsh and group	Mr. M R VIJAY KUMAR	TO STUDY THE ENGINEERING PROPERTIES OF HEMPCRETE BLOCKS AND SLABS PRODUCED USING HEMP JUTE ACACIA NILOTICA AND CYSIL FIBERS WITH LIME AGGREGATES AND CEMENT	2020 -21	KSCST			5000

Impact analysis for implementing best practices in project work

- Students Executed Projects of Practical importance in the Field of Civil Engineering.
- Many projects have received grants from KSCST etc.
- Students have published papers in reputed journals.
- Many projects executed generated products such as Bricks, Blocks, pavers which are directly applicable in the field of Civil Engineering.
- Many projects implemented also promoted utilization of Industrial byproducts such Fly ash, GGBS, Silica fume and Metakaolin.
- Few Projects also focused on utilizing Alternate building materials such as M- Sand, crushed rock fines.

2.2.4 Initiatives related to Industry Institute Interaction (15)

Initiatives for industry interaction

The Department has signed Memorandum of Understanding (MoU) with some of the industries/construction firms/technical consultants to share and inculcate technical knowledge to the students. The students from the department are sent to the enlisted companies to gain exposure about the construction industry through internship training.

Table 2.19: MOUs signed by the Department with reputed Industries / Companies /Firm

SI. NO	Name of the company/firm/industry	Commencement of MoU	Activity	Outcome(implementations) of the MOU
1	National Highway Authority Of India , Hospet	14/7/ 2020	Highway Execution work	Students will attend Internship training and Consultancy works
2	Vijayanagara Sri Krishnadevaraya University, Ballari	04/03/2020	Academic, QIP, Seminars and workshops	Students will attend Internship training and Consultancy works
3	Sri Sharana Constructions llp., Ballari	20/02/2019	Internship	Students will attend Internship training
4	Sri Srinivasa Constructions India pvt. Ltd.	25/02/2019	Internship	Students will attend Internship training
5	KITS Bangaluru	24/01/2019	Internship	Students will attend Internship training

A. Industry supported laboratories

M/s BKG M Sand & Aggregates private Limited, Sandur have agreed to sign a MoU and are willing to extend financial and technical support to Department of Civil Engineering. The Funds received will be utilized to upgrade Concrete and Highway Materials Testing Laboratory. Steps are initiated to procure modern equipment's viz Incubation Tank, Acceleration curing tank, concrete pan mixer to the same laboratory etc.

B. Industry involvement in the program design and partial delivery of any regular courses for students

To enhance the knowledge of students related to field projects or live projects eminent people from surrounding industries were invited to the department and technical talks were arranged.

C. Impact analysis of industry institute interaction and action taken thereof

Impact analysis of industry institute interaction was done based on the feedback obtained from the students. Some of the students also got placed in the same company where they have done internship.

2.2.5 Initiatives related to industry internship/summer training (15)

(Mention the initiatives, implementation details and impact analysis)

A. Industrial training/tour for students

Students undergo internship in a live Construction Project as per VTU guidelines for 30 to 45 days (Four weeks) to be accomplished between seventh and eight semesters. Education tour for students is arranged once in a semester and visit is made to nearby dams, water treatment plants, sewage treatment plants, RMC plant, HMA plant, bridge and concreting sites etc.

B. Industrial/Internship/summer training of more than two weeks and post training assessment

The process of internship organized in the department is explained in flow diagram below.

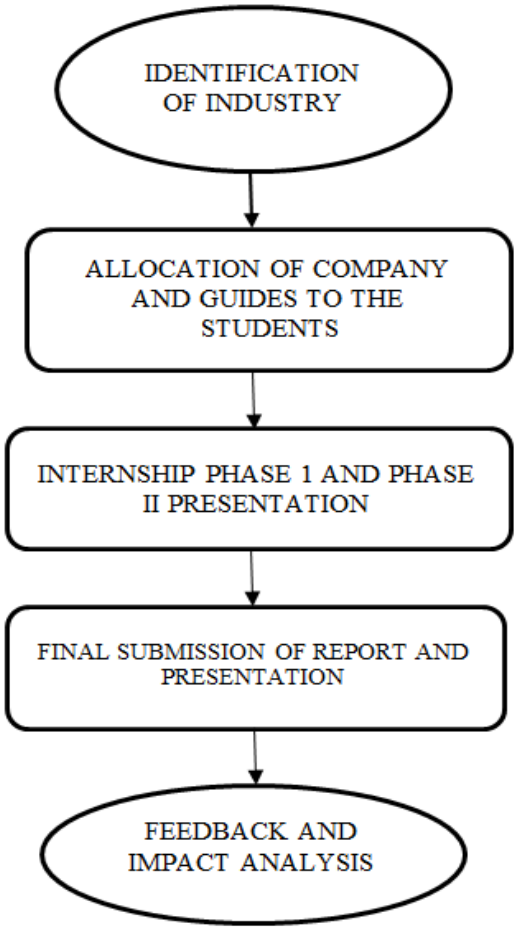


Fig 2.11: Process for internshipProgramme

- Students & Department together identify any construction company/firm/consultant wherein they will undergo internship for the stipulated period as per the guidelines laid by the university
- The Internship coordinator allocates a faculty as internal guide for each intern.
- Student corresponds with their respective company through the guide and Head of the Department.

Implementation

- The guide and the mentor for the internship in the company will be in continuous touch to know the progress of the internship training.
- Once the students complete the internship training, a detailed report is submitted to the department.

Evaluation

- Student will present a power point presentation about the internship training in front of a panel of senior professors along with the guide.
- Based on the performance the evaluation process is carried out by a panel of senior professors along with the guide and marks are awarded as per the rubrics shown in table below.

Table 2.20: Rubrics for the Internship Program

Evaluation Component	Marks Allocation	PO's
Domain Knowledge: Engineering Knowledge/Problem analysis/Design/development of solutions/Conduct Investigations of Complex Problems/Modern Tool usage	**25 Marks**	PO1,PO2,PO3,PO4,PO5
Soft Skills: Communication/Individual and Team work Project and Resource management Including finance /Engineer and Society Environment and Sustainability	**10 Marks**	PO6,PO7,PO9,PO10,PO11
Discipline and Behavior	**05 Marks**	PO8
Report writing	**10 Marks**	PO10
TOTAL	**50 Marks**	

Table 2.21: Students participated in Internship for the Academic year2020-2021

ACADEMIC YEAR 2020-21				
Sl No.	USN	Name	Month/year	Organization
1	3VC15CV119 3VC17CV012 3VC17CV070 3VC17CV091 3VC18CV432	VIKAS M C APOORVA T RAMYA K A VEENA M S RAVI KUMAR B	March 2021 – April 2021	Skill Development Center,Dept of Civil ,RYMEC,Ballari
2	3VC17CV029 3VC17CV052 3VC17CV071 3VC17CV103	HARISH KUMAR K M NEELUFAR H S ROHINI RAJASHEKAR PATIL SHARANA BASAVA K	March 2021 – April 2021	Skill Development Center,Dept of Civil ,RYMEC,Ballari

Table 2.22: Students participated in Internship for the Academic year2019-2020

ACADEMIC YEAR 2019-20				
Sl No.	USN	Name	Month/year	Organization
1	3VC17CV402 3VC17CV404 3VC16CV091	CHANDRAHASA H IRANNA KALAWAD LINGARAJ K	July 2019 –Aug 2019	JSW CEMENTS LTD BELLARY
2	3VC16CV093 3VC16CV103 3VC16CV121	SHIVUKIRAN P SUNIL KUMAR A VISHAL KUMAR M	July2019-Aug 2019	NIRMITHI KENDRA, BELLARY

Table 2.23: Students participated in Internship for the Academic year 2018-2019

ACADEMIC YEAR 2018-19				
Sl No.	USN	Name	Month/year	Organization
1	3VC15CV025 3VC14CV047	Gavisiddappa G and Krishna S Laxmi	July 2018 –Aug 2018	Karkala Construction Company Private Limited, Hyderabad
2	3VC16CV420 3VC15CV006 3VC16CV407	Mahesh G, Mounika Y and C H Veeresh	July10-August10/2018	Premiere Technical Consultants, Bellary

Table 2.24: Students participated in Internship for the Academic year 2017-2018

ACADEMIC YEAR 2017-18				
Sl No.	USN	Name	Month/year	Organization
1	3VC14CV045	Keerthana	January 10 – February 10/2018	National Academy OF Construction (NAC), NAC campus Hyderabad
2	3VC14CV011	Anusha T		
3	3VC14CV010	Anusha B H M		
4	3VC14CV059	Meghana M		
5	3VC14CV009	Ankitha G		

Table 2.25: Students participated in Internship for the Academic year2016-2017

ACADEMIC YEAR 2016-17				
Sl No.	USN	Name	Duration of Internship	Organization
1	3VC14CV419	SaiRajnjeetha G S	2 Weeks	JSW Steel Limited Vidyanagar (Po), Toranagallu, Bellary(Dist) 583275
2	3VC14CV414	Kavitha P		
3	3VC14CV406	Chethan K T		
4	3VC14CV413	Naveenchandra K B		
5	3VC14CV432	Thippesha D		

C. Impact analysis of Industrial Training

1. Internships helped students to understand the site conditions practical construction problems which can't be explained in the class.

2. Some of the students also got placed in the same company where they have done internship.

3. An Exclusive report supported by number of students received employment with the vantage of Internship/industry training program is prepared in the department out of the total interns.

D. Student feedback on Initiative

Students submit a brief report along with structural drawing, if any; on the information they have gained through any sort of training program/visit. Students reported that Internship created awareness on real life problems in the field and equipped them to face the challenges confidently.

CRITERION 3	COURSE OUTCOMES AND PROGRAM OUTCOMES	120

3. COURSE OUTCOMES AND PROGRAM OUTCOMES

3.1. Establish the correlation between the courses and the Program Outcomes (POs) and Program Specific Outcomes (PSOs)

PSO1	Ability to Develop the skills required for planning, analyzing & designing, estimating & executing the civil engineering structures
PSO2	Ability to identify the soils of different nature through the geo technical investigations and providing the suitable foundation to the structures.
PSO3	Ability to plan, analyze, design and to solve environmental engineering related problems.

Program Outcomes (POs) are defined by NBA and are the statements related to the abilities which are expected to be acquired by the students afte4r completing B.E Program and course outcomes ate the abilities which are to be acquired by the students after completing each course / subject in their curriculum. Program specific outcomes (PSOs) are defined by the department of civil engineering and stakeholders of the department. PSOs describe what graduates of B.E in civil engineering from out college should be able to do in specific.

Last three years of graduation include two batches of 2015 scheme (2015 & 2016 admissions) and one batch of 2017 scheme (2017 admission) belonging to University of VTU, Belagavi. Table 3.1a shows the details of the batches. All these schemes offer various courses to satisfy the standard Graduate Attributes, defined as 12 POs by NBA and 3 PSOs by the department. The course outcomes attained at the end of every semester contribute to the direct assessment of POs and PSOs, finally, overall attainment of POs/PSOs are evaluated for all the courses of each graduated batch. The overall attainment is calculated by giving 80% weightage for the direct assessment and 20% weightage for the indirect assessment. The attained value for each PO/PSO is compared with corresponding average values and thus gaps are identified. The reasons for these gaps are scrutinized and necessary corrective actions are initiated. The attainment of Course Outcomes (Cos) and the Program Outcomes (POs) detailed in this section are for the three previously completed batches as shown in Table 3.1a and Figure 3.1a shows the process of defining POs and PSOs. Table 3.1a Details of academic year designation and scheme of syllabus for computation of CO/PO/PSO attainment.

3.1.1 Course Outcomes (COs)

S.No	Academic Year	Year of Admission	Period of Study	Scheme of Syllabus
1.	CAY (2020-21)	2017	2017-2021	2017 scheme
2.	CAY-1 (2019-20)	2016	2016-2020	2015 scheme
3.	CAY-2 (2018-19)	2015	2015-2019	2015 scheme

(SAR should include course outcomes of one course from each semester of study however, should be prepared for all courses and made available as evidence, if asked) (5)

The faculty members of Department of Civil Engineering with different specialization, teaching different courses prescribed by the University have identified a set of Course Outcomes or Cos. The COs of a course described the abilities to be attained at the end of the course.

Course outcomes of a course from each semester (3^{rd} to 8^{th}) for each scheme are shown in below.

Course Code	C202 STRENGTH OF MATERIAL (17CV32) (S3) , Course year :- 2018-19
C202.1	Identify different materials, their properties and calculate stress, strain, and elongation of unique and composite materials.
C202.2	Identify two dimensional principle stress system, calculate compound stresses, its components on inclined planes, Construct B.M. and S.F diagrams for beams
C202.3	Calculate bending and shear stress, and construct bending and shear stress diagrams for beams subjected to point load, UDL and couple.
C202.4	Calculate torsion and power transmitted by hollow and circular shaft, Distinguish between long and short columns and solve analytical problems for columns subjected to different end conditions.
Course Code	**C210 ANALYSIS OF DETERMINATE STRUCTURES (17CV42) (S4) Course year :- 2018-19**
C210.1	Apply knowledge of mathematics and engineering in analyzing determinate trusses to calculate forces in the members and also in analyzing beams to calculate slope and deflections in beams.
C210.2	Identify, formulate and solve engineering problems to determine deflection of beams and trusses using energy theorems.
C210.3	Analyze structural systems and interpret data to determine normal thrust, radial shear and bending moment in case of Arches and cables.
C210.4	Analyze beams and trusses using concepts of influence line diagram to determine reactions, Shear force and Bending moment.

Course Code	**C304 COMPUTER AIDED BUILDING PLANNING AND DRAWING (17CV54) (S5) Course year :- 2019-20**
C304.1	Gain a broad understanding of planning and designing of buildings.
C304.2	Prepare, read and interpret the drawings in a professional set up.
C304.3	Know the procedures of submission of drawings and Develop working and submission drawings for building.
C304.4	Plan and design a residential or public building as per the given requirements.
Course Code	**C314 WATER RESOURCES AND MANAGEMENT (17CV661) (S6) Course year :- 2019-20**
C314.1	Assess the potential of groundwater and surface water resources.
C314.2	Address the issues related to planning and management of water resources.
C314.3	Know how to implement IWRM in different regions
C314.4	Understand the legal issues of water policy & Select the method for water harvesting
Course Code	**C402 DESIGN OF RCC & STEEL STRUCTURES (17CV72) (S7) Course year :- 2020-21**
C402.1	Acquire the basic knowledge in design of RCC and Steel Structures
C402.2	Solve engineering problems in RC and Steel Structures
C402.3	Understand the Concept of RC Structures like Retaining wall, Footing, Water tanks, Portal Frames and Steel Structures like Roof Truss, Plate Girder and Gantry Girder.
C402.4	Design RC and Steel members as per codal provision.
Course Code	**C409 QUANTITY SURVEYING AND CONTRACTS MANAGEMENT (17CV81) (S8) Course year :- 2020-21**
409.1	Systematically generate and compile required data's for design of pavement (Highway & Airfield).
409.2	Analyse stress, strain and deflection by Boussinesq's, Burmister's and Westergaard's theory
409.3	Design rigid pavement and flexible pavement confirming to IRC58-2002 and IRC37-2001.
409.4	Evaluate the percentage cracks present on the pavement surface and also develop maintenance statement based on site specific requirements.

3.1.2. CO-PO matrices of courses selected in 3.1.1

(Six matrices to be mentioned; one per semester from 3rd to 8th semester)

Each course outcomes is mapped to the PO which it addresses. Strength of mapping reflects the extent of contribution of a particular CO towards attainment of a particular PO/PSO. This is defined as three levels; a value of 3 for strong mapping and values of 2 and 1 for moderate and low mapping strength respectively. The Cos, identification of relevant POs/PSOs and the respective mapping levels are finalized in various module committee meetings. It is taken care to the possible extent that each CO is mapped to more than one PO.

C202 STRENGTH OF MATERIAL (17CV32) (S3)															
Course Outcome (CO)	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C202.1	1	2	-	-	-	-	-	-	-	-	-	2	1	-	-
C202.2	2	2	-	-	-	-	-	-	-	-	-	2	1	-	-
C202.3	2	2	-	-	-	-	-	-	-	-	-	2	1	-	-
C202.4	2	2	-	-	-	-	-	-	-	-	-	2	1	-	-
C202 Average	**1.75**	**2**	-	-	-	-	-	-	-	-	-	**2**	**1**	-	-
C210 ANALYSIS OF DETERMINATE STRUCTURES (17CV42) (S4)															
Course Outcome (CO)	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C210.1	3	2	2	-	-	-	-	-	-	-	-	2	1	-	-
C210.2	3	2	3	1	-	-	-	-	-	-	-	2	1	-	-
C210.3	3	2	2	-	-	-	-	-	-	-	-	2	1	-	-
C210.4	3	2	2	2	-	-	-	-	-	-	-	2	1	-	-
C210 Average	**3**	**2**	**2.25**	**1.5**	-	-	-	-	-	-	-	**2**	**1**	-	-
C304 COMPUTER AIDED BUILDING PLANNING AND DRAWING (17CV54) (S5)															
Course Outcome (CO)	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C304.1	1	2	-	-	**2**	-	-	-	-	-	-	2	2	-	-
C304.2	1	2	-	**2**	**2**	-	-	-	-	-	-	2	2	-	-
C304.3	1	2	-	-	**2**	-	-	-	-	-	-	2	2	-	-
C304.4	1	2	-	**2**	**2**	-	-	-	-	-	-	2	2	-	-
C304 Average	**1**	**2**	-	**2**	**2**	-	-	-	-	-	-	**2**	**2**	-	-
C314 WATER RESOURCES AND MANAGEMENT (17CV661) (S6)															
Course Outcome (CO)	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C314.1	1					1	2					2	-	-	1
C314.2	1					2	2					2	-	-	1

C314.3	1					1	2					2	-	-	1
C314.4	1					1	2					2	-	-	1
C314 Average	**1**	**2**	-	-	-	**1. 25**	**2**	-	-	-	-	**2**	-	-	**1**
C402 DESIGN OF RCC & STEEL STRUCTURES (17CV72) (S7)															
Course Outcome (CO)	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C402.1	3	2	3	2	-	-	-	-	-	-	-	-	2	-	-
C402.2	3	2	3	2	-	-	-	-	-	-	-	-	2	-	-
C402.3	3	2	3	2	-	-	-	-	-	-	-	-	2	-	-
C402.4	3	2	3	2	-	-	-	-	-	-	-	-	2	-	-
C402 Average	**1.7 5**	**2**	**3**	**2**	-	-	-	-	-	-	-	-	**2**	-	-
C409 QUANTITY SURVEYING AND CONTRACTS MANAGEMENT (17CV81) (S8)															
Course Outcome (CO)	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C409.1	3	3	-	-	-	-	-	-	-	-	-	2	3	-	-
C409.2	3	3	-	-	-	-	-	-	-	-	-	2	3	-	-
C409.3	3	3	-	-	-	-	-	-	-	-	-	2	3	-	-
C409.4	3	3	-	-	-	-	-	-	-	-	-	2	3	-	-
C409 Average	**3**	**2**	-	-	-	-	-	-	-	-	-	**2**	**3**	-	-

3.1.3 PROGRAM LEVEL COURSE –PO MATRIX OF ALL COURSES INCLUDING FIRST YEAR COURSE

Course	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
C103	2.0	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-
C201	2	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-
C202	1.75	2	-	-	-	-	-	-	-	-	-	2	1	-	-
C203	3	3	1	-	-	-	-	-	-	-	-	2	-	-	-
C204	2	2	-	-	-	-	-	-	-	-	-	1	-	-	-
C205	2	2	2	-	-	-	-	-	-	-	-	2	-	2	-
C206	2	1	-	-	-	-	-	-	-	-	-	1	1	-	-
C207	3	-	-	3	-	-	-	-	-	-	-	-	1	-	-

C208	2	2	2	-	-	-	-	-	-	-	-	2	2	-	-
C209	2	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-
C210	3	2	2.25	1.5	-	-	-	-	-	-	-	2	1	-	-
C211	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-
C212	2	2	2	-	-	-	-	-	-	-	-	2	-	-	-
C213	2	2	1	-	-	-	-	-	-	-	-	1	-	2	-
C214	1.50	1.50	2	2	2	-	-	-	-	-	-	-	-	-	-
C215	2	2	2	1	-	-	-	-	-	-	-	1	-	-	-
C216	1	-	-	1	-	-	-	-	-	-	-	1	-	-	-
C301	1.75	2	2	-	-	-	-	2	-	-	-	2	2	-	-
C302	3	2	2.3	-	-	-	-	-	-	-	-	2	2	-	-
C303	2	1.67	2	-	-	-	-	1.80	-	-	-	1.80	1	1	-
C304	1	2	-	2	2	-	-	-	-	-	-	2	2	-	-
C305	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-
C306	2	2	2	2	-	-	-	-	-	-	-	2	-	-	-
C307	2	-	-	2	-	-	-	2	2	-	-	-	-	2	-
C308	3	3	3	-	-	-	-	-	-	-	-	2	-	-	-
C309	-	-	-	-	-	1.75	1.75	1.75	-	1	2	1	-	-	-
C310	2	3	3	-	-	-	-	2	-	-	-	2	2	-	-
C311	2	2	2	-	-	-	-	-	-	-	-	2	-	2	-
C312	1	-	2	-	-	-	1.5	-	-	-	-	-	-	-	1
C313	2	-	2	-	-	-	1.5	-	-	-	-	1	-	-	1.5
C314	2	-	-	-	-	1.25	2	-	-	-	-	2	-	-	1
C315	2	-	2	-	2	-	-	2	-	-	-	2	2	-	-
C316	2	1	-	-	-	2	2	-	2	-	-	1	-	-	2
C401	2	-	-	-	-	-	2	-	-	-	-	2	-	-	2
C402	3	2	3	2	-	-	-	-	-	-	-	-	2	-	-
C403	3	3	2	-	-	-	-	-	-	-	-	-	2	-	-
C404	2	1	2	-	-	-	-	-	-	-	1	-	2	-	-
C405	2	2	2	2.5	-	-	-	-	-	-	2	2	2	-	-
C406	2	-	-	-	-	-	2	-	-	-	-	2	-	-	2
C407	2	2	2.5	2	3	-	-	-	-	-	2	2	2	-	-
C408	1.78	1.91	1.88	1.20	1.06	1.92	1.96	1.67	2.09	1.56	1.31	1.87	2.13	0.78	0.83
C409	3	3	-	-	-	-	-	-	-	-	-	2	3	-	-
C410	2	2	2	-	-	-	-	-	-	-	-	-	1.50	-	-
C411.1	2	2	2	-	-	-	-	-	-	-	-	2	-	-	-
C411.2	2	2	2	-	-	2	-	1	-	-	-	-	-	-	-
C412	2.12	1.78	1.70	2	2	2.5	2	2	1.95	2.15	1.95	2.15	1.85	1	1
C413	1.70	2.08	2.23	1.17	1.83	2.03	2.33	1.94	2.25	1.52	1.89	2.00	2.46	1.00	1.50
C414	2	1.9	2.5	2	2	2	2.5	2	1.95	1.95	1.95	1.95	2	1	1

3.2 Attainment of Course Outcomes

3.2.1 A**ssessment processes:-**

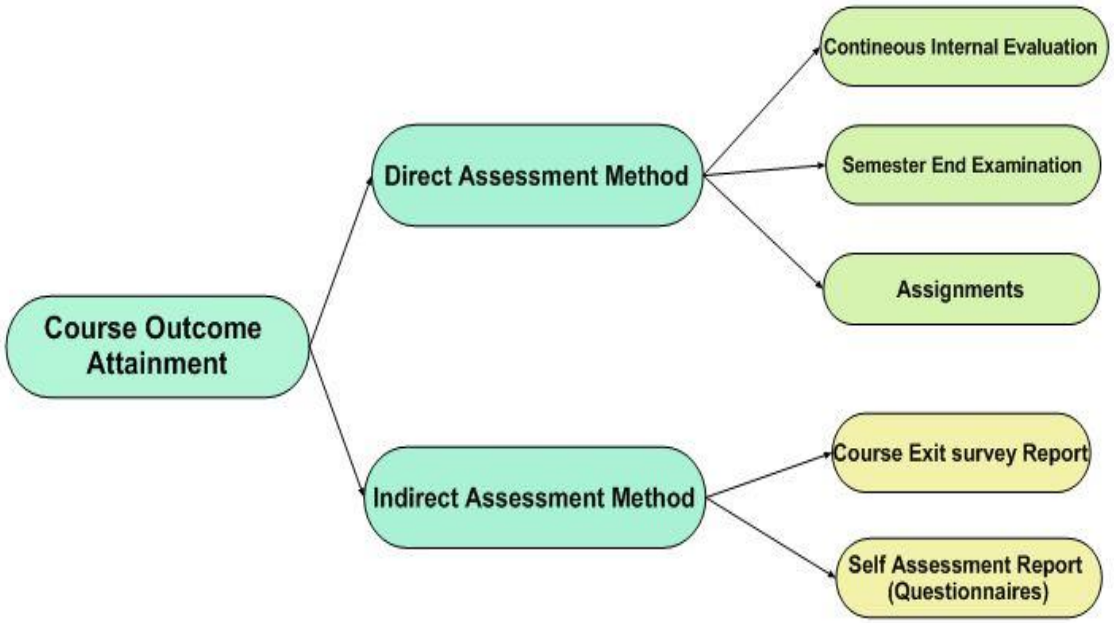
In the Outcome Based Education (OBE) system, assessment is made through more than one processes, to identify and collect data to evaluate level of attainment of the course.

Tools used are:

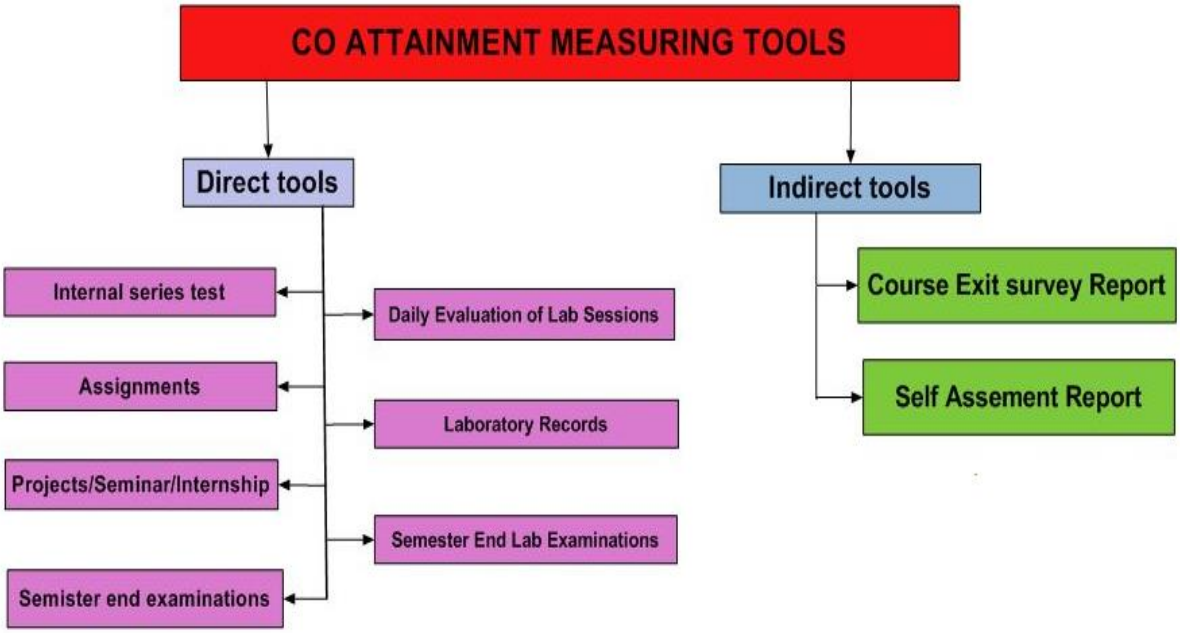
- ✓ Direct methods
- ✓ Indirect methods.

Direct methods display the student's knowledge and skills from their performance in the continuous internal assessment tests, class rooms, laboratory assignments, seminars and semester end examinations. These methods provide information about students' knowledge and provide evidence of student learning performance.

Indirect methods adopted to assess PO are course exit survey and self-assessment report, which reflect on students' learning. The different stake holders give opinion or thoughts to assess about the graduate's knowledge or skills.



Flow chart 3.2.1a: Assessment Process for CO Attainment.



Flow chart 3.2.1b Assessment tools for CO attainment.

Table 3.2.1: Direct and Indirect Assessment Methods

Direct Assessment Methods		
Sl no	**Assessment Method**	**Description**
1.	Internal Assessment Test	It is a measure to continuously assess the attainment of course outcomes, student's learning domains and thus improve the teaching –learning process. The Internal Assessment marks in a theory paper shall be based on any two tests out of three, generally conducted at the end of 6th, 10th and 15th week of each semester. An additional test may be conducted for the students who desirous before the end of the semester. Average marks are awarded based on the scheme.
2.	Lab Assessment Test	Lab Assessment is a metric to mainly assess student's practical knowledge with their designing capabilities .In the case of a Practical, the IA marks shall be based on the laboratory journals/reports, conduction of experiments and one practical test.
3.	Theory Semester Examination	Semester theory examinations are the metric to assess whether all the course outcomes are attained w.r.t course objectives framed by the instructor. Semester Examination is more focused on attainment of course outcomes and uses a descriptive exam. Practical semester examination focuses on conduction of experiments and vice-voice.
4.	Practical Semester Examination	

5.	Seminar/Project./Internship work	The IA marks in the case of seminars, projects and Internship work in the final year shall be based on the evaluation at the end of 8th semester by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the project / seminar guide.
6.	Project/Internship Work Viva-voce	Viva-voce examination in project work shall be conducted batch-wise at the end of 8th semester.
7.	Assignment	Assignment is a metric to mainly assess student's knowledge/skills/attitude with their designing capabilities.
Indirect Assessment Methods		
8.	Course Exit Survey	Collect information from the students to assess the learning outcomes of the course at the end of the semester.
9.	Self-Assessment Report	Collect information from the students for self assessing themselves about the course after completion of course.

Table 3.2.2: Course Outcome Assessment described in the table below:

S. No	Assessment Method	Assessment frequency	Assessment Tool	In charge	Reviewer
1	Internal Assessment Test	At the end of 6th, 10th and 15th weeks of each semester.	Student's performance in internal assessment booklets.	Course owner	PAC PC/HOD
2	Lab Assessment Test	At the end of the semester	Student's performance in conducting experiments and journal writing.	Course owner	PAC PC/HOD
3	Theory Semester Examination	At the end of the semester	Student's performance in university exams.	University Evaluators	
4	Practical Semester Examination	At the end of the semester	Student's performance in conducting experiments during university exams.	University Evaluators	
5	Seminar/Project/Internship work	During the 8th semester	Rubrics	Guide/ Coordinator	PAC PC/HOD

6	/Project/Internship Work Viva-voce	At the end of the 8th semester	Student's performance in university exams	University Evaluators	
7	Assignment	Before / After Conduction of CIE test	Student's performance in Assignment assessment booklets	Course Owner	PAC PC/HOD
8	Course Exit Survey	Semester end	Student survey	Course Owner	CC PAC PC
9	Self-Assessment Report	Semester end	Student survey	Course Owner	CC PAC PC

3.2.2. Record the attainment of Course Outcome of all courses with respect to set attainment levels (40)

The description of the attainment levels is as explained below.

Measuring CO attainment through internal assessments:

Attainment Level V/S Target

- Attainment Level 1: 60% students scoring more than 60% marks out of the relevant maximum marks.
- Attainment Level 2: 70% students scoring more than 60% marks out of the relevant maximum marks.
- Attainment Level 3: 80% students scoring more than 60% marks out of the relevant maximum marks.

Measuring CO attainment through Semester End Examination:

Attainment Level V/S Target

- Attainment Level 1: 60% students scoring more than 45% marks out of the relevant maximum marks.
- Attainment Level 2: 70% students scoring more than 45% marks out of the relevant maximum marks.
- Attainment Level 3: 80% students scoring more than 45% marks out of the relevant maximum marks.

CO Attainment has been calculated by assuming 70% weightage to University Examination and 30% weightage to Internal Assessment.

Final CO Attainment has been calculated by assuming 80% weightage to Direct Attainment and 20% weightage to Indirect Attainment.

Table 3.2.3: Attainment of Course Outcome of all courses with respect to set attainment levels in the table below:

Subject Name / Subject Code	Index	C01	C02	C03	CO4	AVERAGE
EM-III 17MAT31	C201	65.36	64.19	67.16	41.70	59.60
SOM 17CV32	C202	38.30	43.60	33.50	32.30	36.92
FM 17CV33	C203	20.17	27.17	29.05	30.59	26.74
BS 17CV34	C204	37.68	38.03	38.94	38.66	38.32
EG 17CV35	C205	84.51	88.35	91.06	91.49	88.85
BMCT 17CV36	C206	56.12	38.15	49.82	52.32	49.10
M TLAB 17CVL37	C207	81.10	81.10	69.51	81.1	78.20
GE LAB 17CVL38	C208	97.45	91.00	89.53	95.08	93.26
EM-IV 17MAT41	C209	56.35	48.62	63.17	62.74	57.72
ADS 17CV42	C210	50.52	37.82	72.82	71.88	58.26
AH 17CV43	C211	81.71	78.38	78.98	80.11	79.80
CT 17CV44	C212	52.43	53.86	54.26	54.15	53.68
BASIC GT 17CV45	C213	61.84	63.48	63.38	62.53	62.81
AS 17CV46	C214	56.28	50.19	50.53	50.16	51.79
FM & HM LAB 17CVL47	C215	88.80	88.80	88.80	88.80	88.80
EG LAB 17CVL48	C216	33.33	33.33	33.33	33.33	33.33
DRCC 17CV51	C301	72.93	82.20	82.30	77.50	78.73
AIS 17CV52	C302	62.50	69.60	64.20	62.70	64.75
AGT 17CV53	C303	42.10	44.00	55.90	60.80	50.70
CABPD 17CV54	C304	87.48	89.10	87.48	89.10	88.29
RHTA 17CV55	C305	64.50	65.50	63.90	63.70	64.40
T E 17CV56	C306	75.00	72.40	73.90	74.10	73.85
GT Lab 17CVL57	C307	61.47	61.47	61.14	61.14	61.39

CHMT LAB 17CVL58	C308	72.41	81.44	76.24	70.66	75.18
CM&E 17CV61	C309	71.55	45.86	71.44	43.84	58.17
DSS 17CV62	C310	56.52	56.10	52.52	55.5	55.16
HE 17CV63	C311	89.70	94.03	90.35	93.55	91.91
WE&T 17CV64	C312	82.21	72.74	68.65	77.48	75.27
SWM 17CV65	C313	73.80	67.63	70.10	48.78	65.08
WRM 17CV66	C314	32.63	41.46	37.31	37.36	37.19
SA Lab 17CVL67	C315	66.20	66.20	66.20	66.20	66.20
Extensive Survey 17CVL68	C316	73.72	78.63	78.00	68.58	74.73
MIWW 17CV71	C401	96.50	95.10	95.10	90.00	94.18
DRCC& SS 17CV72	C402	74.85	74.96	74.85	74.69	74.84
HIE 17CV73	C403	84.71	80.47	83.77	78.54	81.87
DOB 17CV741	C404	49.77	52.77	51.34	47.97	50.46
UTP 17CV751	C405	92.64	90.49	67.4	93.14	85.92
EE LAB 17CVL76	C406	32.24	68.67	54.49	61.76	54.29
CAD LAB 17CVL77	C407	93.56	82.02	97.82	--	91.13
PROJECT PHASE-I 17CVP78	C408	68.00	90.00	85.65	34.24	69.47
QSCM 17CV81	C409	88.10	89.72	87.99	96.54	90.59
DPSC 17CV82	C410	89.40	86.79	58.11	76.01	77.58
HE 17CV832	C411.1	98.20	96.60	94.50	97.10	96.60
PD 17CV833	C411.2	51.35	71.65	70.65	72.05	66.05
INTERNSHIP 17CV84	C412	55.00	58.12	47.92	36.02	49.27
ROJECT WORK 17CVP85	C413	55.34	56.00	85.00	58.02	63.59
SEMINAR 17CVS86	C414	65.00	43.00	68.02	56.02	58.01

3.3 Attainment of Program Outcomes and Program Specific Outcomes (50)

3.3.1. Describe assessment tools and processes used for assessing the attainment of each POs & PSOs

PO Assessment Tools

Assessment tools are categorized into Direct and Indirect methods to assess the programme educational objectives, program outcomes and course outcomes.

Direct methods display the students' knowledge and skills from their performance in the continuous assessment tests, semester end examinations, presentations, and classroom assignments etc. these methods provide evidence of student learning performance.

Indirect methods: A survey is conducted including alumni, students' performance in interviews, industrialist's opinions and other stakeholders to know graduation knowledge & skills.

Table 3.3.1: PO Direct Assessment Methods

PO Direct Assessment Methods		
S.No	**Assessment Method**	**Description**
1.	Internal Assessment Test	It is a metric to continuously assess the attainment of course outcomes, student's learning domains and thus improve the teaching –learning process. The Internal Assessment marks in a theory paper shall be conducted at the end of 6^{th}, 10^{th} and 15^{th} weeks of each semester. An additional test may be conducted for the desirous students before the end of the semester to give an opportunity to such students to improve their Internal Assessment Marks. Average of the better marks obtained from the Internal Assessment Marks for the relevant subject.
2.	Lab Assessment Test	Lab Assessment is a metric to mainly assess student's practical knowledge with their designing capabilities .In the case of a Practical, the IA marks shall be based on the laboratory journals/reports, conduction of experiments and one practical test.

3.	Semester End Examination	Semester theory examinations are the metric to assess whether all the course outcomes are attained w.r.t course objectives framed by the instructor. Semester Examination is more focused on attainment of course outcomes and uses a descriptive exam. Practical semester examination focuses on conduction of experiments and vice-voice.
4.	Seminar/Project/ Internship	The IA marks in the case of mini projects, projects and seminars in the final year shall be based on the evaluation at the end of 8th semester by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the project / seminar guide.
5.	Project/Internship Work Viva-voce	Viva-voce examination in project work shall be conducted batch-wise.
6.	Assignment	Assignment is a metric to mainly assess student's knowledge/skills/attitude with their designing capabilities.

Table 3.3.2: PO Indirect Assessment Methods

PO Indirect Assessment Methods		
S.No	**Assessment Method**	**Description**
1.	Course Exit Survey	Collect information from the students to assess the learning outcomes of the course at the end of the semester.
2.	Self Assessment Report	Collect information from the students for self assessing themselves about the course after completion of course.
3.	Program Exit Survey (PES)	Collect the feedback about the program at the time of graduation.

Program Outcome Assessment methodology, tools and frequency of use for direct and indirect method is described in the table below:

Table 3.3.3: PO Assessment Methodology, tools and frequency of use for direct and indirect method.

S. No	Assessment Method	Assessment frequency	Assessment Tool	In charge	Reviewer
1	Internal Assessment Test	At the end of 6th, 10th and 15th weeks of each semester.	Student's performance in internal assessment booklets.	Course owner	PAC PC/HOD
2	Lab Assessment Test	At the end of the semester	Student's performance in conducting experiments and journal writing.	Course owner	PAC PC/HOD
3	Theory Semester Examination	At the end of the semester	Student's performance in university exams.	University Evaluators	
4	Practical Semester Examination	At the end of the semester	Student's performance in conducting experiments during university exams.	University Evaluators	
5	Seminar/Project/Internship work	During the 8th semester	Rubrics	Guide/ Coordinator	PAC PC/HOD
6	/Project/Internship Work Viva-voce	At the end of the 8th semester	Student's performance in university exams	University Evaluators	
7	Assignment	Before / After Conduction of CIE test	Student's performance in Assignment assessment booklets	Course Owner	PAC PC/HOD
8	Course Exit Survey	Semester end	Student survey	Course Owner	CC PAC PC
9	Self Assessment Report	Semester end	Student survey	Course Owner	CC PAC PC

10	Program Exit Survey	Annually	Exit report from graduates	Alumni Association Committee (AAC)	IQAC

3.3.2 Provide results of evaluation of each PO & PSO ;(40)

Program shall set program outcome attainment levels for all POs & PSOs.

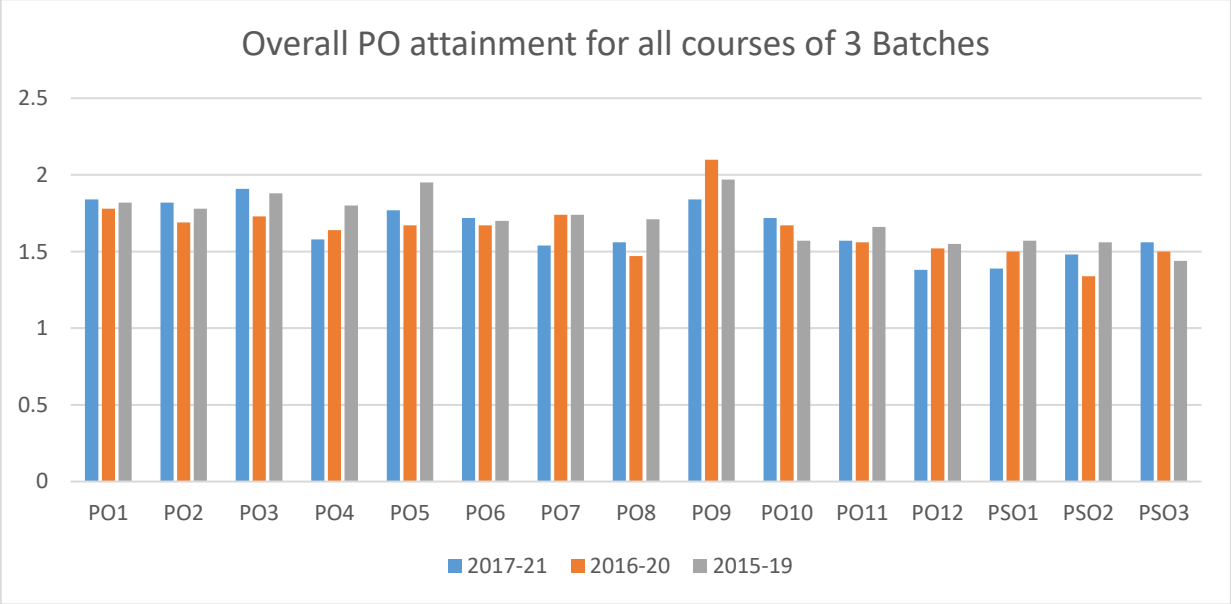
Table 3.3.2.1: CO-PO/PSO attainment levels by Direct & Indirect

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C103	1.67	2.02	-	-	-	-	-	-	-	-	-	-	-	-	-
C201	1.79	2.14	-	-	-	-	-	-	-	-	-	-	-	-	-
C202	1.07	1.24	-	-	-	-	-	-	-	-	-	1.24	0.62	1.07	1.24
C203	1.72	1.72	0.59	-	-	-	-	-	-	-	-	1.15	-	-	-
C204	2.08	1.85	1.84	1.38	-	-	0.93	-	-	-	-	0.93	-	-	-
C205	1.83	1.83	1.83	-	-	-	-	-	-	-	-	1.86	-	1.83	-
C206	1.72	0.87	-	-	-	-	-	-	-	-	-	0.86	0.86	-	-
C207	0.96	-	-	0.96	-	0.96	-	0.96	-	-	-	0.96	0.96	0.96	-
C208	1.5	1.8	-	-	-	-	-	-	-	-	-	-	0.89	-	-
C209	2.19	2.19	-	-	-	-	-	-	-	-	-	-	-	-	-
C210	1.26	1.26	1.5	1.27	-	-	-	-	-	-	-	1.26	0.63	1.26	-
C211	2.64	2.63	-	-	-	-	-	-	-	-	-	-	0.88	-	-
C212	1.22	1.58	1.66	-	-	-	0.83	1.02	-	-	-	1.09	0.83	1.62	
C212	1.91	2.88	2.63	-	2.88	-	-	-	-	-	-	2.14	-	1.91	1.91
C213	1.66	1.67	0.83	-	-	-	-	-	-	-	-	0.83	-	1.67	-
C214	1.22	1.22	1.64	1.67	1.67	-	-	-	-	-	-	-	-	-	-
C215	1.94	1.94	0.97	1.21	0.97	-	-	-	-	-	-	-	0.97	-	0.97
C216	0.99	-	-	0.99	-	-	-	-	-	-	-	0.99	0.99	-	-
C209	-	-	-	-	-	1.65	-	1.65	1.57	1.65	1.88	0.94	-	-	-
C210	0.70	0.64	0.88	-	0.87	0.65	-	0.70	-	-	-	-	-	-	-
C211	2.52	1.68	1.90	1.30	-	1.99	0.81	-	-	-	-	1.68	1.68	-	-
C212	2.76	1.84	2.07	1.39	-	2.15	0.91	-	-	-	-	1.84	1.84	-	-
C213	1.99	1.77	2.23	1.34	-	-	0.89	-	-	-	-	0.89	-	1.77	-
C214	1.60	1.58	1.76	1.76	-	-	-	-	-	-	-	-	-	-	-
C215	1.83	1.80	1.81	-	1.80	1.86	1.87	1.82	-	-	1.86	-	2.25	-	-
C216	2.01	2.01	1.00	1.26	1.00	-	-	-	-	-	-	-	1.00	-	1.01
C301	2.68	2.68	-	2.93	2.69	-	-	-	-	-	-	1.95	0.98	-	-
C302	2.67	1.78	2.0	-	-	-	-	-	-	-	-	1.78	1.78	-	-
C303	1.78	-	2.06	-	-	1.98	1.34	-	-	-	-	-	-	-	1.99
C304	1.81	-	2.10	-	-	2.01	1.36	-	-	-	-	-	-	-	2.02

C305	1.83	1.83	1.82	1.82	-	-	-	0.91	-	1.83	-	0.91	1.86	1.76	-
C306	1.64	1.86	1.86	-	1.88	1.56	-	1.88	-	-	-	-	-	-	-
C307	1.81	1.58	-	1.84	-	-	-	-	-	1.81	-	0.91	-	1.58	-
C308	1.99	1.77	2.21	1.32	-	-	0.89	-	-	-	-	0.88	-	-	-
C309	2.04	1.82	2.27	1.36	-	-	0.97	-	-	-	-	0.91	-	-	-
C310	1.79	1.12	1.12	0.89	0.89	0.89	-	-	-	-	-	0.98	-	-	-
C311	1.5	-	-	-	-	-	-	-	0.86	-	-	-	-	1.85	-
C312	1.94	0.86	-	-	-	1.56	1.32	-	1.86	-	-	-	0.86	-	-
C313	1.88	-	2.06	-	-	1.67	1.13	-	-	-	-	-	-	-	1.87
C314	2.03	-	2.25	-	-	1.80	1.22	-	-	-	-	-	-	-	2.02
C315	2.08	2.08	3.12	-	-	2.08	-	2.08	-	2.08	-	-	2.08	-	-
C316	1.54	1.47	-	-	-	-	-	-	-	-	-	0.88	0.88	-	-
C401	2.01	1.63	1.93	1.47	-	-	-	-	-	-	0.73	0.73	1.09	-	-
C402	1.98	1.98	2.97	-	-	1.98	-	1.98	-	1.98	-	-	1.98	-	-
C403	2.17	1.61	1.94	-	-	2.17	2.92	-	-	-	-	-	-	-	2.17
C404	1.14	1.21	1.86	-	-	-	1.83	1.83	-	-	-	0.9	-	-	-
C405	1.84	1.75	2.10	-	-	1.58	-	1.05	2.10	1.05	1.05	1.05	-	-	2.10
C406	1.73	1.98	-	-	-	0.99	-	1.98	-	-	-	0.99	0.99	0.99	-
C407	1.01	1.62	-	0.80	-	0.81	-	0.80	-	-	-	1.62	0.81	-	-
C408	1.57	1.90	1.91	1.19	1.70	2.00	2.07	1.73	2.11	1.57	1.78	1.91	2.58	1.00	1.64
C409	1.86	-	2.08	-	-	1.65	1.10	-	-	-	-	-	-	-	1.65
C410	-	-	1.92	-	-	-	2.16	-	-	-	-	-	-	-	1.92
C411.1	1.95	1.93	1.95	-	-	-	-	-	-	-	-	1.95			
C411.2	1.95	1.93	1.95	-	-	1.88	-	0.95	-	-	-	-	-	-	-
C412	2.03	1.67	1.60	1.94	1.93	2.19	1.93	1.99	1.89	2.05	1.85	2.03	1.82	0.98	0.92
C413	1.61	1.61	1.64	0.92	1.32	1.82	2.00	1.43	1.91	1.43	1.27	1.80	2.11	1.02	0.78
C414	1.71	1.52	1.75	1.83	1.75	1.75	1.76	1.78	1.85	1.70	1.63	1.50	1.97	0.84	0.92
Direct Attainment	1.79	1.75	1.84	1.49	1.72	1.67	1.44	1.47	1.77	1.72	1.51	1.29	1.31	1.38	1.57
Indirect Attainment	2.03	2.11	2.17	1.92	1.98	1.93	1.93	1.91	2.11	1.71	1.82	1.72	1.69	1.87	1.51
Total Attainment level (0.80Di + 0.20 Ind)	**1.84**	**1.82**	**1.91**	**1.58**	**1.77**	**1.72**	**1.54**	**1.56**	**1.84**	**1.72**	**1.57**	**1.38**	**1.39**	**1.48**	**1.56**

Table 3.3.2.2: Overall PO attainment for all courses of 3 Batches (Under different scheme)

Scheme	Batch	Level	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
2017	**2017-2021** CAY	Att.	1.84	1.82	1.91	1.58	1.77	1.72	1.54	1.56	1.84	1.72	1.57	1.38	1.39	1.48	1.56
		Target	2.07	2.04	2.17	1.84	1.98	1.96	1.98	1.80	2.05	1.80	1.73	1.87	2.07	1.16	1.38
2015	**2016-2020** CAY-1	Att.	1.78	1.69	1.73	1.64	1.67	1.67	1.74	1.47	2.10	1.67	1.56	1.52	1.50	1.34	1.50
		Target	2.11	2.00	2.02	1.84	2.00	1.96	1.97	1.68	2.29	1.88	1.68	1.76	1.75	1.57	1.61
2015	**2015-2019** CAY-2	Att.	1.82	1.78	1.88	1.80	1.95	1.70	1.74	1.71	1.97	1.57	1.66	1.55	1.57	1.56	1.44
		Target	2.08	2.03	2.10	1.98	2.09	1.94	2.00	1.93	2.13	1.70	1.86	1.76	1.74	1.67	1.55



Graph.1. Comparison of Overall PO attainment for the 3 Batches (Under Different Schemes).

CRITERION 4	STUDENTS PERFORMANCE	150

Table 4.1: Student admission details from 2014-15 to 2020-21

Item	2020-21 (CAY)	2019-20 (CAYm1)	2018-19 (CAYm2)	2017-18 (CAYm3)	2016-17 (CAYm4)	2015-16 (CAYm5)	2014-15 (CAYm6)
Sanctioned intake of the program (N)	120	120	120	120	120	120	120
Total number of students admitted in first year minus number of students migrated to other programs/institutions plus no. of students migrated to this program (N1)	35	82	110	93	116	116	117
Number of students admitted in 2nd year in the same batch via lateral entry (N2)	NIL	37	40	46	30	45	41
Separate division (N3)	6	6	5	5	6	6	6
Total number of students admitted in the programme (N1+N2+N3)	41	125	155	144	152	167	164

Table 4.2: Students graduated successfully without backlogs

Year of entry	N1 + N2 + N3 (As defined above)	Number of students who have successfully graduated without backlogs in any semester/year of study			
		I Year	II Year	III Year	IV Year
2020-21 (CAY)	**41**	-	-	-	-
2019-20 (CAYm1)	**125**	134	-	-	-
2018-19 (CAYm2)	**155**	52	50	-	-
2017-18 (CAYm3)	**144**	49	52	50	-
2016-17(LYG)	**152**	56	56	54	54
2015-16(LYG*m1*)	**167**	48	41	40	40
2014-15(LYG*m2*)	**164**	47	67	67	66

Table 4.3: Students graduated successfully with backlogs

Year of entry	N1 + N2 + N3 (As defined above)	Number of students who have successfully graduated			
		I Year	**II Year**	**III Year**	**IV Year**
2020-21 (CAY)	**41**	-	-	-	-
2019-20 (CAYm1)	**125**	85	-	-	-
2018-19 (CAYm2)	**156**	81	115	-	-
2017-18 (CAYm3)	**144**	72	123	110	-
2016-17(LYG)	**152**	99	132	116	115
2015-16(LYG*m1*)	**167**	85	134	101	98
2014-15(LYG*m2*)	**164**	83	115	112	107

4.1 Enrolment Ratio (20)-

Table 4.4: Enrolment ratio for the academic years 2018-19 to 2020-21

Academic year of admission	N (From Table 4.1)	N1 (From Table 4.1)	Enrolment Ratio=(N1/N)*100
2020-21 (CAY)	120	35	29.16
2019-20 (CAY *m*1)	120	82	68.33
2018-19 (CAY*m*2)	120	110	91.67
Average Enrolment = 63.05%			

4.2. Success Rate in the stipulated period of the program (40)

4.2.1 Success rate without backlogs in any semester/year of study (25)-

Table: 4.5: Success rate without backlogs in any semester/year for the academic years 2014-15 to 2016-17

Item	**LYG (CAYm4) (2016-17)**	**LYG*m*1 (CAY*m*5) (2015-16)**	**LYG*m*2 (CAY*m6*) (2014-15)**
Number of students admitted in the corresponding First Year + admitted in 2ndyear via lateral entry and separate division, if applicable (X)	152	167	164
Number of students who have graduated without backlogs in the stipulated period (Y)	54	40	66
Success Index (SI) = Y/X	0.35	0.24	0.41
Average SI	0.33		

4.2.2. Success rate in stipulated period (15)-

Table: 4.6: Success rate for the academic years 2014-15 to 2016-17

Item	LYG (CAYm4) (2016-17)	LYGm1 (CAYm5) (2015-16)	LYGm2 (CAYm6) (2014-15)
Number of students admitted in the corresponding First Year + admitted in 2ndyear via lateral entry and separate division, if applicable (X)	152	167	164
Number of students who have graduated (Y)	115	98	108
Success Index (SI) =(Y/X)	0.75	0.58	0.66
Average SI	0.66		

4.3 Academic Performance in Third Years (15)

Table 4.7: Academic Performance in Third Years for the academic years 2014-15 to 2016-17

Academic Performance index	CAY m3 (2017-18)	LYG (2016-17)	LYG m1 (2015-16)
Mean of the percentage of marks of all successful students in Third Year/10(X)	7.06	7.14	6.97
Total no. of successful students (Y)	116	97	113
Total no. of students appeared in the examination (Z)	117	97	115
API = x* (Y/Z)	7.00	7.14	6.85
Average API = (AP1 + AP2 + AP3)/3	7.00		

4.4. Academic Performance in Second Year (15)

Table 4.8: Academic Performance in Second Years for the academic years 2016-17 to 2018-19

Academic Performance	CAY m2 (2018-19)	CAYm3 (2017-18)	LYG (2016-17)
Mean of CGPA or Mean Percentage of all successful student(X)	6.52	5.85	5.98
Total no. of successful students (Y)	111	101	118
Total no. of students appeared in the examination (Z)	119	123	129
API = X* (Y/Z)	6.08	4.80	5.47
Average API = (AP1 + AP2 + AP3)/3	5.45		

4.5. Placement, Higher Studies and Entrepreneurship (40)

Table:4.9: Placement, Higher Studies and Entrepreneurship details for the successful students for the academic years 2016-17 to 2018-19

Item	LYG (2016-17)	LYG m1 (2015-16)	LYG m2 (2014-15)
Total No. of Final Year Students (N)	115	101	113
No. of students placed in companies or Government Sector(x)	58	44	51
No. of students admitted to higher studies with valid qualifying scores	07	07	20
No. of students turned entrepreneur in engineering/technology(z)	1	2	1
x + y + z =	66	53	72
Placement Index : (x + y + z)/N	0.57	0.52	0.64
Average placement= (P1 + P2 + P3)/3	0.58		

Table:4.10: Details of Placement for graduated students in the academic year 2017-18

Sl No.	USN	NAME OF THE STUDENTS	EMPLOYEE NAME	APPOINTMENT NO.
1	3VC14CV001	A RAJASHEKAR	Sri Siddarameshwara Constructions.	14072018
2	3VC14CV005	ALEKHYA M	I-Construction, Ballari.	21082018
3	3VC14CV008	AMIT N KULKARNI	SP Associates	20180820
4	3VC14CV018	BASAVARAJ B	Sri Siddarameshwara Constructions.	29092018
5	3VC14CV023	CHAITRA S	PREMIER TECHNICAL CONSULTANTS	20135/2018-19
6	3VC14CV028	DASARI RAJU	GURUMALLAPPA AND COMPANY	SE/1002-2/2018
7	3VC14CV029	DIVYASHREE C D	MSG Construction, Ballari.	3042019
8	3VC14CV033	GOLLA PUNITH	GANI PROPERTIES ENGINEERS AND CONTRACTORS	GP/113/2018-19
9	3VC14CV035	GOURI T K	e-Construct, Bengaluru	EDBPL-03-20180307
10	3VC14CV038	GURUPRASAD H M	RAAGA Construction, Bangalore.	25102018
11	3VC14CV042	KARUNESHA K	Sobha Ltd, Bangalore.	SL/HR/SS/589
12	3VC14CV045	KEERTHANA G	Team Lease Services Ltd.	TR10194409
13	3VC14CV048	M A SYED SHEKSHAVALI	I CONSTRUCTION AND DEVELOPERS	IC/AO/98/2018
14	3VC14CV050	MADIVALAPPA	PREMIER TECHNICAL CONSULTANTS	1806654/2018-19
15	3VC14CV051	MALINGARAYA	GURUMALLAPPA AND COMPANY	SE/128-1/217
16	3VC14CV052	MALLIKARJUNA H K	Contractor Firm	2102018
17	3VC14CV055	MANJUNATH T	Sri Siddarameshwara Constructions.	
18	3VC14CV059	MEGHANA M	e-Construct, Bengaluru	EDBPL-02-20180307
19	3VC14CV061	MUGAPPA ONAKI	NASHANTO	7112018
20	3VC14CV063	N NARENDRA	PINCLICK	30052018
21	3VC14CV067	OM SHIVA REDDY	DSR Infrastructure	100377
22	3VC14CV071	POOJA	GANI PROPERTIES ENGINEERS AND CONTRACTORS	GP/123/2018-19
23	3VC14CV073	R KOUSHIK SHARMA	NASHANTO	7112018
24	3VC14CV075	RAKESH	NASHANTO	7112018
25	3VC14CV077	RAMYA B	PINCLICK	30052018
26	3VC14CV080	RAVALI N	MSG Construction, Ballari.	23102018
27	3VC14CV081	S M SURESH GOUD	Contractor Firm	3102018
28	3VC14CV084	SALMAN S M	GURUMALLAPPA AND COMPANY	SE/1208-2/2017

29	3VC14CV086	SANDEEP KUMAR M B	PREMIER TECHNICAL CONSULTANTS	1805677/2018-19
30	3VC14CV090	SEEMALU MOHAN REDDY	Sri Siddarameshwara Constructions.	31122018
31	3VC14CV100	SUNILKUMAR M SALIMATH	Contractor Firm	2092018
32	3VC14CV102	SYED AMER ALI	I CONSTRUCTION AND DEVELOPERS	IC/AO/88/2018
33	3VC14CV105	UDAYAKUMAR T	Sri Siddarameshwara Constructions.	5092018
34	3VC14CV112	VANKAI ANJINEYA	Sri Siddarameshwara Constructions.	21102018
35	3VC14CV119	VINAYAKUMAR B	Contractor Firm	41/2018
36	3VC15CV405	ANILKUMAR V	GANI PROPERTIES ENGINEERS AND CONTRACTORS	GP/119/2018-19
37	3VC15CV409	GIREESH H	Contractor Firm	13122018
38	3VC15CV410	GOVINDA N	Sri Siddarameshwara Constructions.	26082018
39	3VC15CV411	HANUMANTAGOUDA MA PA	Contractor Firm	6092018
40	3VC15CV412	HARSHAVARDHAN KOMATLAPALLI	Contractor Firm	213/2018
41	3VC15CV414	KOTRESHA B	I CONSTRUCTION AND DEVELOPERS	IC/AO/92/2018
42	3VC15CV415	KUMARA NAIK B	MSG Construction, Ballari.	21112018
43	3VC15CV417	MANJUNATHA MAL	I CONSTRUCTION AND DEVELOPERS	IC/AO/44/2018
44	3VC15CV421	NAGARAJA M H	Sri Siddarameshwara Constructions.	21092018
45	3VC15CV423	PAMPAPATHI V	RAAGA Construction, Bangalore.	21122018
46	3VC15CV426	RICKY EMMANUEL D	GANI PROPERTIES ENGINEERS AND CONTRACTORS	GP/121/2018-19
47	3VC15CV430	SUDHAKARA V	Junior Engineer, Karnataka Govt. sector.	1105857
48	3VC15CV434	VASANTAKUMAR B	GANI PROPERTIES ENGINEERS AND CONTRACTORS	GP/122/2018-19
49	3VC15CV438	VENKATESHA S	Sri Siddarameshwara Constructions.	20122018
50	3VC15CV439	VIRUPAKSHIGOUDA M	MSG Construction, Ballari.	14092018
51	3VC15CV440	YERISWAMY G	MARVEL Properties, Bellary.	1062019

Table:4.10: Details of Placement for graduated students in the academic year 2018-19

Sl No.	USN	NAME OF THE STUDENTS	EMPLOYEE NAME	APPOINTMENT NO.
1	3VC15CV004	AMARNATH B V	NANDHI NIRMANA	113/2018
2	3VC15CV007	ASIFMOHAMMED M	ANCHAL STRUCTURAL KEY	ASK/SA-19-2019
3	3VC15CV010	BHASKAR K	MILLI GRAM BLOCKS	14092019
4	3VC15CV012	BHEEMESHA G	SAI PRALAKSHA CONSTRUCTIONS	AL-7251/9
5	3VC15CV013	CHANNABASAYYA	NBR GROUP	29-07-2021
6	3VC15CV014	DADAKHALANDARA M Y	VIBRANT TECHNO CONSULTANTS	OL-251-20/VTC
7	3VC15CV018	DHANUSHRI S	VEE TECHNOLOGIES	20-Sep-19
8	3VC15CV020	DIWAKAR REDDY U	CCTSK DESIGN SOFTECH PVT LTD	2018-19/AP/03
9	3VC15CV021	DODDA BASAVANA GOUDA K	POLICE CONSTABLE,BALLARI	227/2021
10	3VC15CV023	G NARASIMHA TEJA	GURUMALLAPPA AND COMPANY	SE/0607-2/2018
11	3VC15CV026	GAVISIDDESHWARA G M	CCTSK DESIGN SOFTECH PVT LTD	2018-19/AP/04
12	3VC15CV032	H M NIRANJAN	GURUMALLAPPA AND COMPANY	SE/0607-1/2018
13	3VC15CV037	HEMALATHA P	SAI PRALAKSHA CONSTRUCTIONS	AL-7252/9
14	3VC15CV043	JAYAPRAKASH	E I TECHNOLOGIES PVT.LTD	EIT-2020G-HRD-AOR-A021
15	3VC15CV045	K SAIKEERTHIVARMARAJU	SRI RAGHAVENDRA CONSTRUCTIONS	OL-215-2019
16	3VC15CV053	MADHURI REDDY G	Contractor firm	1242/2019-20
17	3VC15CV054	MAHESH M	PREMIER TECHNICAL CONSULTANTS	1805676/2018-19
18	3VC15CV062	MOHAMMED MUBASHSHIR AHMED	Contractor firm	1243/2019-20
19	3VC15CV068	N BASAVARAJA	PREMIER TECHNICAL CONSULTANTS	19180540/2019-20
20	3VC15CV070	NAGARAJ K	JSW	
21	3VC15CV071	NAVEEN	ANCHAL STRUCTURAL KEY	ASK/SA-20-2019
22	3VC15CV076	PAMPANNA MOOLIMANI	SAI SHRAVAN CONSTRUCTIONS	SE_25147/19
23	3VC15CV091	SAI SURENDRANATH REDDY	VIBRANT TECHNO CONSULTANTS	OL-252-20/VTC
24	3VC15CV092	SALONICA JENNIFER	PREMIER TECHNICAL CONSULTANTS	19180406/2019-20
25	3VC15CV097	SHANKRAPPA	Contractor firm	1244/2019-20
26	3VC15CV101	SHIVA KUMAR H K	SHREE CEMENT LTD	SCL/BWR/HRD/2020
27	3VC15CV104	SHRINIVAS	NANDHI NIRMANA	115/2018
28	3VC15CV107	SOUMYA	SAI PRALAKSHA CONSTRUCTIONS	AL-7253/9
29	3VC15CV112	SUNITHA N	SAI SHRAVAN CONSTRUCTIONS	PL_36548/19
30	3VC15CV116	VENKATESH B	INFRASTUCTURE DEVELOPMENT CORPORATION LIMITED	IDECK/2020-21

31	3VC15CV120	VINAY REDDY	AKRUTHI TECHNICAL CONSULTANTS	28-09-2019
32	3VC15CV123	PRATIKSHA JAIN	DESAI PROJECT CONSULTANTS Pvt.ltd	13-11-2021
33	3VC15CV125	SHIVANI M	DESAI PROJECT CONSULTANTS Pvt.ltd	13-11-2021
34	3VC15CV126	VEERESH	NANDHI NIRMANA	118/2018
35	3VC16CV400	ADARSHA H G	ANCHAL STRUCTURAL KEY	ASK/SA-21-2019
36	3VC16CV401	AKSHAY	HALLEY BLUE	126-2021
37	3VC16CV403	AMARESH K BAVIKATTI	SAI SHRAVAN CONSTRUCTIONS	421-525-2019
38	3VC16CV407	C H VEERESH	PREMIER TECHNICAL CONSULTANTS	19180159/2019-20
39	3VC16CV409	G SHARANA BASAVANA GOUDA	PREMIER TECHNICAL CONSULTANTS	19180590/2019-20
40	3VC16CV418	LOKESH M	VIBRANT TECHNO CONSULTANTS	OL-253-20/VTC
41	3VC16CV421	MANOJKUMAR V	DALMIA CEMENTS	24-Feb-21
42	3VC16CV425	NAGALINGA	Contractor firm	1245/2019-20
43	3VC16CV437	SOUMYA	AKRUTHI TECHNICAL CONSULTANTS	28-08-2019
44	3VC16CV441	THASLEEM H	CADD CENTER	17-02-2020

Table:4.11: Details of Placement for graduated students in the academic year 2019-20

Sl No.	USN	NAME OF THE STUDENTS	EMPLOYEE NAME	APPOINTMENT NO.
1	3VC16CV001	ABHISHEK U SOPPIMATH	BASAVA CONSTRUCTIONS	LA-105-20
2	3VC16CV004	ANAND R BHAJANTRI	NANDHI NIRMANA	OJ/214/2019
3	3VC16CV011	BHARATKUMAR PATIL	SRI CHAKRA TECHNO CONSULTANTS	SCTC/121/2020-21
4	3VC16CV012	BHIMAPPA	BNR CONSTRUCTIONS	SN-254-25/20
5	3VC16CV019	G USHARANI	BASAVA CONSTRUCTIONS	LA-106-20
6	3VC16CV020	GANESHA B	SMD ASSOCIATES	SMD/116/2020-21
7	3VC16CV023	HARI KIRAN K	S R ASSOCIATES	25-08-2019
8	3VC16CV027	ISMAIL JABIULLA S D	ANCHAL STRUCTURAL KEY	ASK/SA-24-2019
9	3VC16CV029	K SAI DIVYA	SAI PRALAKSHA CONSTRUCTIONS	AL-9231/9
10	3VC16CV033	KATTEGOWDA R	BNR CONSTRUCTIONS	1092020
11	3VC16CV034	KIRAN KUMAR J	SRI RANGANATHA CONSULTANCY	12-01-2020
12	3VC16CV035	KISHORE CHANUKOTIMATH	BYJU'S	OCT 28 2020
13	3VC16CV039	M PALLAVI	NANDHI NIRMANA	OJ/215/2019
14	3VC16CV044	MAHESHKUMAR MALIPATEEL	CCTSK DESIGN SOFTECH PVT LTD	2018-19/AP/05
15	3VC16CV047	MANJUNATHA T	PREMIER TECHNICAL CONSULTANTS	1805326/2020-21
16	3VC16CV049	MANOJ A	JAIN CONSTRUCTIONS	28112019
17	3VC16CV057	NAGARAJA R K	VIBRANT TECHNO CONSULTANTS	OL-303-20/VTC
18	3VC16CV062	P SAIDU BEGUM	VBR CONSTRUCTIONS	202009/06-02
19	3VC16CV065	PAWAN KUMAR D	CONTRACTOR FIRM	212/2018

20	3VC16CV067	POOJITHA S	ANCHAL STRUCTURAL KEY	ASK/SA-23-2019
21	3VC16CV071	PRASHANTH D	SAI PRALAKSHA CONSTRUCTIONS	AL-9234/9
22	3VC16CV075	RAJASHEKHAR	SRI RANGANATHA CONSULTANCY	23-09-2019
23	3VC16CV078	RAKESH T R	NANDHI NIRMANA	OJ/215/2019
24	3VC16CV080	RAMESH CHALAVADI	CONTRACTOR FIRM	148/2019-20
25	3VC16CV081	RAMESHA T	VISWA BHARATHI CIVIL CONSULTANTS	VBC/AAPT/302/19
26	3VC16CV085	SAGAR B	VRUUKSHA INFRASTRURES	CL-25-012/20
27	3VC16CV086	SAI KIRAN T R	SRI RANGANATHA CONSULTANCY	23-09-2019
28	3VC16CV087	SAMBHRAMA S M	VBR CONSTRUCTIONS	202009/14-01
29	3VC16CV088	SANA AIMAN	SANJAY GANDHI POLYTECHNIC	SGP/2020-21/
30	3VC16CV089	SANDEEP HOOGAR	JAIN CONSTRUCTIONS	28112019
31	3VC16CV090	SANTOSH A R	VISWA BHARATHI CIVIL CONSULTANTS	VBC/AAPT/303/19
32	3VC16CV091	SARALA M	CCTSK DESIGN SOFTECH PVT LTD	2018-19/AP/06
33	3VC16CV093	SHIVUKIRAN P	VRUUKSHA INFRASTRURES	CL-25-013/20
34	3VC16CV097	SHRUTHI G	SRI CHAKRA TECHNO CONSULTANTS	SCTC/213/2020-21
35	3VC16CV103	SUNILKUMAR A	SRI RANGANATHA CONSULTANCY	23-09-2019
36	3VC16CV104	SYED AQIB	SMD ASSOCIATES	SMD/113/2020-21
37	3VC16CV108	TEJASWINI G M	SRI CHAKRA TECHNO CONSULTANTS	SCTC/214/2020-21
38	3VC16CV111	VANI R T	VRUUKSHA INFRASTRURES	CL-25-014/20
39	3VC16CV113	VEERANAGOUDA	JAIN CONSTRUCTIONS	28112019
40	3VC16CV114	VEERENDRA G	VIBRANT TECHNO CONSULTANTS	OL-306-20/VTC
41	3VC16CV118	VINESH M	MILLI GRAM BLOCKS	OL-256/251-20
42	3VC16CV122	VISHNU K	SRI CHAKRA TECHNO CONSULTANTS	SCTC/122/2020-21
43	3VC17CV400	BALAJI NAYAKA B	PREMIER TECHNICAL CONSULTANTS	207105/2020-21
44	3VC17CV402	CHANDRAHASA H	SRI RANGANATHA CONSULTANCY	12-01-2020
45	3VC17CV406	DHANANJAYA KUMAR	SAI PRALAKSHA CONSTRUCTIONS	AL-9233/9
46	3VC17CV408	HARSHAVARDHANA S M	VIBRANT TECHNO CONSULTANTS	OL-307-20/VTC
47	3VC17CV410	IRANNA KALAWAD	RAJA BAKSHI CONTRACTOR	CMC/48/20-21
48	3VC17CV412	K CHANNABASAVA	MILLI GRAM BLOCKS	10-252/34-20
49	3VC17CV415	MANJUNATH G	LAND POINT	LPS-1083
50	3VC17CV416	MANJUNATH K	SRI RAGHAVENDRA CONSTRUCTIONS	AO/52/20-21
51	3VC17CV417	MANJUNATHA V	VRUUKSHA INFRASTRURES	CL-25-015/20
52	3VC17CV419	NAGARAJ	PREMIER TECHNICAL CONSULTANTS	19190096/2019-20
53	3VC17CV420	NARENDRA D	SRI RANGANATHA CONSULTANCY	12-01-2020
54	3VC17CV425	UDAYAKIRAN K P	ANCHAL STRUCTURAL KEY	ASK/SA-22-2019

55	3VC17CV426	VENKATESH C	BASAVA CONSTRUCTIONS	LA-108-20
56	3VC17CV428	VINAYA KUMAR G	S R ASSOCIATES	25-08-2019
57	3VC17CV429	YESHWANTH KUMAR S	VISWA BHARATHI CIVIL CONSULTANTS	VBC/AAPT/301/19
58	3VC17CV430	LINGARAJ K	BASAVA CONSTRUCTIONS	LA-109-20

4.6. Professional Activities and Organizing events (20)

4.6.1 The details of workshops, seminar organized in the department are tabulated in Table 4.12.

Table 4.12: Details of the events organized in the department

Sl.No	Event Details	Academic Year
1	Online invited technical talk on "Latest Application of White cement" by Er. Veerendra Nijampure on 22th May 2021.	2020-21
2	Online invited talk on "Realigning and Redesigning Education Post Covid-19 Pandamic" by Dr. Basavaraj G Katageri on 8th July 2021.	
3	Technical talk on "Building Information Modeling (BIM)" by Er. Pradeep Kumar K on 28th Feb 2020.	2019-20
4	Gust talk on "Ready Mix Concrete" by Sri. Udaya Kumar S.G on 25th Aug 2018.	2018-19
5	Gust talk on "Sustainable Development in Construction" by Mr. A.V Pramod on 17th Aug 2017.	2017-18

4.6.2 Publication of technical magazines, newsletters, etc. (5)

The Department publishing a newsletter under the name "**ABHIYANTHA"** from the year 2015-16and the newsletter will be published yearly.

4.6.3 Participation in inter-institute events by students of the program of study (10)

Department students participated in inter-Institute events and co-curricular activities and the details are tabulated in Table 4.13.

Table 4.13: Participation of the students in inter-institute co-curricular events

Sl. No	**Participants**	**Name of the Event**	**Year**
1	Sharanamma	Participated in the event Aabhivyakthi of VIDARA - 2021	2020-21
2	Sharanamma	All india national Level Indian art contest	September, October 2021
3	Sharanamma	Participated in online quiz on Single phase AC circuits	09/6/2020
4	Sharanamma	Participated in online quiz on Mathamatical Aptitude Quiz - 2020	6/13/2020
5	Sharanamma	Workshop on Dart Programming Language organized by East West Institute of Technology	27/07/2020

6	Sharanamma	Participated in the event VIDARA 2020 in Prashnamale Quiz	26-27 November 2020
7	Hemantha Kumar S	Participated in the Workshop CAD CLASM of Nirmaan Icess 2019 in BMSCE, Bangalore	09-10 November 2019
8	Hemantha Kumar S	Participated in the Workshop Smart Materials in Civil Engineering of Nirmaan Icess 2019 in BMSCE, Bangalore	09-10 November 2019
9	Hemantha Kumar S	Participated in the Workshop Prediction of climate change of Nirmaan Icess 2019 in BMSCE, Bangalore	09-10 November 2019
10	Mohan Reddy G	Participated in online quiz on Technical Quiz on civil engineering conducted by PESITM, Shivamogga	7/24/2020
11	Mohan Reddy G	Participated in the CivIQ – 2k20 National level Civil Engineering Quiz Competition on Concrete Technology conducted by St Josph Engineering college, Mangalore	7/9/2020
12	Mohan Reddy G	Participated in the Workshop Smart Materials in Civil Engineering of Nirmaan Icess 2019 in BMSCE, Bangalore	09-10 November 2019
13	Mohan Reddy G	Attended online Quiz on Insolvency and Bankruptcy code conducted by Govt of India	
14	Mohan Reddy G	Participated in the Workshop CAD CRASH of Nirmaan Icess 2019 in BMSCE, Bangalore	09-10 November 2019
15	Mohan Reddy G	Participated in the Workshop Prediction of climate change of Nirmaan Icess 2019 in BMSCE, Bangalore	09-10 November 2019
16	Shankar J.K	Advitiya – 19 two day National Level student Technical Fest Participated in event Need for CAD Event Conducted by KLEIT, Hubballi	20th & 21st September
17	Rashmi P Jadhav	Advitiya – 19 two day National Level student Technical Fest Participated in event BOB the BUILDER Conducted by KLEIT, Hubballi	20th & 21st September
18	Sravani Srujana Tennetti	Advitiya – 19 two day National Level student Technical Fest Participated in event BOB the BUILDER Conducted by Sravani Srujana KLEIT, Hubballi	20th & 21st September
19	Sravani Srujana Tennetti	Participated in 20th VTU Youth Festival "INSIGNIA"	06th to 09th November 2019
20	Sravani Srujana Tennetti	Janani VTU Yoth Fest, Conducted by BKIT, Bhalki	02nd to 04th November 2018
21	Vijayalakshmi D	Advitiya – 19 two day National Level student Technical Fest Participated in event BOB the BUILDER Conducted by KLEIT, Hubballi	20th & 21st September
22	Vishnu C	Janani VTU Yoth Fest, Conducted by BKIT, Bhalki	02nd to 04th November 2018
23	Vishnu C	10th Yuva Summit, by Deshpande Foundation, Hubballi	1st February 2020

24	Vishnu C	LEAD Leadership Programme, by Deshpande Foundation, Hubballi	12th to 18 December 2020
25	Ghousiya Begum	Advitiya – 19 two day National Level student Technical Fest Participated in event BOB the BUILDER Conducted by KLEIT, Hubballi	20th & 21st September
26	Puttaraj H.M	Advitiya – 19 two day National Level student Technical Fest Participated in event BOB the BUILDER Conducted by KLEIT, Hubballi	20th & 21st September
27	Puttaraj H.M	Janani VTU Yoth Fest, Conducted by BKIT, Bhalki	02nd to 04th November 2018
28	Puttaraj H.M	Participated in 20th VTU Youth Festival "INSIGNIA"	06th to 09th November 2019
29	Puttaraj H.M	Inter Collegiate Zonal Tournament 2018-19, VTU, Belagavi	26 to 28 August 2018
30	Puttaraj H.M	Mindspark 2018 event Treasure Hunt, Conducted by RYMEC, Ballari	12th to 13th November 2018
31	Puttaraj H.M	Kalapradharshana of VIDARA 2021, RYMEC, Ballari	2021
32	Siddappa	Participated in 20th VTU Youth Festival "INSIGNIA"	06th to 09th November 2019
33	Kiran Mylar	Advitiya – 19 two day National Level student Technical Fest Participated in event BOB the BUILDER Conducted by KLEIT, Hubballi	20th & 21st September
34	Varun Aparanji	Advitiya – 19 two day National Level student Technical Fest Participated in event BOB the BUILDER Conducted by KLEIT, Hubballi	20th & 21st September

CRITERION 5	FACULTY INFORMATION AND CONTRIBUTIONS	200

5. FACULTY INFORMATION AND CONTRIBUTIONS

Table 5.1: Faculty details

Name	PAN No.	University Degree	Date of Receiving Degree	Area of Specialization	Research Paper Publications	Ph.D. Guidance	Ph.D. granted during the Assessment Year	Current Designation	Date (Designated as Prof/Assoc. Prof.).	Initial Date of Joining	Association Type	At present working with the Institution (Yes/No)	In case of NO, Date of Leaving	IS HOD?
Dr.H.M.Mallikarjuna	AHNPM8941J	ME/M. Tech and PhD	07/12/2013	GEO TECHNOLOGY	2	1		Professor	07/12/2013	04/09/1995	Regular	Yes		Yes
Dr.H.M.Somasekharaiah	AJBPS1520M	ME/M. Tech and PhD	27/12/2012	CONCRETE TECHNOLOGY	19	6		Professor	01/08/2015	01/02/1986	Regular	No	03/05/2021	No
Dr.M.S.Shobha	APXPS8542M	ME/M. Tech and PhD	21/01/2017	CONCRETE TECHNOLOGY	4	1		Professor	01/02/2017	19/01/1998	Regular	Yes		No
Dr.J.M.Srishaila	BKIPS6236B	ME/M. Tech and PhD	18/07/2018	CONCRETE TECHNOLOGY	8			Associate Professor	01/12/2018	16/07/2015	Regular	Yes		No
Dr.P.Shiva Keshava Kumar	AJXPP7656E	ME/M. Tech and PhD	22/05/2013	ENVIRONMENTAL ENGINEERING				Professor	22/05/2015	22/05/2015	Contractual	Yes		No
H.M Nagabhushan	AAQPN8970J	M.Sc.	07/01/1982	GEOLOGY				Associate Professor	01/12/2012	21/03/1983	Regular	Yes	12/10/2019	No

Name	PAN No.	University Degree	Date of Receiving Degree	Area of Specialization	Research Paper Publications	Ph.D. Guidance	Ph.D. granted during the Assessment Year	Current Designation	Date (Designated as Prof/Assoc. Prof.).	Initial Date of Joining	Association Type	At present working with the Institution(Yes/No)	In case of NO, Date of Leaving	IS HOD?
M.R.Vijaya Kumar	ABAPV8383L	M.E/ M.Tech	22/01/1990	ENVIRONMENTAL ENGINEERING	6			Assistant Professor		25/09/1989	Regular	Yes		No
Pushpalatha R Gadag	AOYPG2856E	M.E/M.Tech	28/02/1996	INDUSTRIAL STRUCTURES	6			Assistant Professor		01/11/2007	Regular	Yes		No
Adana Gouda	AQMPA3232E	M.E/ M.Tech	07/01/2010	STRUCTURAL ENGINEERING	16			Assistant Professor		16/08/2010	Regular	Yes		No
M.Pavan Kumar	CQTPK9318J	M.E/ M.Tech	09/12/2015	STRUCTURAL ENGINEERING	5			Assistant Professor		02/11/2012	Regular	Yes		No
M.I.Basavalinganagoud	BDRPM1100J	M.E/ M.Tech	09/04/2012	STRUCTURAL ENGINEERING	2			Assistant Professor		24/12/2012	Regular	Yes		No
M.S.Basavaprabhu	BIJPB3473L	M.E/ M.Tech	28/09/2011	STRUCTURAL ENGINEERING	4			Assistant Professor		02/09/2013	Regular	Yes		No
Basavalingappa	AQWPB8097L	M.E/ M.Tech	03/05/2014	STRUCTURAL ENGINEERING	6			Assistant Professor		25/01/2014	Regular	Yes		No
Sachin Patil	EATPS6457J	M.E/ M.Tech	16/08/2014	STRUCTURAL ENGINEERING	27			Assistant Professor		14/05/2014	Regular	Yes		No
Shiva Malashree	BABPM8403R	M.E/ M.Tech	09/05/2015	STRUCTURAL ENGINEERING	2			Assistant Professor		06/07/2015	Regular	No	09/07/2021	No

Name	PAN No.	University Degree	Date of Receiving Degree	Area of Specialization	Research Paper Publications	Ph.D. Guidance	Ph.D. granted during the Assessment Year	Current Designation	Date (Designated as Prof/Assoc. Prof.).	Initial Date of Joining	Association Type	At present working with the Institution(Yes/No)	In case of NO, Date of Leaving	IS HOD?
T.E.Vinaya Shekhar	AAUPE5085B	M.E/ M.Tech	05/05/2016	STRUCTURAL ENGINEERING	2			Assistant Professor		08/02/2016	Regular	Yes		No
K.Zameer	OQWPB8097L	M.E/ M.Tech	14/01/2016	STRUCTURAL ENGINEERING	3			Assistant Professor		01/08/2016	Regular	Yes		No
Sagar	EEIPS8675P	M.E/ M.Tech	02/08/2017	TRANSPORTATION ENGINEERING AND MANAGEMENT	13			Assistant Professor		15/08/2016	Regular	No	30/06/2020	No
H.M.Veereshaiah	AYZPV4153E	M.E/ M.Tech	09/05/2015	COMPUTER AIDED DESIGN OF STRUCTURES	8			Assistant Professor		26/08/2016	Regular	Yes		No
Sunil Umachagi	AFOPU9620F	M.E/ M.Tech	17/08/2017	ENVIRONMENTAL ENGINEERING	6			Assistant Professor		29/08/2017	Regular	No	12/06/2020	No
M.O.Karthick	DRRPK1145P	M.E/ M.Tech	02/08/2017	COMPUTER AIDED STRUCTURAL ENGINEERING	1			Assistant Professor		29/08/2017	Regular	Yes	30/04/2020	No
R.Basavaraj	CSPPB8463H	M.E/ M.Tech	12/07/2018	STRUCTURAL ENGINEERING				Assistant Professor		23/07/2018	Regular	No	29/06/2019	No
B.S.Nayana	BKZPN2473A	M.E/ M.Tech	09/01/2018	STRUCTURAL ENGINEERING	1			Assistant Professor		01/08/2018	Regular	No	15/06/2019	No
H.Ganesh	BVFPG3494K	M.E/ M.Tech	18/08/2018	HYDRAULICS				Assistant Professor		20/08/2018	Regular	Yes		No

Name	PAN No.	University Degree	Date of Receiving Degree	Area of Specialization	Research Paper Publications	Ph.D. Guidance	Ph.D. granted during the Assessment Year	Current Designation	Date (Designated as Prof/Assoc. Prof.).	Initial Date of Joining	Association Type	At present working with the Institution(Yes/No)	In case of NO, Date of Leaving	IS HOD?
Gurapadaswamy	BPSPG4402G	M.E/ M.Tech	13/11/2018	STRUCTURAL ENGINEERING	3			Assistant Professor		20/08/2018	Regular	Yes		No
Sharon Ranjitha Paul	CAQPP0808K	M.E/ M.Tech	03/09/2018	ENVIRONMENTAL ENGINEERING	1			Assistant Professor		20/08/2018	Regular	No	30/06/2020	No
Priyanka	FAYPP5164D	M.E/ M.Tech	27/10/2018	STRUCTURAL ENGINEERING	1			Assistant Professor		20/08/2018	Regular	No	30/06/2020	No
P.Manohar	BXCPM2007H	M.E/ M.Tech	27/07/2018	ENVIRONMNTAL ENGINEERING				Assistant Professor		20/08/2018	Regular	Yes		No
Mahesh Sajjan	ATGPM0901R	M.E/ M.Tech	03/08/2010	STRUCTURAL ENGINEERING	6			Assistant Professor		20/08/2018	Regular	Yes		No
K.B.Karthik	FSMPK7761K	M.E/ M.Tech	27/11/2018	TRANSPORTATION ENGINEERING AND MANAGEMENT	1			Assistant Professor		25/08/2018	Regular	No	30/06/2020	No
Amith Angadi	DRPPP2223B	M.E/ M.Tech	01/08/2018	GEO TECHNICAL ENGINEERING				Assistant Professor		23/08/2019	Regular	No	30/06/2020	No
P.M.Shashikumar	EDLPM3677R	M.E/ M.Tech	08/02/2020	ENVIRONMENTAL ENGINEERING	2			Assistant Professor		16/03/2020	Regular	Yes		No
N M Vinayaka	CTPPB1133F	M.E/ M.Tech	09/05/2015	STRUCTURAL ENGINEERING				Assistant Professor		02/11/2020	Regular	Yes		No
Megha N Belagal	AVSPV1789N	M.E/ M.Tech	03/04/2021	STRUCTURAL ENGINEERING				Assistant Professor		02/11/2020	Regular	Yes		No
J Bhargavi	ECSPB4194L	M.E/ M.Tech	03/04/2021	STRUCTURAL ENGINEERING				Assistant Professor		21/11/2020	Regular	Yes		No

5.1. Student-Faculty Ratio (SFR) (20)

Table 5.2: Details of UG program

Year of Study	CAY (2020-21)		CAYm1 (2019-20)		CAYm2 (2018-19)	
	Sanction Intake	Actual admitted through lateral entry students	Sanction Intake	Actual admitted through lateral entry students	Sanction Intake	Actual admitted through lateral entry students
2nd Year	120	37	120	40	120	46
3rd Year	120	40	120	46	120	30
4th Year	120	46	120	30	120	45
Sub-Total	**360**	**123**	**360**	**116**	**360**	**121**
Total	**483**		**476**		**481**	

Table 5.3: Details of PG program

Year of Study	CAY (2020-21)	CAYm1 (2019-20)	CAYm2 (2018-19)
	Sanction Intake	Sanction Intake	Sanction Intake
1st Year	18	18	18
2nd Year	18	18	16
Total	**36**	**36**	**34**

Table 5.4: Student faculty ratio

Description	CAY (2020-21)	CAYm1 (2019-20)	CAYm2 (2018-19)
Total No. of Students in the Department(S)	**519** (S1) (Sum total of all (UG+PG) students)	**512** (S2) (Sum total of all (UG+PG) students)	**515** (S3) (Sum total of all (UG+PG) students
No. of Faculty in the Department(F)	**25** (F1)	**28** (F2)	**30** (F3)
Student Faculty Ratio(SFR)	**20.76** (SFR1=S1/F1)	**18.29** (SFR2=S2/F2)	**17.17** (SFR3=S3/F3)
Average SFR	**18.74** SFR=(SFR1+SFR2+SFR3)/3		

5.1.1. Provide the information about the regular and contractual faculty as per the format mentioned below:

Table 5.5: Regular and contractual faculty

Year	Total number of regular faculty in the department	Total number of contractual faculty in the department
CAY (2020-21)	24	1
CAYm1 (2019-20)	27	1
CAYm2 (2018-19)	29	1

5.2. Faculty Cadre Proportion (25)

Table 5.6: Faculty cadre proportion

Year	Professors		Associate Professors		Assistant Professors	
	Required F1	Available	Required F2	Available	Required F3	Available
CAY (2020-21)	2	3	5	1	17	20
CAYm1 (2019-20)	2	3	5	1	17	23
CAYm2 (2018-19)	2	3	5	0	17	26
Average Numbers	RF1= 2	AF1= 3	RF2= 5	AF2=0.67	RF3= 17	AF3= 23

Cadre Ratio: 26.51

5.3. Faculty Qualification (25)

Table 5.7: Faculty qualification

Year	X	Y	F	FQ
2020-21 (CAY)	4	20	25.95	**11.56**
2019-20 (CAYm1)	4	23	25.60	**12.89**
2018-19 (CAYm2)	3	26	25.75	**13.01**

Average faculty qualification: 12.49

5.4. Faculty Retention (25)

Table 5.8: Faculty retention

Description	2019-20	2020-21
No of Faculty Retained	27	24
Total No of Faculty	29	27
% of Faculty Retained	93	89

Average faculty retention: 91.00

5.5. Innovations by the Faculty in Teaching and Learning (20)

Teaching and learning innovative practices are introduced to raise the curiosity of a student in wide domain to encourage the students to question the obvious and to increase the interaction in the class. Rapid advancement in technology is one of the major issues that affect the teaching/learning process. The facilitators find it difficult to keep pace with the techno-savvy learners. Further there is rapid change taking place in technology which aggravates the problem. Keeping the audience captivated throughout the lecture is another challenge. The facilitator is required to use a variety of tools to keep the learner engaged in the learning process since access to a variety of tools all the time may not be possible. Today knowledge is just a click away to the learner; a challenge faced by facilitators is to keep pace with the latest news and happenings. The teaching/learning process is given immense importance in the institute. The institute trains their facilitators continuously to help them enhance their teaching abilities. The evidence of success is visible, qualitatively as well as quantitatively. The qualitative factor improves etiquettes and desire to understand. Also, it changes the overall perspective towards life. The quantitative factor improves academic performance and motivates participation in co-curricular activities. Students who have graduated are performing extremely well in the corporate world. Some students have put their learning into application by starting their own businesses.

Following are the best and innovative practices undertaken by the faculty members for improving teaching and learning experience.

1. **Power Point Presentations**

   Objectives

   To enhance the overall comprehension of students and allow teachers to present their lessons in a more dynamic way

   Outcomes

   It provides the ability to equip presentations with different types of media - including images, sounds, animations, and much more. This enhances the students' abilities to retain what is being taught, especially to those who are visual learners. Teachers can focus on the class and interact with the students instead of writing on a board.

2. **Student Seminars**

Objectives

To enhance the overall comprehension of students and allow students to present their lessons in a more dynamic way

Outcomes

This best practice enhances the Listening ability. Working in a team Leadership quality of students builds up. Team building of students grows as they work in a Team. Communication skill builds up by Oral Communication in seminars. Student takes responsibility while working in a team. Sharing of Knowledge uplifts while preparing. Students learn Time Management skill. Students learn to deal with conflicting opinions. For delivering seminars students Prepare, Produce, and use visual aids for presentation.

3. **Industrial Visits**

Objectives

To provide students an insight regarding internal working of companies and industries.

Outcomes

Industrial visit is considered as one of the tactical methods of teaching. The main reason behind this is to help student to know things practically through interaction, working methods and employment practices. It also provides a good opportunity for students to gain awareness about industrial practices. Through industrial visit students get awareness about new technologies.

4. **Online NPTEL / IITBX Courses**

Objectives

It’s a learning platform designed to provide educators, administrators, and learners with a single robust, secure, and integrated system to create personalized learning environments.

Outcomes

Moodle is used for blended learning, distance education and other e-learning projects in institute. With customized management features, it is used to create private websites with online courses for educators and trainers to achieve learning goals.

5. **NPTEL Videos**

Objectives

To enhance the quality of engineering education, on tip compatibility & resources for beyond curriculum.

Outcomes

Online course contents and interactions between faculty members in science and engineering using the best academics practices About 70 courses offered by faculty in various departments and to students at all technical levels are given here. Setting up internal resources for implementing virtual online certification programmes in science and engineering.

6. **Online Classes using Google Classroom, ZOOM, Google Meet, TCS ion and YouTube**

Objectives

To enhance the quality of engineering education, on tip compatibility & resources for beyond curriculum.

Outcomes

Online course contents and interactions between faculty members in science and engineering using the best academics practices.

5.6. Faculty as participants in Faculty development/training activities/STTPs (15)

Table 5.9: Faculty participation in FDP/ STTP's etc

Sl No	Name	Marks		
		2019-20	2018-19	2017-18
1	Dr. H M.Mallikarjuna	5	5	3
2	Dr. M.S.Shobha	5	5	5
3	T.H.Patel	-	-	3
4	H.M.Nagabhushan	-	-	5
5	M.R.Vijaya kumar	5	5	3
6	Pushpalatha R Gadag	5	5	5
7	Dr.J.M.Srishaila	5	5	5
8	Adana Gouda	5	5	5
9	Mahesh Sajjan	5	5	0
10	Basavaprabhu M.S	5	5	5
11	Basavalingana Gowda M I	5	5	0
12	Sachin Patil	5	5	5
13	Basvalingappa	5	5	5
14	Pavan Kumar M	5	5	5
15	Vinay Kumar M R	-	0	0
16	Zameer K	5	5	0
17	Vinaya Shekhar T E	5	5	3
18	Rajendra Kumar K M	-	-	3
19	Veereshaiah H M	5	5	5
20	Shiva Malashree	5	5	0
21	P Shiva Keshava Kumar	0	5	0
sum		**80**	**85**	**65**
RF= Number of Faculty required to comply with 20:1 Student-Faculty ratio as per 5.1		25.60	25.75	25.60
Assessment = 3 × (Sum/0.5RF) (Marks limited to 15)		18.75	19.81	15.23
Average assessment over three years		**17.93**		

5.7. Research and Development (30)

5.7.1. Academic Research (10)

Table 5.10: Details of research publications

Type of Journals / Publications	Number of Papers/Publications						Total
	2020-21	2019-20	2018-19	2017-18	2016-17	2015-16	
SCOPUS Indexed International Journals	9	2	1	0	0	0	**12**
UGC Approved International Journals	1	11	59	28	28	9	**136**
International Conference Papers	0	0	0	4	1	0	**5**
National Conference Papers	0	0	1	0	0	0	**1**
Total Year Wise	**10**	**13**	**61**	**32**	**29**	**9**	

Table 5.11: Details of SCOPUS indexed international journal published

2020-21						
Sl. No	**Name of the faculty**	**Title**	**National / International**	**Citation**	**Month & Year**	**Impact Factor**
1	M.R.Vijaya Kumar	Study of Properties of Light Weight Concrete made Using Local Industrial by Products	International	IJETT, Volume 69 Issue 3, 154-164, ISSN: 2231 – 5381 /doi:10.14445/22315381/IJETT-V69I3P224	Mar-21	2.45
2	Dr.H.M.Somasekharaiah	Behaviour of Fly Ash and Metakaolin Based Composite Fiber (Glass and Polypropylene) Reinforced High Performance Concrete under Acid Attack	International	CEA Vol. 9, No. 4, pp. 1026 - 1047, 2021. ISSN: 2332-1121 DOI: 10.13189/cea.2021.090406	May-21	0.63

3		Chloride Penetration Resistance and Behaviour Under Acid Attack of Metakaolin and Silica Fume Based Composite Fiber (Glass and Polypropylene) Reinforced High Performance Concrete	International	IJETT, Volume 69 Issue 4, 146-161, ISSN: 2231 – 5381 /doi:10.14445/22315381/IJETT-V69I4P222	Apr-21	2.45
4		Evaluation of Strength Properties of Fly ash and Metakaolin Based Composite Fiber (Glass and Polypropylene) Reinforced High-Performance Concrete	International	IJETT, Volume 69 Issue 4, 188-203, ISSN: 2231 – 5381 /doi:10.14445/22315381/IJETT-V69I4P227	Apr-21	2.45
5		Effect of Fly ash, Silica fume, Glass Fiber and Polypropylene Fiber on Strength Properties of Composite Fiber Reinforced High Performance Concrete	International	IJETT, Volume 69 Issue 5, 69-84, ISSN: 2231 – 5381 /doi:10.14445/22315381/IJETT-V69I5P212	May-21	2.45
6	Sachin Patil	Behaviour of Fly Ash and Metakaolin Based Composite Fiber (Glass and Polypropylene) Reinforced High Performance Concrete under Acid Attack	International	CEA Vol. 9, No. 4, pp. 1026 - 1047, 2021. ISSN: 2332-1121 DOI: 10.13189/cea.2021.090406	May-21	0.63
7		Chloride Penetration Resistance and Behaviour Under Acid Attack of Metakaolin and Silica Fume Based Composite Fiber (Glass and Polypropylene) Reinforced High Performance Concrete	International	IJETT, Volume 69 Issue 4, 146-161, ISSN: 2231 – 5381 /doi:10.14445/22315381/IJETT-V69I4P222	Apr-21	2.45
8		Evaluation of Strength Properties of Fly ash and Metakaolin Based Composite Fiber (Glass and Polypropylene) Reinforced High-Performance Concrete	International	IJETT, Volume 69 Issue 4, 188-203, ISSN: 2231 – 5381 /doi:10.14445/22315381/IJETT-V69I4P227	Apr-21	2.45

9		Effect of Fly ash, Silica fume, Glass Fiber and Polypropylene Fiber on Strength Properties of Composite Fiber Reinforced High Performance Concrete	International	IJETT, Volume 69 Issue 5, 69-84, ISSN: 2231 – 5381 /doi:10.14445/22315381/IJETT-V69I5P212	May-21	2.45
2019-20						
Sl. No	**Name of the faculty**	**Title**	**National / International**	**Citation**	**Month & Year**	**Impact Factor**
1	Dr.H.M.Somasekharaiah	Strength Properties of Hybrid Fiber Reinforced High Performance Concrete with Mineral Admixtures	International	IJRTE, Volume-8 Issue-4,ISSN: 2277-3878, DOI:10.35940/ijrte.D4346.118419	Nov-19	1
2	Adanagouda	Strength Properties of Hybrid Fiber Reinforced High Performance Concrete with Mineral Admixtures	International	IJRTE, Volume-8 Issue-4,ISSN: 2277-3878, DOI:10.35940/ijrte.D4346.118419	Nov-19	1
2018-19						
Sl. No	**Name of the faculty**	**Title**	**National / International**	**Citation**	**Month & Year**	**Impact Factor**
1	Dr. J. M. Srishaila	Combined Effect of GGBS And Fly Ash on Mechanical Properties of M25 Grade Concrete Made With Recycled Fine Aggregate	International	IJCIET Volume 9, Issue 10, ISSN Print: 0976-6308	October 2018	6.5

Table 5.12: Details of UGC Approved International Journals

2020-21						
Sl. No	**Name of the faculty**	**Title**	**National / International**	**Citation**	**Month & Year**	**Impact Factor**
1	Pushpalatha R Gadag	Experimental investigation on eco-friendly self-curing concrete incorporated with polyethylene glycol	International	IJSREM, Volume: 04 Issue: 10	Oct-20	6.466
2019-20						
Sl. No	**Name of the faculty**	**Title**	**National / International**	**Citation**	**Month & Year**	**Impact Factor**
1	Pushpalatha R Gadag	The Study of Mechanical Properties of HPC by using Metakaolin, UFFA and Nano Silica	International	JETIR Volume 6, Issue 6, (ISSN-2349-5162)	Dec-19	5.87
2	Sachin Patil	The Influence of GGBS and Glass Fibers on Compressive Strength of Concrete Pavement	International	IJCER Volume - 09, Issue-8, ISSN (e): 2250 – 3005	Aug-19	6.41
3		The Influence of GGBS and Glass Fibers on Flexural Strength of Concrete Pavement	International	IJCER Volume - 09, Issue-8, ISSN (e): 2250 – 3005	Aug-19	6.41
4		Compressive Strength of GGBS, Metakaolin and Glass Fibers Based High Performance Concrete	International	IJCER Volume - 09, Issue-8, ISSN (e): 2250 – 3005	Aug-19	6.41
5		The Influence of GGBS, Metakaolin and Glass Fibers on Compressive Strength of Concrete Pavement	International	IJCER Volume - 09, Issue-8, ISSN (e): 2250 – 3005	Aug-19	6.41
6	Veeresh H M	The Influence of GGBS and Glass Fibers on Compressive Strength of Concrete Pavement	International	IJCER Volume - 09, Issue-8, ISSN (e): 2250 – 3005	Aug-19	6.41

7		The Influence of GGBS and Glass Fibers on Flexural Strength of Concrete Pavement	International	IJCER Volume - 09, Issue-8, ISSN (e): 2250 – 3005	Aug-19	6.41
8		Compressive Strength of GGBS, Metakaolin and Glass Fibers Based High Performance Concrete	International	IJCER Volume - 09, Issue-8, ISSN (e): 2250 – 3005	Aug-19	6.41
9	Sagar	The Influence of GGBS and Glass Fibers on Compressive Strength of Concrete Pavement	International	IJCER Volume - 09, Issue-8, ISSN (e): 2250 – 3005	Aug-19	6.41
10		The Influence of GGBS and Glass Fibers on Flexural Strength of Concrete Pavement	International	IJCER Volume - 09, Issue-8, ISSN (e): 2250 – 3005	Aug-19	6.41
11		Compressive Strength of GGBS, Metakaolin and Glass Fibers Based High Performance Concrete	International	IJCER Volume - 09, Issue-8, ISSN (e): 2250 – 3005	Aug-19	6.41

2018-19

Sl. No	Name of the faculty	Title	National / International	Citation	Month & Year	Impact Factor
1	Dr.H.M.Somasekharaiah	Experimental Investigation on Strength and Durability Properties of Composite Fiber Reinforced High Performance Concrete With Fly Ash	International	IJRAR Volume 5, Issue 3 E-ISSN 2348-1269, P-ISSN 2349-5138	Aug-18	5.75
2		Study On Mechanical Properties and Impact Strength of Composite Fiber Reinforced High Performance Concrete with Metakaolin	International	IJRAR Volume 5 Issue 3 E-ISSN 2348-1269, P-ISSN 2349-5138	Aug-18	5.75
3		Experimental Study on Compressive, Split Tensile and Flexural Strength of Composite Fiber Reinforced Concrete With Metakaolin As Admixture	International	IJCER Volume, 08 Issue, 9 ISSN (e): 2250 – 3005	Sep-18	6.41

4	Dr.M. S. Shobha	Fresh And Hardened Properties of Fibers Geopolymer Concrete by Replacing River Sand With M-Sand	International	JETIR Volume 6, Issue 6, (ISSN-2349-5162)	Jun-19	5.87
5		Study On Workability and Compressive Strength Properties of Jute Fibre Composite Concrete	International	JETIR Volume 5, Issue 8 (ISSN-2349-5162)	Aug-18	5.87
6		Analysis And Design of Junction House by Using Response Spectrum Method	International	IJRDT Volume-9,Issue-3 ISSN (O) :- 2349-3585	Mar-18	6.88
7	Dr. J. M. Srishaila	Combined Effect of Fly ash & GGBS On Workability and Mechanical Properties of Self Compacting Geopolymer Concrete	International	IJPAM Volume 119 No. 15, ISSN: 1314-3395	May-18	5.75
8		Mechanical Properties of Recycled Coarse Aggregate Concrete with Mineral Admixture	International	SSRG - IJCE Volume 6 Issue 2, ISSN: 2348 – 8352	Feb-19	2.21
9	Pushpalatha R Gadag	Durability Study of High-Performance Concrete with Partial Replacement of Cement with Ultrafine Fly ash And Nano silica	International	IJRAR Volume05, Issue 03, ISSN-2348-4289	Sep-18	5.75
10	Adana Gouda	Experimental Investigation on Strength and Durability Properties of Composite Fiber Reinforced High Performance Concrete with Fly Ash	International	IJRAR Volume 5, Issue 3 E-ISSN 2348-1269, P-ISSN 2349-5138	Aug-18	5.75
11		Study On Mechanical Properties and Impact Strength of Composite Fiber Reinforced High Performance Concrete with Metakaolin	International	IJRAR Volume 5 Issue 3 E-ISSN 2348-1269, P-ISSN 2349-5138	Aug-18	5.75
12		Experimental Study on Compressive, Split Tensile and Flexural Strength of Composite Fiber Reinforced Concrete with Metakaolin as Admixture	International	IJCER Volume, 08 Issue, 9 ISSN (e): 2250 – 3005	Sep-18	6.41

13		Comparative Analysis of RC Structures with And Without Base Isolation Using Time History Analysis	International	IJRAR Volume 5, Issue 3, E-ISSN 2348-1269, P- ISSN 2349-5138	Sep-18	5.75
14		Study On Strength Properties of Geo-Polymer Concrete with Sisal and Polypropylene Fibers	International	JETIR Volume 5 Issue 9, (ISSN-2349-5162)	Sep-18	5.87
15		Experimental Study on Partial Replacement of Coarse Aggregate by Coconut Shells in Concrete	International	IRJET Volume: 06 Issue: 06, p-ISSN: 2395-0072	Jun-19	7.34
16	Mahesh Sajjan	An Experimental Study on Strength Characteristics of Hybrid Fiber Reinforced High Performance Concrete with Multiple Mineral Admixtures	International	JETIR Volume: 05 Issue: 09, p-ISSN: 2349-5162	Sep-18	5.87
17		Effect Of Multiple Fibre and Mineral Admixture on Compressive Strength of Concrete	International	IJRAR Volume: 05 Issue: 03, p-ISSN: 2348-1269	Sep-18	5.75
18	Basavaprabhu M S	Study On Effect of Multi Admixtures and Composite Fibers on Compressive Strength of Concrete	International	IJRAR Volume 5, Issue 3 (E-ISSN 2348-1269, P- ISSN 2349-5138)	Aug-18	5.75
19		Seismic Effect in Severe Zones on Octagonal and Rectangular Shape Structures	International	JETIR Volume 5, Issue 9, (ISSN-2349-5162)	Sep-18	5.87
20	Basavalingana Gowda M. I.	Seismic Analysis of Multistoried Building with And Without Shear Wall Using Etabs	International	IRJET Volume: 06 Issue: 06, e-ISSN: 2395-0056, p-ISSN: 2395-0072	Jun-19	7.34
21		Experimental Study on Compressive, Split Tensile and Flexural Strength of Composite Fiber Reinforced Concrete with Metakaolin as Admixture	International	IJCER Volume, 08 Issue, 9 ISSN (e): 2250 – 3005	Sep-18	6.41
22	Sachin Patil	Maximum Power Point Tracking Based Solar Charge Controller	International	JETIR Volume 5 Issue 7, (ISSN : 2349-5162)	Jul-18	5.87

23		Effect Of Composite Fibers on Flexural Strength of High-Performance Concrete	International	JETIR Volume 5 Issue 8, (ISSN : 2349-5162)	Aug-18	5.87
24		Effect Of Composite Fibers on Compressive Strength of High-Performance Concrete	International	IJCER Volume 08, Issue-8, ISSN (e): 2250 – 3005	Aug-18	6.41
25		Effect Of depth of reinforcement on bearing Capacity Of coir Mat Reinforced Sand	International	IJCER Volume-08, Issue-8 ISSN (e): 2250 – 3005	Aug-18	6.41
26		A Review of NBA Accreditation for Undergraduate Engineering Programmes (Tier-II)	International	IJREAM Vol-04, Issue-06, ISSN : 2454-9150	Sep-18	5.834
27		Flexural Strength Of GGBS, Metakaolin and Glass Fibers Based High Performance Concrete	International	IJCER Volume - 09, Issue-6, ISSN (e): 2250 – 3005	Jun-19	6.41
28		The Influence of GGBS And Glass Fibers on Flexural Strength of Concrete Pavement	International	IJCER Volume, 09, Issue - 8, ISSN (e): 2250 – 3005	Aug-18	6.41
29		Flexural Strength Of fly ash, GGBS And M-Sand Based Concrete Pavement	International	IJCER Volume - 09, Issue - 6, ISSN (e): 2250 – 3005	Jun-19	6.41
30		Performance And Characterization of Geo-Polymer Concrete Reinforced with Short Steel Fiber	International	JETIR Volume 6, Issue 6, (ISSN-2349-5162)	Jun-19	5.87
31	Basavalingappa	Seismic Effect in Severe Zones on Octagonal and Rectangular Shape Structures	International	JETIR Volume 5, Issue 9, (ISSN-2349-5162)	Sep-18	5.87
32		Experimental Investigation on Strength Properties of Concrete by Partial Replacement of Coarse Aggregate by Ceramic Waste in Concrete Pavement	International	JETIR Volume-5, Issue-8, (ISSN-2349-5162)	Aug-18	5.87
33		Comparative Analysis of RC Structures with And Without Base Isolation Using Time History Analysis	International	IJRAR Volume 5, Issue 3, E-ISSN 2348-1269, P- ISSN 2349-5138)	Sep-18	5.75

34	Pavankumar M	A Comparative Study on Pre-Engineered Building by Using Staad Pro	International	IRJET Volume: 06 Issue: 06 , e-ISSN: 2395-0056, p-ISSN: 2395-0072	Jun-19	7.34
35		An Experimental Investigation on Workability and Mechanical Properties of M20 Grade Concrete Made with Egg Shell	International	IRJET Volume: 06 Issue: 06, e-ISSN: 2395-0056, p-ISSN: 2395-0072	Jun-19	7.34
36		Comparative Analysis of RC Structures with And Without Base Isolation Using Time History Analysis	International	IJRAR Volume 5, Issue 3, E-ISSN 2348-1269, P- ISSN 2349-5138)	Sep-18	5.75
37		Seismic Effect in Severe Zones on Octagonal and Rectangular Shape Structures	International	JETIR Volume 5, Issue 9, (ISSN-2349-5162)	Sep-18	5.87
38	VinayKumar M. R	Study On Mechanical Properties and Impact Strength of Composite Fiber Reinforced High Performance Concrete with Metakaolin	International	IJRAR Volume 5 Issue 3 E-ISSN 2348-1269, P-ISSN 2349-5138	Aug-18	5.75
39		Study On Strength Properties of Geo-Polymer Concrete with Sisal and Polypropylene Fibers	International	JETIR Volume 5 Issue 9, (ISSN-2349-5162)	Sep-18	5.87
40	Zameer K.	Effect Of Multiple Fibre and Mineral Admixture on Compressive Strength of Concrete	International	IJRAR Volume: 05 Issue: 03, p-ISSN: 2348-1269	Sep-18	5.75
41	Vinayshekhar T. E	Progressive Collapse Analysis of RC Structures	International	IJRAR Volume: 05 Issue: 04, p-ISSN: 2349-5138, E-ISSN: 2348-1269,	Oct-18	5.75
42		Seismic Effect in Severe Zones on Octagonal and Rectangular Shape Structures	International	JETIR Volume 5, Issue 9, (ISSN-2349-5162)	Sep-18	5.87
43	Rajendra Kumar M	Study On Strength Properties of Geo-Polymer Concrete with Sisal and Polypropylene Fibers	International	JETIR Volume 5 Issue 9, (ISSN-2349-5162)	Sep-18	5.87

44	Veereshaiah H. M.	Regular & Irregular Shape of Multi Storey Building in Severe Seismic Zone	International	JETIR Volume 5 Issue 9, (ISSN-2349-5162)	Sep-19	5.87
45	Sagar H	Flexural Strength Of fly ash, GGBS And M-Sand Based Concrete Pavement	International	IJCER Volume - 09, Issue - 6, ISSN (e): 2250 – 3005	Jun-19	6.41
46		The Influence of GGBS And Glass Fibers on Flexural Strength of Concrete Pavement	International	IJCER Volume, 09, Issue - 8, ISSN (e): 2250 – 3005	Jun-19	6.41
47		Flexural Strength Of GGBS, Metakaolin and Glass Fibers Based High Performance Concrete	International	IJCER Volume - 09, Issue-6, ISSN (e): 2250 – 3005	Jun-19	6.41
48		Hydraulic Performance and Physical Properties of ICBP By Partial Replacement of Cement with GGBS And Fine Aggregate With M-Sand	International	IJCER Volume - 09, Issue-6, ISSN (e): 2250 – 3005	Jun-19	6.41
49	Karthick M O	Analysis And Design of Multi-Storied Building of Different Plan Configuration Sung Etabs	International	IRJET Volume - 06, Issue-6, ISSN (e): 2395 – 0056	Jun-19	7.2
50	Sunil Umachagi	Application Of Reed Bed Technology in Sewage Treatment Plant for The Treatment of Domestic Wastewater	International	JETIR Volume - 06, Issue-6, ISSN (e): 2394 – 5162	Jun-19	5.87
51		Generation Of Electricity from Kitchen Waste Using Single Chambered Microbial Fuel Cell with Candle Wax Salt Bridge	International	IJIRSET Volume - 06, Issue-6, ISSN (e): 2319 – 8753	Mar-18	7.089
52		Comparative Analysis of RC Structures with And Without Base Isolation Using Time History Analysis	International	IJRAR Volume 5, Issue 3, E-ISSN 2348-1269, P- ISSN 2349-5138)	Sep-18	5.75
53	Nayana B S	Probabilistic Study of Compressive Strength of Coir Fiber Reinforced Concrete	International	IRJET Volume 5, Issue 10, E-ISSN 2395-0056, P- ISSN 2395-0072	Oct-18	7.2

54	Gurupada Swamy	The Study on Strength Parameter of M35 Grade Concrete Mad with Partial Replacement of Glass Powder	International	JETIR Volume 6, Issue 6, ISSN 2349-5162	Jun-19	5.87
55		Study On Effect of Multi Admixtures and Composite Fibers on Compressive Strength of Concrete	International	IJRAR Volume 5, Issue 3 (E-ISSN 2348-1269, P- ISSN 2349-5138)	Aug-18	5.75
56		A Comparative Study on Pre-Engineered Building by Using Staad Pro	International	IRJET Volume: 06 Issue: 06 , e-ISSN: 2395-0056, p-ISSN: 2395-0072	Jun-19	7.34
57	Karthik K. B.	Experimental Analysis of Partial Replacement of Natural Aggregates with Recycled Concrete Aggregates	International	IRJET Volume: 06 Issue: 05 , e-ISSN: 2395-0056, p-ISSN: 2395-0072	May-19	7.34
58	Sharon Ranjitha Paul	Solidification And Stabilization of Expired Chemicals	International	IJATEE Vol 5, Issue 44 , ISSN (Print): 2394-5443 ISSN (Online): 2394-7454	Jul-18	7
59	Shiva Malashree	Comparative Study of High Rise Building Subjected to Seismic and Wind Loading Using Cypecad and Etabs	International	IRJET Volume 06, Issue 06, ISSN (Print): 2395-00 ISSN (Online): 2395-0056	Jun-19	7.211

2017-18

Sl. No	Name of the faculty	Title	National / International	Citation	Month & Year	Impact Factor
1	Dr.H.M.Somasekharaiah	Resistance Of Fly Ash and Silica Fume Based Glass Fiber Reinforced High-Performance Concrete Subjected to Acid Attack	International	IJRSI Volume 04, Issue 07, ISSN 2321–2705	Jul-17	3.171

2		Experimental Study on Various Strength of High-Performance Concrete by Using Metakoalin and Nano-Silica	International	IRJET Volume 4 Issue 11, E-ISSN 2395-0056, P-ISSN 2395-0072	Nov-17	7.2
3	Dr. H. M. Mallikarjuna	Stabilization Of Clay Subgrade Soils for Pavements Using Ground Granulated Blast Furnace Slag	International	IJEDR Volume-05, Issue- 04, ISSN: 2321-9939	Nov-17	4.98
4	Dr.M. S. Shobha	Analysis And Design of Junction House by Using Response Spectrum Method	International	IJRDT Volume 9, Issue 3, (ISSN-2349-3585)	Mar-18	6.88
5	Pushpalatha R. G.	Durability Study of High-Performance Concrete with Partial Replacement of Cement with Ultrafine Ash and Nano Silica	International	IRJET Volume 5, Issue 3 (ISSN-2348-5138)	Sep-18	5.75
6		Experimental Study on Various Strength of High-Performance Concrete by Using Metakaolin and Nano-Silica	International	IRJET Volume 4 Issue 11, E-ISSN 2395-0056, P-ISSN 2395-0072	Nov-17	7.2
7	Adana Gouda	Experimental Study on Fly Ash Based Geopolymer Concrete with Replacement of Sand By GGBS	International	IJERA Vol. 7, Issue 7, (Part -2) ISSN : 2248-9622	Jul-17	5.197
8		Strength And Durability Properties of Geopolymer Concrete Made With GGBS	International	IJCRT Volume 5 Issue 4 E-ISSN 2320-2882	Dec-17	5.97
9	Sachin Patil	Resistance Of Fly Ash and Silica Fume Based Glass Fiber Reinforced High Performance Concrete Subjected to Acid Attack	International	IJRSI Volume 04, Issue 07, ISSN 2321–2705	Jul-17	5.87
10		Effect Of Partially Replaced Rice Husk Ash on Compressive Strength of M Sand Concrete	International	JETIR Volume 5, Issue 6, (ISSN-2349-5162)	Jun-18	5.87
11		Evaluation Of Flexural Property of Cement Concrete Pavement Containing M Sand as Fine Aggregate and Rice Husk Ash as Partial Replacement of Cement	International	JETIR Volume 5, Issue 6, (ISSN-2349-5162)	Jun-18	5.87

12		Experimental Investigation on Previous Concrete with Optimum Utilization of GGBS As a Partial Replacement of Cement	International	JETIR Volume 5, Issue 6, (ISSN-2349-5162)	Jun-18	5.87
13		Structural Analysis of Residential Building Using Etabs	International	JETIR Volume 5, Issue 6, (ISSN-2349-5162)	Jun-18	5.87
14	Basavalingappa	Study Of Sheet Glass Powder and Metakaolin in Conventional Concrete	International	IJEDR Volume 6, Issue 1, ISSN: 2321-9939	Jan-18	5.67
15	PavanKumar M	Generation Of Biogas from Different Proportion of Biodegradable Kitchen Waste and cow dung Using Anaerobic Biodigester	International	IJIRSET Vol. 7, Issue 6,ISSN(Online): 2319-8753 ISSN (Print) : 2347-6710	Jun-18	7.089
16	VinayKumar M. R.	Generation Of Biogas from Different Proportion of Biodegradable Kitchen Waste and cow dung Using Anaerobic Biodigester	International	IJIRSET Vol. 7, Issue 6,ISSN(Online): 2319-8753 ISSN (Print) : 2347-6710	Jun-18	7.089
17	Zameer k	Study On Strength Characteristics of Self Curing Concrete Incorporated with Fly Ash	International	IRJETVolume: 05 Issue: 05, p-ISSN: 2395-0072, e-ISSN: 2395-0056	May-18	7.2
18		Analysis, Design and Estimation of Multi Storied Residential Building Using Etabs Software	International	IRJET Volume: 05 Issue: 05, p-ISSN: 2395-0072, e-ISSN: 2395-0056	May-18	7.2
19	Rajendra K. M.	Generation Of Biogas from Different Proportion of Biodegradable Kitchen Waste	International	IJIRSET Vol. 7, Issue 6,ISSN(Online): 2319-8753	Jun-18	7.089
20	Veereshaih H. M.	Seismic Behavior of Multi Storey Building with And Without Floating Column	International	IRJET Vol. 5, Issue 2, ISSN (Online): 2395-0056	Feb-18	7.2
21	Sagar	Effect Of Partially Replaced Rice Husk Ash on Compressive Strength of M Sand Concrete	International	JETIR Volume 5, Issue 6, (ISSN-2349-5162)	Jun-18	5.87

22		Evaluation Of Mechanical Properties of Concrete with Addition of Coconut Fiber	International	JETIR Volume 5, Issue 6, (ISSN-2349-5162)	Jun-18	5.87
23		Evaluation Of Flexural Property of Cement Concrete Pavement Containing M Sand as Fine Aggregate and Rice Husk Ash as Partial Replacement of Cement	International	JETIR Volume 5, Issue 6, (ISSN-2349-5162)	Jun-18	5.87
24	Sunil Umachagi	Impact Of Electrode Configurations on Hydraulic Retention Time (HRT) In Treatment of Sugar Mill Wastewater Using Microbial Fuel Cell	International	IJIRSET Volume 6, Issue 7, ISSN (Online) : 2319 – 8753, ISSN (Print) : 2347 - 6710	Jul-17	6.209
25		Design And Development of Anaerobic Biodigester for Individual House in Kolagallu Village, Ballari District Using Available Biodegradable Domestic Waste	International	IJERT Volume. 7, Issue. 6 , ISSN : 2278-0181	Jun-18	7.86
26		Generation Of Biogas from Different Proportion of Biodegradable Kitchen Waste and Cow dung Using Anaerobic Biodigester	International	IJIRSET Vol. 7, Issue 6,ISSN(Online): 2319-8753 ISSN (Print) : 2347-6710	Jun-18	7.089
27	Mubarak Mohammadia	Stabilization Of Clay Subgrade Soils for Pavements Using Ground Granulated Blast Furnace Slag	International	IJEDR Volume-05, Issue- 04,ISSN: 2321-9939	Nov-17	4.98
28	Priyanka	Effect Of Surface Blast Loads on The RC Structures	International	IRJET Volume-05, Issue- 06, ISSN: 2395-0056, P-ISSN - 2395-0072	Jun-18	7.211

2016-17						
Sl. No	**Name of the faculty**	**Title**	**National / International**	**Citation**	**Month & Year**	**Impact Factor**
1	Dr.H.M.Somasekharaiah	Study On Strength Properties of High-Performance Concrete Using Meta Kaolin and Nano Silica as Admixture	International	IRJET Volume 03, Issue 08, ISSN(E) 2395–0056, ISSN(P)0 2395–0072	Aug-16	7.2
2		An Experimental Investigation on Strength Properties of Concrete Replacing Natural Sand By M-Sand Using Silica Fume as An Admixture	International	IRJET Volume: 03 Issue: 08, e-ISSN: 2395 -0056, p-ISSN: 2395-0072	Aug-16	4.45
3		Experimental Investigation on The Strength Properties of High-Performance Concrete Using M-Sand and Metakaolin	International	IRJET Volume: 03 Issue: 09, e-ISSN: 2395 -0056, p-ISSN: 2395-0072	Aug-16	7.2
4		Experimental Investigation on Strength Characteristics of Composite Fibre High-Performance Concrete with Combination of Three Mineral Admixtures	International	IRJET Volume: 03 Issue: 08, e-ISSN: 2395 -0056, p-ISSN: 2395-0072	Aug-16	4.45
5		Effect Of Surface Treatment on Settlement of Randomly Distributed Coir Fiber Reinforced Sand	International	IJRSI Volume IV, Issue VIS, ISSN 2321–2705	Jun-17	3.171
6	T. H. Patel	Impact Of Iron and Steel Industry on Ground Water Quality of Tungabhadra River Water in Bellary District	International	IJARIIT Volume-03, Issue- 01, | ISSN: 2454-132X	Jan-17	4.295
7		Impact From Mining & Associated Industrial Activities on Air Quality of Ballari Region	International	IJITEE Volume-6, Issue-10, ISSN-2278-3075	Jun-17	5.54

8		Environmental Impact Assessment from Mining & Associated Industrial Activities on Environmental Quality of Ballari Region	International	IJAERS Volume-4, Issue-5, ISSN-2349-6495	May-17	4.2
9		Experimental Study on Durability Properties of High-Performance Self Compacting Concrete	International	IJIRSET Volume-05, Issue- 08, (E)ISSN: 2319-8753, (P)ISSN: 2347-6710	Aug-16	7.089
10		Effect Of Surface Treatment on Settlement of Randomly Distributed Coir Fiber Reinforced Sand	International	IJRSI Volume IV, Issue VIS, ISSN 2321–2705	Jun-17	3.171
11	Pushpalatha R. G.	Study On Strength Properties of High-Performance Concrete Using Meta Kaolin and Nano Silica as Admixture	International	IRJET Volume 03, Issue 08, ISSN(E) 2395–0056, ISSN(P) 2395–0072	Aug-16	7.2
12	Dr. J. M. Srishaila	Effect Of Fly Ash on Mechanical Properties of High Strength Concrete	International	IRJET Volume 4, Issue 06, ISSN(E) 2395–0056, ISSN(P) 2395–0072	Jun-17	5.181
13	Adana Gouda	Study On Strength and Durability Aspects of Geopolymer Concrete	International	IRJET Volume 4, Issue 06, ISSN(E) 2395–0056, ISSN(P) 2395–0072	Jun-17	5.181
14	Mahesh Sajjan	Experimental Investigation on Strength Characteristics of Composite Fibre High-Performance Concrete with Combination of Three Mineral Admixtures	International	IRJET Volume 4, Issue 06, ISSN(E) 2395–0056, ISSN(P) 2395–0072	Aug-16	4.45
15	Basavaprabhu	An Experimental Investigation on Strength Properties of Concrete Replacing Natural Sand By M-Sand Using Silica Fume as An Admixture	International	IRJET Volume: 03 Issue: 08, e-ISSN: 2395 -0056, p-ISSN: 2395-0072	Aug-16	4.45
16	Sachin Patil	Effect Of Surface Treatment on Settlement of Coir Mat Reinforced Sand	International	IJRSI Volume IV, Issue VIS, ISSN 2321–2705	Jun-17	3.171

17		Effect Of Surface Treatment on Settlement of Randomly Distributed Coir Fiber Reinforced Sand	International	IJRSI Volume IV, Issue VIS, ISSN 2321–2705	Jun-17	3.171
18	Basavalingappa	An Experimental Investigation on Strength Properties of Concrete Replacing Natural Sand By M-Sand Using Silica Fume as An Admixture	International	IRJET Volume: 03 Issue: 08, e-ISSN: 2395 -0056, p-ISSN: 2395-0072	Aug-16	4.45
19		Experimental Investigation on The Strength Properties of High-Performance Concrete Using M-Sand and Metakaolin	International	IRJET Volume: 03 Issue: 09, e-ISSN: 2395 -0056, p-ISSN: 2395-0072	Aug-16	7.2
20		Experimental Investigation on Strength Characteristics of Composite Fibre High-Performance Concrete with Combination of Three Mineral Admixtures”	International	IRJET Volume: 03 Issue: 08, e-ISSN: 2395 -0056, p-ISSN: 2395-0072	Aug-16	4.45
21	VinayKumar M. R.	Experimental Investigation on Strength Characteristics of Composite Fibre High-Performance Concrete with Combination of Three Mineral Admixtures”	International	IRJET Volume: 03 Issue: 08, e-ISSN: 2395 -0056, p-ISSN: 2395-0072	Aug-16	4.45
22	Anil Katageri	Seismic Performance Study of RC Buildings Having Plan Irregularity Using Pushover Analysis	International	IJSRD Vol. 3, Issue 11 ,ISSN(Online): 2321-0613	Nov-16	4.396
23		Seismic Performance Study of R.C. Buildings Having Vertical Geometric Irregularity Using Pushover Analysis	International	IJSRD Vol. 3, Issue 11 ,ISSN(Online): 2321-0613	Nov-16	4.396
24	Rajendra K. M.	Effect Of Fly Ash on Mechanical Properties of High Strength Concrete	International	IRJET Volume 4, Issue 06, ISSN(E) 2395–0056, ISSN(P) 2395–0072	Jun-17	5.181
25		Characterization Of Controlled Low Strength Material Using Native Soil	International	IJESC Volume 7, Issue 01, ISSN(E) 2321-3361	Jan-17	5.611

26	Sharanabasav G	Seismic Performance Study of RC Buildings Having Plan Irregularity Using Pushover Analysis	International	IJSRD Vol. 3, Issue 11 ,ISSN(Online): 2321-0613	Nov-16	4.396
27		Seismic Performance Study of R.C. Buildings Having Vertical Geometric Irregularity Using Pushover Analysis	International	IJSRD Vol. 3, Issue 11 ,ISSN(Online): 2321-0613	Nov-16	4.396
28	Veereshaih H. M.	Performance Based Evaluation of Floating Column Building by Pushover Analysis	International	IJSRSET Volume 2, Issue 4, ISSN(E) - 2394-1990, ISSN(P) - 2395-4099	Aug-16	4.293

2015-16

Sl. No	Name of the faculty	Title	National / International	Citation	Month & Year	Impact Factor
1	Dr.H.M.Somasekharaiah	Experimental Investigation on Strength Characteristics of Silica Fume Based High Performance Concrete with Steel Fiber And Polypropylene Fiber	International	IJRET Vol. 4, Issue 9, ISSN(Online) :2319-8753	Oct-15	7.34
2		Experimental Investigation on Strength Characteristics of Fly Ash Based High Performance Concrete with Steel Fiber And Polypropylene Fiber	International	IJIRSET Vol. 4, Issue 9, ISSN(Online) :2319-8753	Sep-15	7.34
3		Experimental Investigation on Strength Characteristics of Metakaolin Based High Performance Concrete with Steel And Polypropylene Fibres	International	IJIRSET Vol. 4, Issue 9, ISSN(Online) :2319-8753	Sep-15	7.34
4		A Study on Fiber Reinforced High Performance Concrete Using Multiple Mineral Admixtures	International	IJRET Volume: 04 Issue: 10, eISSN: 2319-1163 | pISSN: 2321-7308	Oct-15	7.34

5	Adana Gouda	Experimental Investigation on Strength Characteristics of Silica Fume Based High Performance Concrete with Steel Fiber And Polypropylene Fiber	International	IJIRSET Vol. 4, Issue 9, ISSN(Online) :2319-8753	Oct-15	7.34
6		Experimental Investigation on Strength Characteristics of Fly Ash Based High Performance Concrete with Steel Fiber And Polypropylene Fiber	International	IJIRSET Vol. 4, Issue 9, ISSN(Online) :2319-8753	Sep-15	7.34
7		Experimental Investigation on Strength Characteristics of Metakaolin Based High Performance Concrete with Steel And Polypropylene Fibres	International	IJRET Vol. 4, Issue 9, ISSN(Online) :2319-8753	Sep-15	7.34
8	Mahesh Sajjan	A Study on Fiber Reinforced High Performance Concrete Using Multiple Mineral Admixtures	International	IJRET Volume: 04 Issue: 10, eISSN: 2319-1163 | pISSN: 2321-7308	Oct-15	7.34
9	VinayKumar M. R.	An Experimental and Analytical Study of Cold-Formed Steel Structural Members with Perforations Subjected To Compression Loading	International	IJEDR Volume 4, Issue 2, ISSN - 2321-9939	May-16	7.37

Table 5.13: Details of national and international conferences

2018-19					
Sl. No	**Name of the faculty**	**Title**	**National / International**	**Conference Details**	**Month & Year**
1	Dr. J. M. Srishaila	Experimental Investigation on Workability and Mechanical Properties of Self Compacting Geo Polymer Concrete Made with Eco Friendly Materials	National	National Conference on Recent trends in Architectural and Civil Engineering Towards Energy Efficient and Sustainable Architecture (NCACESD 2019)	Jan-19
2017-18					
Sl. No	**Name of the faculty**	**Title**	**National / International**	**Conference Details**	**Month & Year**
1	Dr. J. M. Srishaila	Effect Of Mineral Admixtures on Kinetic Property and Compressive Strength of Self Compacting Concrete	International	2nd International Conference on Civil Engineering	2017
2	Dr. J. M. Srishaila	Experimental and Prediction of Compressive Strength by TAGUCHI and ANOVA methods on Self Compacting Geo Polymer Concrete	International	6th International Conference on Contemporary Engineering and Technology	Mar-18
3	Dr. J. M. Srishaila	Investigation on Impact Resistance and Mechanical properties of Self Compacting Concrete made with Fly ash and GGBS	International	2nd International RILEM / COST Conference on Early Age Cracking and Serviceability on Cement Based Materials and Structures (EAC2)	Sep-17

4	Dr. J. M. Srishaila	Investigation on Durability Characteristics of Self compacting Concrete made with Environmentally Friendly Materials	International	4th International Conference on Earth Sciences and Engineering (ICEE 2017)	Aug-17
2016-17					
Sl. No	**Name of the faculty**	**Title**	**National / International**	**Conference Details**	**Month & Year**
1	Dr. J. M. Srishaila	Investigation on Mechanical Properties of Self Compacting Concrete with High Volume fly ash	International	3rd International Conference on Sustainable Energy and Built Environment	Mar-17

Table 5.14: Faculty receiving Ph.D. during the assessment years

Sl. No.	Name	Date of obtaining Ph.D.
1	Dr. J.M. Srishaila	18/07/2018

Table 5.15: Research supervisors in the department

Sl. No.	Name of Supervisor	Name of Research Scholar	Date of Registration	Registration No	University
1	Dr.H.M.Mallikarjuna	Aijaz Hussain	03/02/2016	3VC16PCJ02	VISVESVARAYA TECHNOLOGICAL UNIVERSITY
2	Dr.H.M.Somasekhariah	Adanagouda	13/01/2015	3VC15PCJ01	VISVESVARAYA TECHNOLOGICAL UNIVERSITY
		Mahesh	13/01/2015	3VC15PCJ02	VISVESVARAYA TECHNOLOGICAL UNIVERSITY
		Sachin Patil	20/04/2015	14PH0106	JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR
		Pushpalatha R Gadag	20/04/2015	14PH0110	JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR
		Basavalingappa	06/11/2015	3VC16PCJ01	VISVESVARAYA TECHNOLOGICAL UNIVERSITY
		Basavaprabhu M S	18/05/2017	3VC17PCA01	VISVESVARAYA TECHNOLOGICAL UNIVERSITY
3	Dr.M.S.Shobha	Md Khalid S	11/06/2019	3VC19PCV01	VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Table 5.16: Faculty pursuing Ph.D. in the department

SL.No	Name of the Faculty	Date of Registration	Registration No	Title	Name of the Supervisor	University	Status of Course Work (Completed/Not Completed)	Submission of Thesis (Yes/No)
1	Adanagouda	13/01/2015	3VC15PCJ01	Strength & Durability Studies on Hybrid Fiber Reinforced High-Performance Concrete	Dr.H.M.Somasekharaiah	VISVESVARAYA TECHNOLOGICAL UNIVERSITY	Completed	No
2	Mahesh	13/01/2015	3VC15PCJ02	Studies on Hybrid Fiber Reinforced High-Performance Ternary Concrete	Dr.H.M.Somasekharaiah	VISVESVARAYA TECHNOLOGICAL UNIVERSITY	Completed	No
3	Sachin Patil	20/04/2015	14PH0106	Study on Strength and Durability Properties of Composite Fiber Reinforced High Performance Concrete with Mineral Admixture	Dr.H.M.Somasekharaiah	JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR	Completed	Yes

4	Pushpalatha R Gadag	20/04/2015	14PH0110	Study on Strength and Durability Properties of High-Performance Concrete with Nano Materials	Dr.H.M.Somasekharaiah	JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR	Completed	No
5	Basavalingappa	06/11/2015	3VC16PCJ01	Effect of Replacement of natural Sand by M-Sand on the Strength and Durability Properties of High-Performance Concrete with Mineral Admixture	Dr.H.M.Somasekharaiah	VISVESVARAYA TECHNOLOGICAL UNIVERSITY	Completed	No
6	Basavaprabhu M S	18/05/2017	3VC17PCA01	Assessment of Strength and Durability Properties of hybrid Fiber Reinforced Ultra High-Performance Concrete with Quartz Sand and Nano Materials	Dr.H.M.Somasekharaiah	VISVESVARAYA TECHNOLOGICAL UNIVERSITY	Not Completed	No

7	Pavan Kumar M	18/05/2017	3VC17PCA02	Study on Strength and Durability Properties of Composite Fiber Reinforced Ultra High-performance Concrete with Nano Silica	Dr.B.M.Gangadharappa	VISVESVARAYA TECHNOLOGICAL UNIVERSITY	Not Completed	No

5.7.2. Sponsored Research (5)

Table 5.17: Sponsored research details

CAYm3 2017-18			
Project Title	**Duration**	**Funding Agency**	**Amount**
Assessment of Strength and Durability Properties of Hybrid Fiber Reinforced Ultra High-Performance Concrete with Quartz and Nano materials	36 Months	V.V.Sangha, Ballari	8,00,000
High Performance Concrete using Nano silica and Admixtures (Metakaolin, Silica fume, Ultra fly ash) with Fibers (Glass Fibers, Steel, Polypropylene Fibers)	36 Months	V.V.Sangha, Ballari	8,00,000
Stabilisation of Clay Subgrade Soils for Pavements Using Ground Granulated Blast Furnace Slag	36 Months	V.V.Sangha, Ballari	9,00,000

5.7.3. Development activities (10)

Technology Research and Development Centre

Table 5.18: Details of centre of excellence

S.No	Centre of Excellence	
1	Technology Research and development center	In collaboration with Tata Technologies Ltd. Pune
2	Advanced Manufacturing center	

RYMEC has incepted a state of the art, Centre of Excellence by signing an **MoU** with TATA Technologies Ltd., Pune in association with Science & Technology Park under National Skill Development Programme, initiated through MHRD, Government of India, with nomenclature "**Centre for Invention, Innovation, Incubation & Training**". These competency centres will expose our students to advanced technology adapted in the industry, provides hands-on experience, enhances employability skills and makes them Industry ready. These centres will help Civil Engineering in enhancing their core skills. These centres are geared with facilities which will make possible that our students can apply the theoretical knowledge gained in their academics and create conceptual projects and products that will solve many industrial and social problems.

The Competency centres established are:

i. **Technology Research & Development Centre**

   Technology Research & Development Centre is having high-end Industrial workstations with Commercial licensed S/W tools.

This competency centre is equipped with the following facilities:

1. **Workstation Configuration:**

Intel Xeon Processor, 32 GB RAM, 8GB Quadro Graphics with dual Bezel monitors.
Make: HP

2. **List of Software available:**

a) Dassault Systems suite package comprises of 40 modules for Industrial Design & Development, Research and Consultancy.

b) MSC Software Suite package comprises of 81 different modules of Adams, Easy5, Marc, Apex, Nastran and SC Flow for CAE analysis.

c) ISRO-FEAST comprises of 10 tools for Linear static, Free Vibration, Buckling, Transient, Frequency response, Random response, Base excitation, Thermal analysis and many more.

d) I-GET IT for E-Learning on advanced technologies in CAD, CAM, CAE and PLM

3. The centre can deliver domain trainings on:

a) Product Design

b) Product Modelling

c) Analysis

d) Product Life cycle and Data management.

ii. Advanced Manufacturing Centre

Advanced Manufacturing Engineering Centre is equipped with Advanced Digital manufacturing facilities.

This Competency centre is equipped with the following facilities:

1. **Equipment:**

a. CNC Vertical Milling Machine- AMS 430

b. Industrial Robot for Arc Welding - YASKAWA MOTOMAN

c. 3D Printer for Additive Manufacturing - ULTIMAKER 3 EXTENDED

d. 3D Scanner for Reverse Engineering - EINSCAN SE

2. **Support Software:**

a. CAPS Turn, CAPS Mill, seeNC Turn, seeNC Mill, nCyclo Turn, nCyclo Mill.

b. CURA.

c. EinScan-S series_v2.7.0.8

3. **This centre can deliver hands on domain trainings on:**

a. CNC Technology and Operations.

b. Digital Manufacturing.

c. Robotic Operations & Programming.

d. Reverse Engineering.

e. Re- Engineering.

f. Computer Integrated Manufacturing.

Table 5.19: Details of research laboratory

Sl No	Equipment available in Research laboratory	Year of Procurement
1	Loading Frame of 200Ton of capacity. (Millennium Technologies PVT. LTD)	2015
2	Shake table of 50 Kg payload with accessories. (SERVO made with Vertical Shake Table, 12 Experimental Models, 1 set of Beam Moulds, Floor Crane, Shake Table Instrumentation)	2015
3	3000kN Capacity Compression Testing Machine. (Computer controlled Servo Hydraulic Compression Testing Machine with load/stress, displacement & strain control)	2015
4	RCPT (Rapid Chloride Permeability Test) Setup	2015
5	Tar Viscometer, Thermometer (5 Degrees to 370 Degrees), Digital Ductility Apparatus, Flash & Fire Apparatus and Hand Operated Bitumen Extractor	2016
6	Flexural Testing Machine	2017
7	Accelerated Curing Tank	2021
8	3HP Concrete Pan Mixer	2021
9	Humidity Chamber Cooling	2021
10	11 Computer Systems. (**4 Nos** with Microsoft Windows XP Professional version 2002 Intel (R)core ™2 Duo CPU E8400 @ 3.00GHz 3.0 GHz, 1.99 GB RAM of HCL and **7 Nos** with Microsoft Windows XP professional version 2002 Intel (R) Pentium (R) 4 CPU 3.00 GHz 3.00GZz, 484 MB of RAM of ACER)	2015 & 2013
11	45 Computer Systems. Intel (R)core i5 8th generation @ 2.66GHz, 18 GB RAM of Dell	2019

Table 5.20: Details of instruction materials

Sl no	Instruction materials available	Year of Procurement
1	8 LCD Projectors (Sony VPL DX100, Epson X41,Optoma Projector 8310C	2016 & 2019
2	7 Dell Tab's with wireless presentation facility	2015
3	1 OHP Projector	2014
4	Lab Manuals	-
5	Graphic Pen tablet	2020

Table 5.21: Details of working models/ charts available

Sl no	Subject	Number of Working models/ charts available	Year of Procurement
1	Irrigation Engineering	10 models	2014
2	Building Materials & Construction	8 models	2014
3	Building Materials &Testing Lab	15 charts	2016
4	Environmental Engineering Lab	20 charts	2016
5	CHMT Lab	8 charts	2016
6	Geo Technical Lab	11 charts	2016
7	Applied Engineering Geology Lab	17 charts	2016
8	Survey Lab	3 charts	2016
9	Design of Steel Structures	14 models	2016
10	Structural Analysis	4 models	2016
11	Transportation Engineering	2 models	2014
12	Hydrology	6 charts	2014
13	Design of Steel Structures	3 charts	2016
14	RCC Models	5 Models	2017

5.7.4. Consultancy (from Industry) (5)

Table 5.22: Details of consultancy from industry

CAYm1 2019-20			
Project Title	**Duration**	**Funding Agency**	**Amount**
Third Party Inspection	12 Months	Town Municipal Corporation Siruguppa	₹ 3,25,665.00
Third Party Inspection	12 Months	Town Municipal Corporation Tekkalakote	₹ 1,57,169.00
Third Party Inspection	12 Months	Town Municipal Corporation Kurugodu	₹ 89,546.00
Third Party Inspection	12 Months	Town Municipal Corporation Kudithini	₹ 47,185.00
Third Party Inspection	12 Months	Town Municipal Corporation Sandur	₹ 81,288.00
Third Party Inspection	12 Months	APMC, Kushtagi	₹ 12,000.00
Third Party Inspection	12 Months	RWS, Ballari	₹ 1,11,264.00
Testing	12 Months	KUIDS Sindhanur, RDWS,NEKRTC, PRE-Division, KPTCL, KUWS and Other Private Agencies	₹ 15,09,668.00
		Total Amount	**₹ 23,33,785.00**
CAYm2 2018-19			
Project Title	**Duration**	**Funding Agency**	**Amount**
Third Party Inspection	12 Months	Town Municipal Corporation Siruguppa	₹ 2,67,002.00
Third Party Inspection	12 Months	Town Municipal Corporation Tekkalakote	₹ 1,50,685.00
Third Party Inspection	12 Months	Town Municipal Corporation Kurugodu	₹ 45,711.00
Third Party Inspection	12 Months	Town Municipal Corporation Kudithini	₹ 55,679.00
Third Party Inspection	12 Months	Bellary Urban Development Authority	₹ 2,04,385.00
Third Party Inspection	12 Months	PRE Subdivision Ballari	₹ 37,105.00
Third Party Inspection	12 Months	RWDS H.B Halli	₹ 7,396.00
Testing	12 Months	KUIDS Sindhanur, RDWS,NEKRTC, PRE-Division, KPTCL, KUWS and Other Private Agencies	₹ 21,40,010.00
		Total Amount	₹ 29,07,973.00
CAYm3 2017-18			
Project Title	**Duration**	**Funding Agency**	**Amount**
Third Party Inspection	12 Months	Town Municipal Corporation Siruguppa	₹ 3,16,667.00
Third Party Inspection	12 Months	Town Municipal Corporation Tekkalakote	₹ 4,36,654.00
Third Party Inspection	12 Months	Town Municipal Corporation Kurugodu	₹ 1,66,559.00
Third Party Inspection	12 Months	Town Municipal Corporation Kudithini	₹ 76,932.00
Third Party Inspection	12 Months	Town Municipal Corporation Sandur	₹ 3,16,468.00
Third Party Inspection	12 Months	Bellary Urban Development Authority	₹ 7,42,120.00
Third Party Inspection	12 Months	The Secretary APMC, Ballari	₹ 25,000.00
Testing	12 Months	KUIDS Sindhanur, RDWS, NEKRTC, PRE-Division, KPTCL, KUWS and Other Private Agencies	₹ 11,66,270.00
		Total Amount	₹ 32,46,670.00
		Cumulative amount	**₹ 84,88,428.00**

5.8. Faculty Performance Appraisal and Development System (FPADS) (30)

Faculty members of Higher Educational Institutions today have variety of tasks pertaining to diverse roles. In addition to instruction, Faculty members need to innovate and conduct research for their self-renewal, keep abreast with changes in technology, and develop expertise for effective implementation of curricula. They are also expected to provide services to the industry and community for understanding and contributing to the solution of real-life problems in industry. Another role relates to the shouldering of administrative responsibilities and co-operation with other Faculty, Heads of Departments, and the Head of Institute. An effective performance appraisal system for Faculty is vital for optimizing the contribution of individual Faculty to institutional performance.

Faculty Performance Appraisal letter is collected from each faculty in which they need to show their innovations and research for their self-renewal to cope up with changes in technology and develop expertise for effective implementation of curricula. The format of Faculty Performance Appraisal letter is provided.

Components of Faculty Performance Appraisal Development System

1. **Faculty contribution towards Research**
    1. Publications in conferences and Journals
    2. Submission of Research proposal
    3. Contribution to growth of any industry, consultancy to industry, any solution developed by faculty being implemented in industry
    4. Books, Printed lab journals, compendium, or any printed contribution to academic area
    5. Invited talks, workshops, conferences organized by faculty as coordinator or important role in the organization of the event
    6. Funds received from funding agencies in last academic year
    7. Membership with Professional bodies (CSI, ISTE)
2. **Faculty contribution towards curriculum**
    1. Best practice that is introduced to improve teaching and learning process
    2. Course taught by faculty which contributes to contents beyond syllabus
    3. What is the role in publishing newsletter of the college/Department?
    4. Contribution to E-Learning contents
    5. Students under guidance acquiring certificates that can be used as proof of Lifelong Learning

6. Contribution to help direct and indirect analysis of NBA.
7. What is the role played in finalization of Vision, Mission, PEO, PSO's or any other document
8. Analysis of CO-PO mapping in last three years and suggestion to improve attainment of PO's. Expected target level shall be more than 50%
9. Analysis of course exit survey and suggestions to improve attainment of CO and PO's
10. Analysis of CO-PO mapping of Project works through rubric form in last three years

3. **Faculty contribution at Department/Institute level**
    1. Contribution to the department in the previous academic year
    2. Philosophy of teaching that includes staff member conception of teaching and learning, description of how staff members teach and justification for why you teach that way
    3. Visiting status in other engineering institutions/universities
    4. Have faculty helped the department to have MOU with any industry, Specify industry name and its activities?
    5. Improvements in the department observed in faculty since last accreditation visit
    6. Role of Staff member at the institute level
    7. Faulty publication in collaboration with peers of other institution
    8. Contribution to improve campus placements /higher education etc.
    9. Any other information that can help assessment of staff member or Help NBA process
4. **Students Feedback**

    Following are the components considered for Students Feedback

    1. Arising curiosity in the subject by linking to practical or real time applications Preparation for the class
    2. Attitude/Professionalism towards students Regularity and punctuality in conducting classes.
    3. Availability of Staff in Campus to clarify the doubts
    4. Communication Skills and Subject knowledge
    5. Coverage of Syllabus & Regularity in Conducting Classes
    6. Effective Planning and Organization of lecture Contents

7. Fairness in evaluation of IA books and Assignments
8. Guidelines for external theory examinations / Practice & Revision of Important Topics
9. Presentation of Subject matter or method of teaching
10. Response to slow learners / Could your teacher inspire or make you work harder for better results

Each component is rated by giving 1to 10 points.

- Below average:1-4
- Average:5-6
- Good:7-8
- Excellent:9-10

The performance analysis of faculty is carried out by calculating the average rating and the number of student responses for each component of the student feedback.

Evaluation of Faculty Forms

1. **Head of the department Evaluation of faculty Form**

   Head of the department completes the Evaluation of Faculty Form using the information from observation of instruction, review of syllabi, evaluation of other duties, feedback from students, and subject results. HOD evaluates each faculty based on the following parameters:

   1. Character and conduct
   2. Regularity and punctuality/availability during the working hours/frequency of leaves availed
   3. Attitude towards work
   4. Papers published
   5. Papers presented
   6. Sponsored projects
   7. Presentation in classrooms/labs
   8. Communication skills
   9. Shouldering responsibility /Extra Curricular activities
   10. Memos

   Each component on the evaluation is rated by giving 1 to 10 points.

   - Poor (2)
   - Fair (4)
   - Good (8)
   - Excellent (10)

Based on the observation, HOD recommends promotion/increment for the faculty to the principal office.

2. **Principal office**
    1. Supports and monitor the execution of the system
    2. Verifies and accredits the results submitted by the respective departments
    3. Considers revaluation applications submitted by each faculty
    4. Prepares final college faculty evaluation report
    5. Sends final report/s to the Office of Evaluation

    Based on the feedback given by HOD, the principal office recommends for further action

1. **The Office of Evaluation**
    1. General supervision of the application of the Faculty Performance Review and Development System
    2. Cooperation with the various departments of the colleges to implement the Review and Development System
    3. Contribution in overcoming problems arising at the time of implementation of the Review and Development System
    4. Preparation of the final Faculty Review and Development Report and submits to the management

Document Confidentiality: Evaluation documents and materials prepared and gathered in this process are treated as confidential and limited to authorized persons.

After completion of the system, the concerned Head of the Department is required to meet with every faculty member in person to provide necessary feedback on strengths and weaknesses of the faculty performance, so as to launch a better future.

5.9. Visiting/Adjunct/Emeritus Faculty etc. (10)

Dr. P Shiva Keshava Kumar has been appointed as Adjunct faculty for Civil EngineeringDepartment from 22.05.2015 on Contractual basis.

Table 5.23: Details of subjects handled by Dr. Shiva Keshava Kumar duringassessment years

SL NO.	Subjects Handled	Sem	Section	Academic Year
1	Water Supply and Treatment Engineering (18CV46)	IV	B	2020-21
2	Municipal and Industrial Waste Water Engineering (17CV71)	VII	B	
3	Water Resource Management (17CV661)	VI	B	2019-20
4	Municipal and Industrial Waste Water Engineering (17CV71)	VII	B	
5	Water Resource Management (15CV661)	VI	B	2018-19
6	Municipal and Industrial Waste Water Engineering (15CV71)	VII	B	

CRITERION 6	FACILITIES AND TECHNICAL SUPPORT	80

6.1 Adequate and well equipped laboratories and technical manpower (30)

The Department is having adequate facilities with well equipped laboratories and Technical manpower as per VTU curriculum

The details are tabulated as per the format given in Criteria 6

Table 6.1 Details of Laboratory Equipment and Supporting Technical Staff

Sl. No	Name of Laboratory	Batch Size	Name of the Major Equipment	Weekly Utilization Status	Technical Man Power Support		
					Name of the Technical Staff	Designation	Qualification
1	Building Materials Testing Laboratory	25	1. Universal Testing Machine [Test Well Instruments - TUT-1000 110/07-08] 2. Impact Testing Machine [Fuel Instruments &Engineering (FIE) -IT 30-6/83-1059] 3. Compression Testing Machine **2000KN** [AIMIL - AIM-31-83239] 4. Abrasion Testing for Tiles [AIMIL - AIM-481-94019]	18 hrs **[Utilized for Lab work, Projects, Consultancy]**	Bharghavi N Patil	Instructor	B E (Civil)

2	Computer Aided Building Planning and Drawing (CABPD) Laboratory	25	1. Dell I-5 Processor systems-45 No's [Dell Optiplex 5060 MT Intel core i5, 8GB RAM, 1 TB HDD, DVD, 19.5 LED Monitor] 2. Lenovo I-5 Processor systems-25 No's [Lenovo S510 Intel core i5, 8GB RAM, 1 TB HDD, DVD, 18.5 LED Monitor] 3. Dell I-3 Processor systems-10 No's [DellOptiplex 390 DT Intel core i3, 4GB RAM, 500 GB HDD, DVD, 18.5 LED Monitor] 4. Epson L1455 A3 Color Printer and Scanner-2 No's Software's Available In CAD Lab 1. AUTO CAD 2007 2. MS Office 2007 3. STAAD.Pro V8i 4. MS Project 2013 5. GRASS GIS 7.2.2	33 hours **[Utilized for Lab work, Projects, Consultancy]**	Swamy AradhyaMatada	Programmer	B.Sc,MCA

3	Engineering Geology Laboratory	25	1. Mohr's Scale Hardness 2. Clinometer Compass 3. Brunton Compass 4. Contact Gonimeter 5. Rock samples	18hrs **[Utilized for Lab work, Projects, Consultancy]**	Bharghavi N Patil	Instructor	B E (Civil)
4	Basic Surveying Laboratory	15	1.**Total Station** 1. 8 NOS LINERTIC Total Stations-[LTS-205N-903227, 064, 272, 056, 035, 304, 475, 534] 2. NOS PENTAX Total Station- [R150N-910972 & 910876] 3. Theodolite [Lawrence & Mayo- LETA-02]	18 hrs **[Utilized for Lab work, Projects, Consultancy, and Extensive Survey Camp]**	M.Shivanandaih	Foreman	DCE

5	Concrete And Highway Material Testing Laboratory	25	1. Ductility Testing Machine [230V - 27 deg C /0.5 deg C - Single phase] 2. Compression Testing Machine **3000KN** [HEICO - HCA592-402 / H-04057] 3. Los Angles Abrasion Machine [220-240V 50 Hz, 1 ph - UTC-0600-T] 4. Marshal Stability Value 50 KN [AIM 550-1] 5. Concrete Permeability Equipment [AIMIL - AIM- 168- 102167] 6. Rebound Hammer -4nos [MATEST: TREVIOLO- 24048 - , C380- AH-1V0850,0944, 0857] 7. Electronic Pulse Velocity [TICO - 7999- EN - 12504-4:2004 - ASTM C 597]	18hrs **[Utilized for Lab work, Projects and Consultancy]**	Nataraj M	Assistant Instructor	ITI
6	Environmental Engineering Laboratory	27	1. BOD Incubator [Range 5^0 TO 50^0C] 2. Jar Test Apparatus [By Prism Instruments]	18 Hrs **[Utilized for Lab work, Projects and Consultancy]**	Bhargavi N Patil	Instructor	B E (Civil)

			3. pH Meter [ELICO - PGL 1613 - 245/1127] 4. Spectrophotometer[ELICO - CL -27 - 14A / 0290] 5. Flame Photometer[ELICO - MODEL 360] 6. Air Sampler i. Environtech PM 2.5 - [APM-550 MFC-9027/1000] ii. Environtech Gaseous Sampler - [APM-433-9027/1000] 7. Muffle Furnace [Size- 1O"X 5"X5"]				
7	Software Application Laboratory	25	1. Dell I-5 Processor systems-45 No's [Dell Optiplex 5060 MT Intel core i5, 8GB RAM, 1 TB HDD, DVD, 19.5 LED Monitor] 2. Lenovo I-5 Processor systems-25 No's [Lenovo S510 Intel core i5, 8GB RAM, 1 TB HDD, DVD, 18.5 LED Monitor] 3. Dell I-3 Processor systems-1O No's [Dell Optiplex 390 DT Intel core i3, 4GB RAM, 500	33 hours **[Utilized for Lab work, Projects, and Extensive Survey Camp]**	Swamy AradhyaMatada	Programmer	B.Sc,MCA

			GB HDD, DVD, 18.5 LED Monitor] 4. Epson L1455 A3 Color Printer and Scanner-2 No's Software's Available In CAD Lab 1. AUTO CAD 2007 2. MS Office 2007 3. STAAD.Pro V8i 4. MS Project 2013 5. GRASS GIS 7.2.2				
8	Extensive Survey Project	10	1. Total Station 1. 8 NOS LINERTIC Total Stations-[LTS-205N-903227, 064, 272, 056, 035, 304, 475, 534] 2. NOS PENTAX Total Station- [R150N-910972 & 910876] 3. Theodolite [Lawrence & Mayo- LETA-02]	5hrs **[Utilized for Lab work and Extensive Survey Camp]**	M.Shivanandaih	Foreman	DCE

9	Geotechnical Engineering Laboratory	25	1. Direct Shear Apparatus [AIMIL - AIM- 04-083398] 2. CBR Apparatus [AIMIL - AIM- 133-97081] 3. Unconfined Compression Apparatus [AIMIL - AIM- 034-83062] 4. Consolidation Apparatus [AIMIL - AIM- 114,115-83108, 83044] 5. Tri-axial Shear Apparatus [AIMIL - AIM- 079-83013] 6. Universal Parameter Apparatus [AIMIL - AIM- 04-083398] 7. Automatic Compactor Apparatus [AIMIL - AIM- 04-083398] 8. Digital Tri-Axial Test Apparatus [AIMIL - AIM- 04-083398]	18 hrs **[Utilized for Lab work, Projects and Consultancy]**	C Jadiswamy	Foreman	DCE
10	Computer Aided Detailing of Structures	25	1. Dell I-5 Processor systems-45 No s [Dell Optiplex 5060 MT Intel core i5, 8GB RAM, 1	33 hours	Swamy AradhyaMatada	Programmer	B.Sc,MCA

	Laboratory		TB HDD, DVD, 19.5 LED Monitor] 2. Lenovo I-5 Processor systems-25 No's [Lenovo S510 Intel core i5, 8GB RAM, 1 TB HDD, DVD, 18.5 LED Monitor] 3. Dell I-3 Processor systems-5 No's [Dell Optiplex 390 DT Intel core i3, 4GB RAM, 500 GB HDD, DVD, 18.5 LED Monitor] 4. Epson L1455 A3 Color Printer and Scanner-2 Nos Software's Available In Cad Lab 1. AUTO CAD 2007 2. MS Office 2007 3. STAAD.Pro V8i 4. MS Project 2013 5. GRASS GIS 7.2.2	**[Utilized for Lab work, Projects, and Extensive Survey Camp]**			

6.2. Shows the details of additional facilities provided for improving the quality of learning experience in laboratories (25)

Details of additional facilities provided for improving the quality of learning in the laboratories is tabulated in Table 6.2

Table 6.2 Details of additional facilities in the laboratory

Facility Name	**Details**	**Reason(s) for creating facility**	**Utilization**	**Areas in which students are expected to have enhanced learning**	**Relevance to POs/PSOs**
RCPT (CHMT-Lab)	Rapid chloride Penetration test *[with 3 members of display with mould size 100 x 50 mm]*	Study on durability properties of concrete	By UG and PG Students for Project work & Research	Concrete Technology	PO:1,4 PSO:1
Loading frame (CHMT-Lab)	To study the different mechanical properties related to strength and displacement [*Capacity 200 tons MTI/RMEC/15-16/11]*	Study on Mechanical properties of RCC elements	By UG and PG Students for Project work & Research	RCC	PO: 1,4 PSO:1

SERVO Shake Table of 50 Kg Pay Load Capacity with accessories	Type - Servo, Maximum Payload - 50 Kg, Sliding table dimension - 500mm x 500 mm, Frequency - 0-10 Hertz, Amplitude/ Stroke - 0 to 180 mm (±50mm), Input Power - 230 volts AC, Base Motion - Random, Sine etc. With computer interface. Max accn = +2g	To understand the behavior of structures under lateral loads	By UG and PG Students for Project work & Research	Structural Engineering	PO: 1,2,3,4 PSO: 1,2
Electronic Theodolite	Lynx- LETA -02 with Compensator	For accurate angular measurement	By UG and PG Students for Project work & Research	Modern methods of Surveying	PO: 1,4,5 PSO: 1,2
E- Survey CADD software	E- Surveying Softech Section Standard & E- Survey Contours	For Creating industry-standard drawings and to generate instant calculation reports	By UG and PG Students for Extensive Survey report, Project work & Research	Modern methods of Surveying	PO: 1,4,5 PSO: 1,2
Initial Surface Absorption Apparatus	ISAT is specified in BS - 1881-part 5	To measure the porosity of the concrete	By UG and PG Students for Project work & Research	Concrete Technology	PO:1,4 PSO:1

Concrete Impact Testing Apparatus	Assembled on site as per specifications	To measure the impact strength of the concrete	By UG and PG Students for Project work & Research	Concrete Technology	PO:1,4 PSO:1
CNC vertical milling machine	ACE Micromatics 3-Axis machining center (Model 430V)	Content beyond syllabus , training students, R&D and Consultancy	Students, R&D work and Consultancy	Advanced Manufacturing	PO1 PO3 PO5 PSO1 PSO2
Industrial Robot for arc welding applications	YASKAWA, MOTOMAN arc welding robot	Content beyond syllabus , training students, R&D and Consultancy	Students, R&D work and Consultancy	Advanced Manufacturing	PO1 PO3 PO5 PSO1 PSO2

CNC machining center	MTAB milling machine 3-Axis machining	Content beyond syllabus , training students, R&D and Consultancy	Students, R&D work and Consultancy	Advanced Manufacturing	PO1 PO3 PO5 PSO1 PSO2
3D Printer	ULTIMAKER 3 EXTENDED	Content beyond syllabus , training students, R&D and Consultancy	Students, R&D work and Consultancy	Advanced Manufacturing	PO1 PO3 PO5 PSO1 PSO2
3D Scanner	EINSCAN SE 3D Scanner For Reverse Engineering	Content beyond syllabus , training students, R&D and Consultancy	Students, R&D work and Consultancy	Advanced Manufacturing	PO1 PO3 PO4 PO5 PSO1 PSO2

MAT-Lab-software	R8.65/2015	Content beyond syllabus & R&D work	R&D work and Demonstration for the students	Industrial Design & analysis	PO1 PO3 PO4 PO5 PSO1
3D Experience Suite from Dassaults systems	3D Experience Suite comprise of 40 different tools for industrial design &development, research, digital manufacturing & consultancy	Content beyond syllabus to make students industry ready, R&D and consultancy	Training, R&D and consultancy	Industrial Design & Development, Digital Manufacturing and PLM	PO1 PO3 PO4 PO5 PSO1
Internet Facilty	10Mbps	Essential tool for information & Communication	Students & Staff	Information & Communication	PO12

Accelerated Curing tank	Model no: SF-2045 HSN/SAC: 9031	Study on properties of concrete	By UG and PG Students for Project work & Research	Concrete Technology	PO:1,4 PSO:1
Humidity chamber	Model no: SF-9021 HSN/SAC: 9021	Studyon properties of concrete	By UG and PG Students for Project work & Research	Concrete Technology	PO:1,4 PSO:1
Concrete Mixer	TFT-PM60L 3HP Pan Mixer	Study on properties of concrete	By UG and PG Students for Project work & Research	Concrete Technology	PO:1,4 PSO:1

6.3 Laboratories: Maintenance and overall ambiance (10)

The maintenance and ambiance of all the laboratories in the department of Civil Engineering are carried out in a proper way

Maintenance:

- Maintenance and calibration of equipments are carried out on regular basis.
- Log book is maintained in all the laboratories.
- Adequate no of technical Staff are available for maintenance of equipment's and Computers.
- Minor damages are rectified by the technical staff themselves.
- Major damages are rectified by the concerned authorized service staff from the company which supplied the equipments.

Ambience:

- Name of laboratory is displayed in front of every laboratory.
- Name of faculty in charge and staff in charge are displayed in every laboratory.
- Sufficient floor area is available in the laboratories.
- Names of the equipments are displayed near the respective equipments.
- Laboratory manual/safety instructions are made available to the students.
- Each laboratory is equipped with white/ black board and other required amenities.
- Sufficient ventilation and natural light are available in laboratories.
- Safety systems (MCBs, ELCBs etc.) are in place in case of any electrical emergency.
- UPS system is provided in Computer Aided Civil Engineering Lab to ensure uninterrupted power supply along with air conditioning.

6.4 Project laboratory (5)

In addition to the laboratories listed in the Table 6.1 and 6.2, other resources available in the department laboratories are utilized for the project work.

Sl no	Facilities	Utilization
1	Software's for design and drafting of structures 1. E- Survey CAD 2. E-TAB 3. STAADPRO	For Students projects
2	Structural laboratory	For Students projects

6.5 Safety measures in laboratories (10)

The wiring and electrical installations are checked for leakage and earthing. The safety of
equipment and wires are provided by Miniature Circuit Breaker (MCB) and Earth Leakage Circuit Breaker (ELCB).

Safety measures taken in the laboratories are listed below:

- First aid box and fire extinguishers are kept in each laboratory.
- Damaged equipment are identified and serviced at the earliest.

Sl. No	Name of the Laboratory	Safety measures
1	Geology Lab	• Display of instructions (DOs and DON'Ts). • Briefing by faculty on DOs and DON'Ts in labs. • Availability of fire extinguisher.
2	Survey lab	
3	Environmental Engineering [EE]	

	Lab	• Designated area for carrying out each experiment. • Display of danger notice board (if applicable). • Designated storage areas for keeping all items. • Students are restricted from using cell phones as per VTU regulations • Availability of well trained technical staff. • Avoiding the use of damaged equipments. • Periodical servicing of equipments. • Maintaining a clean and organized laboratory. • Provision of UPS wherever possible for uninterrupted working. • Provision of First Aid Kits. • Adherence to proper dress code.
4	Concrete And Highway Material Testing [CHMT] lab	
5	Auto Cad lab	
6	Structural Engineering Lab	
7	Hydraulics & Hydraulic Machinery Lab	

CRITERION 7	CONTINUOUS IMPROVEMENT	50

7. CONTINUOUS IMPROVEMENT (50)

Actions taken based on the results of evaluation of each of the POs & PSOs(20)

POs & PSOs Attainment Levels and Actions for improvement - CAY

POs Attainment levels & actions for improvement (2020-21) CAY

Table 7.1: POs Attainment levels & actions for improvement (2020-21) CAY

POs	Target Level	Attainment Level	Observations
PO1: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.			
PO1	2.07	1.84	1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below • Elements of civil engineering and mechanics • Building material and testing lab • Design of RC Structural Elements, • Analysis of indeterminate structures
Action1: Personal attention is given through the tutorial and remedial classes to apply the contents of PO1 to improve. **Action** 2: Related assignments to be given to the students in the form of numerical problems which are appeared in previous year semester end examinations.			
PO2: Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.			

<table>
<tr><td>PO2</td><td>2.04</td><td>1.82</td><td>1.It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Elements of Civil Engineering
Analysis of indeterminate structures
Concrete technology
Basic Geo-Technical engineering
Design of RCC & steel structures</td></tr>
<tr><td colspan="4">Action1: The students are provided with seminars, projects related to Civil engineering Programme and made to work by involving them to Identify, formulate, review literature and analyse complex engineering problems.</td></tr>
<tr><td colspan="4">PO3: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental</td></tr>
<tr><td>PO3</td><td>2.17</td><td>1.91</td><td>1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Fluid mechanics,
Advance surveying
Analysis of indeterminate structures
Applied Geo-Technical engineering
Computer aided building planning and drawing</td></tr>
<tr><td colspan="4">Action1: Technical talks on the topics of public health and safety are arranged from the subject experts.</td></tr>
<tr><td colspan="4">PO4: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.</td></tr>
</table>

<table>
<tr><td>PO4</td><td>1.84</td><td>1.58</td><td>1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Design of RCC & steel structures
Building Material testing lab
Analysis of determinate structures
Advance surveying
Traffic engineering
Geotechnical Engineering Lab</td></tr>
<tr><td colspan="4">Action1: Students are made to work on research-based projects under faculty scholars who are registered for the Ph.D and made to learn contents of PO4.
Action2: related software's for research-based knowledge, design of experiments are made available, and training is provided in line with the contents of PO4.</td></tr>
<tr><td colspan="4">PO5: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.</td></tr>
<tr><td>PO5</td><td>1.98</td><td>1.77</td><td>1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Advance surveying
Computer aided building planning and drawing
Software application lab
Computer aided detailing of structures.
2. It is identified that level of attainment is moderate as per the curriculum prescribed by the VTU to create, select and apply appropriate techniques hence different approaches are preferred for the Attainments.</td></tr>
<tr><td colspan="4">Action1: Students are made to participate in department technical fests.
Action2: Students are provided with advanced equipments related to civil engineering and made to work on contents of PO5.</td></tr>
</table>

<table>
<tr><td colspan="4">PO6: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the Professional engineering practice.</td></tr>
<tr><td>PO6</td><td>1.96</td><td>1.72</td><td>1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Construction Management & Entrepreneurship
Extensive survey project
Water resource management.</td></tr>
<tr><td colspan="4">Action1: Technical talks by the subject experts are arranged to attain the contents of PO6 against to the curriculum prescribed by the university.</td></tr>
<tr><td colspan="4">PO7: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge and need for sustainable</td></tr>
<tr><td>PO7</td><td>1.98</td><td>1.54</td><td>1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Water supply and treatment engineering
Solid waste management
Water Resource Management
Extensive survey project
Environmental engineering Lab.</td></tr>
<tr><td colspan="4">Action1: Technical field visits are arranged in different fields of Civil engineering for the students to understand the impact of professional engineering in societal and environmental contexts.
Action2: Students are entertained to take up problem oriented field projects and made</td></tr>
<tr><td colspan="4">PO8: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.</td></tr>
</table>

<table>
<tr><td>PO8</td><td>1.8</td><td>1.56</td><td>1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Applied Geo-Technical Engineering
Geo-Technical Engineering Lab
Construction Management & Entrepreneurship
Design of steel structural elements
Design of RC structural elements.</td></tr>
<tr><td colspan="4">Action1: Students are made to learn engineering ethics through referring codal specifications in analyzing & designing of structures and other related engineering fields.</td></tr>
<tr><td colspan="4">PO9: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.</td></tr>
<tr><td>PO9</td><td>2.05</td><td>1.84</td><td>1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Construction Management & Entrepreneurship
Water resource management</td></tr>
<tr><td colspan="4">Action 1: Students are motivated to work as individual and leader in diverse teams through seminars & Projects, organizing Engineer's day, Teacher's Day, Environmental day, Go-green Marathon and other related programs in line with the contents of PO9.</td></tr>
<tr><td colspan="4">PO10: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.</td></tr>
<tr><td>PO10</td><td>1.8</td><td>1.72</td><td>1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Construction Management & Entrepreneurship
Extensive-survey project.</td></tr>
</table>

<table>
<tr><td colspan="4">Action1: To improve the communication skills for the students English lab, Essay writing, Interaction with the industries, Debate on technical topics are arranged.</td></tr>
<tr><td colspan="4">PO11: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.</td></tr>
<tr><td>PO11</td><td>1.73</td><td>1.57</td><td>1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Construction Management & Entrepreneurship
Design of bridges
Urban transport planning
Computer aided detailing of structures.</td></tr>
<tr><td colspan="4">Action1: To motivate the students in Entrepreneur and management skills District Entrepreneur's Officer, Govt. of Karnataka was invited and talk was arranged against to the curriculum prescribed by the university.</td></tr>
<tr><td colspan="4">PO12: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.</td></tr>
<tr><td>PO12</td><td>1.87</td><td>1.38</td><td>1 It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Strength of Materials
Analysis of Determinate structures
Basic Geotechnical Engineering
Design of RC structural elements
Traffic engineering</td></tr>
<tr><td colspan="4">Action1: Students are made to learn advanced software which are useful in solving civil engineering problems through the software training from CAD Centre organisations.</td></tr>
</table>

POs Attainment levels & actions for improvement (2019-20) CAY-m1

Table 7.2: POs Attainment levels & actions for improvement (2019-20) CAY-m1

POs	Target Level	Attainment Level	Observations
PO1: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.			
PO1	2.11	1.78	1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below • Elements of civil engineering and mechanics • Building material and testing lab • Design of RC Structural Elements, • Analysis of indeterminate structures
Action1: Personal attention is given through the tutorial and remedial classes to apply the contents of PO1 to improve. **Action** 2: Related assignments to be given to the students in the form of numerical problems which are appeared in previous year semester end examinations.			
PO2: Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.			
PO2	2	1.69	1.It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below • Elements of Civil Engineering • Analysis of indeterminate structures • Concrete technology • Basic Geo-Technical engineering • Design of RCC & steel structures • Applied Geo-Technical engineering • Hydrology and irrigation.

<table>
<tr><td colspan="4">Action1: The students are provided with seminars, projects related to Civil engineering Programme and made to work by involving them to Identify, formulate, review literature and analyse complex engineering problems.</td></tr>
<tr><td colspan="4">PO3: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental</td></tr>
<tr><td>PO3</td><td>2.02</td><td>1.73</td><td>1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Fluid mechanics,
Advance surveying
Analysis of indeterminate structures
Applied Geo-Technical engineering
Computer aided building planning and drawing
Solid waste management.</td></tr>
<tr><td colspan="4">Action1: Technical talks on the topics of public health and safety are arranged from the subject experts.</td></tr>
<tr><td colspan="4">PO4:Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to</td></tr>
<tr><td>PO4</td><td>1.84</td><td>1.64</td><td>1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Design of RCC & steel structures
Building Material testing lab
Analysis of determinate structures</td></tr>
<tr><td colspan="4">Action1: Students are made to work on research-based projects under faculty scholars who are registered for the Ph.D and made to learn contents of PO4.
Action2: related software's for research-based knowledge, design of experiments are made available, and training is provided in line with the contents of PO4.</td></tr>
<tr><td colspan="4">PO5: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.</td></tr>
</table>

<table>
<tr><td>PO5</td><td>2</td><td>1.67</td><td>1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Advance surveying
Computer aided building planning and drawing
Software application lab
Computer aided detailing of structures.</td></tr>
<tr><td colspan="4">Action1: Students are made to participate in department technical fests.
Action2: Students are provided with advanced equipments related to civil engineering and made to work on contents of PO5.</td></tr>
<tr><td colspan="4">PO6: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to</td></tr>
<tr><td>PO6</td><td>1.96</td><td>1.67</td><td>1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Construction Management & Entrepreneurship
Extensive survey project
Water resource management.</td></tr>
<tr><td colspan="4">Action1: Technical talks by the subject experts are arranged to attain the contents of PO6 against to the curriculum prescribed by the university.</td></tr>
<tr><td colspan="4">PO7: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge and need for sustainable</td></tr>
<tr><td>PO7</td><td>1.97</td><td>1.74</td><td>1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Water supply and treatment engineering
Solid waste management
Water Resource Management
Extensive survey project
Environmental engineering Lab.</td></tr>
</table>

<table>
<tr><td colspan="4">Action1: Technical field visits are arranged in different fields of Civil engineering for the students to understand the impact of professional engineering in societal and environmental contexts.
Action2: Students are entertained to take up problem oriented field projects and made to solve the issues.</td></tr>
<tr><td colspan="4">PO8: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.</td></tr>
<tr><td>PO8</td><td>1.68</td><td>1.47</td><td>1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Applied Geo-Technical Engineering
Geo-Technical Engineering Lab
Construction Management & Entrepreneurship
Design of steel structural elements</td></tr>
<tr><td colspan="4">Action1: Students are made to learn engineering ethics through referring codal specifications in analyzing & designing of structures and other related engineering fields.
Action1: Technical talks are arranged by inviting subject experts in line with contents</td></tr>
<tr><td colspan="4">PO9: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.</td></tr>
<tr><td>PO9</td><td>2.29</td><td>2.10</td><td>1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Construction Management & Entrepreneurship
Water resource management
Extensive-survey Project.</td></tr>
<tr><td colspan="4">Action 1: Students are motivated to work as individual and leader in diverse teams through seminars & Projects, organizing Engineer's day, Teacher's Day, Environmental day, Go-green Marathon and other related programs in line with the</td></tr>
</table>

<table>
<tr><td colspan="4">PO10: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.</td></tr>
<tr><td>PO10</td><td>1.88</td><td>1.67</td><td>1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Construction Management & Entrepreneurship
Extensive-survey project.</td></tr>
<tr><td colspan="4">Action1: To improve the communication skills for the students English lab, Essay writing, Interaction with the industries, Debate on technical topics are arranged.</td></tr>
<tr><td colspan="4">PO11: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.</td></tr>
<tr><td>PO11</td><td>1.68</td><td>1.56</td><td>1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Construction Management & Entrepreneurship
Design of bridges
Urban transport planning
Computer aided detailing of structures.</td></tr>
<tr><td colspan="4">Action1: To motivate the students in Entrepreneur and management skills District Entrepreneur's Officer, Govt. of Karnataka was invited and talk was arranged against to the curriculum prescribed by the university.</td></tr>
<tr><td colspan="4">PO12: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.</td></tr>
</table>

PO12	1.76	1.52	1 It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below • Strength of Materials • Analysis of Determinate structures • Basic Geotechnical Engineering • Design of RC structural elements • Traffic engineering
Action1: Students are made to learn advanced software which are useful in solving civil engineering problems through the software training from CAD Centre organisations.			

POs Attainment levels & actions for improvement (2018-19) CAY m-2

Table 7.3: POs Attainment levels & actions for improvement (2018-19) CAY-m2

POs	**Target Level**	**Attainment Level**	**Observations**
PO1: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.			
PO1	2.08	1.82	1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below • Elements of civil engineering and mechanics • Building material and testing lab • Design of RC Structural Elements, • Analysis of indeterminate structures • Basic Geo-Technical engineering • Design of RCC & Steel structures
Action1: Personal attention is given through the tutorial and remedial classes to apply the contents of PO1 to improve. **Action** 2: Related assignments to be given to the students in the form of numerical problems which are appeared in previous year semester end examinations.			

<table>
<tr><td colspan="4">PO2: Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.</td></tr>
<tr><td>PO2</td><td>2.03</td><td>1.78</td><td>1.It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Elements of Civil Engineering
Analysis of indeterminate structures
Concrete technology
Basic Geo-Technical engineering
Design of RCC & steel structures
Applied Geo-Technical engineering
Hydrology and irrigation.</td></tr>
<tr><td colspan="4">Action1: The students are provided with seminars, projects related to Civil engineering Programme and made to work by involving them to Identify, formulate, review literature and analyse complex engineering problems.</td></tr>
<tr><td colspan="4">PO3: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental</td></tr>
<tr><td>PO3</td><td>2.10</td><td>1.88</td><td>1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Fluid mechanics,
Advance surveying
Analysis of indeterminate structures
Applied Geo-Technical engineering
Computer aided building planning and drawing
Solid waste management.</td></tr>
<tr><td colspan="4">Action1: Technical talks on the topics of public health and safety are arranged from the subject experts.</td></tr>
<tr><td colspan="4">PO4:Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to</td></tr>
</table>

<table>
<tr><td>PO4</td><td>1.98</td><td>1.80</td><td>1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Design of RCC & steel structures
Building Material testing lab
Analysis of determinate structures
Advance surveying
Traffic engineering</td></tr>
<tr><td colspan="4">Action1: Students are made to work on research-based projects under faculty scholars who are registered for the Ph.D and made to learn contents of PO4.
Action2: related software's for research-based knowledge, design of experiments are made available, and training is provided in line with the contents of PO4.</td></tr>
<tr><td colspan="4">PO5: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.</td></tr>
<tr><td>PO5</td><td>2.09</td><td>1.95</td><td>1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Advance surveying
Computer aided building planning and drawing
Software application lab
Computer aided detailing of structures.
2. It is identified that level of attainment is moderate as per the curriculum prescribed by the VTU to create, select and apply appropriate techniques hence different approaches are preferred for the attainments.</td></tr>
<tr><td colspan="4">Action1: Students are made to participate in department technical fests.
Action2: Students are provided with advanced equipments related to civil engineering and made to work on contents of PO5.</td></tr>
</table>

<table>
<tr><td colspan="4">PO6: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the Professional engineering practice.</td></tr>
<tr><td>PO6</td><td>1.94</td><td>1.70</td><td>1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Construction Management & Entrepreneurship
Extensive survey project</td></tr>
<tr><td colspan="4">Action1: Technical talks by the subject experts are arranged to attain the contents of PO6 against to the curriculum prescribed by the university.</td></tr>
<tr><td colspan="4">PO7: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge and need for sustainable development.</td></tr>
<tr><td>PO7</td><td>2.00</td><td>1.74</td><td>1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Water supply and treatment engineering
Solid waste management
Water Resource Management
Extensive survey project
Environmental engineering Lab.</td></tr>
<tr><td colspan="4">Action1: Technical field visits are arranged in different fields of Civil engineering for the students to understand the impact of professional engineering in societal and environmental contexts.
Action2: Students are entertained to take up problem oriented field projects and made to solve the issues.</td></tr>
<tr><td colspan="4">PO8: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.</td></tr>
</table>

<table>
<tr><td>PO8</td><td>1.93</td><td>1.71</td><td>1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Applied Geo-Technical Engineering
Geo-Technical Engineering Lab
Construction Management & Entrepreneurship
Design of steel structural elements
Design of RC structural elements.</td></tr>
<tr><td colspan="4">Action1: Students are made to learn engineering ethics through referring codal specifications in analyzing & designing of structures and other related engineering fields.</td></tr>
<tr><td colspan="4">PO9: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.</td></tr>
<tr><td>PO9</td><td>2.13</td><td>1.97</td><td>1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Construction Management & Entrepreneurship
Water resource management
Extensive-survey Project.</td></tr>
<tr><td colspan="4">Action 1: Students are motivated to work as individual and leader in diverse teams through seminars & Projects, organizing Engineer's day, Teacher's Day, Environmental day, Go-green Marathon and other related programs in line with the</td></tr>
<tr><td colspan="4">PO10: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.</td></tr>
</table>

PO10	1.70	1.57	1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below • Construction Management & Entrepreneurship • Extensive-survey project.
Action1: To improve the communication skills for the students English lab, Essay writing, Interaction with the industries, Debate on technical topics are arranged.			
PO11: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.			
PO11	1.86	1.66	1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below • Construction Management & Entrepreneurship • Design of bridges • Urban transport planning • Computer aided detailing of structures.
Action1: To motivate the students in Entrepreneur and management skills District Entrepreneur's Officer, Govt. of Karnataka was invited and talk was arranged against to the curriculum prescribed by the university.			
PO12: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.			
PO12	1.76	1.55	1 It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below • Strength of Materials • Analysis of Determinate structures • Basic Geotechnical Engineering • Design of RC structural elements • Traffic engineering

Action1: Students are made to learn advanced software which are useful in solving civil engineering problems through the software training from CAD Centre

PSOs Attainment levels & actions for improvement (2020-21) CAY

Table 7.4: PSOs Attainment levels & actions for improvement (2020-21) CAY

<table>
<tr><td colspan="4">PSO1:Ability to develop the skills required for planning, analyzing, and designing, estimating and executing the civil engineering structures</td></tr>
<tr><td>PSO1</td><td>2.07</td><td>1.39</td><td>1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Strength of Materials
Fluid Mechanics
Design of Pre Stressed Concrete Elements
Quantity survey and Contracts Management
Design of RCC & steel structures
Design of Steel Structural Elements
Design of Bridges.</td></tr>
<tr><td colspan="4">Action1: Students are made to learn advanced software's which are useful in solving civil engineering problems.</td></tr>
<tr><td colspan="4">PSO2: Ability to identify the soils of different nature through the geotechnical Investigations and providing the suitable foundation to the structures.</td></tr>
<tr><td>PSO2</td><td>1.16</td><td>1.48</td><td>1.It is identified that level of attainment is good</td></tr>
<tr><td colspan="4">Action: NIL</td></tr>
<tr><td colspan="4">PSO3:Ability to plan, analyses, design and to solve environmental engineering related problems</td></tr>
<tr><td>PSO3</td><td>1.38</td><td>1.56</td><td>1. It is identified that level of attainment is good</td></tr>
<tr><td colspan="4">Action: NIL</td></tr>
</table>

PSOs Attainment levels & actions for improvement (2019-20) CAYm-1

Table 7.5: PSOs Attainment levels & actions for improvement (2019-20) CAYm-1

<table>
<tr><td colspan="4">PSO1:Ability to develop the skills required for planning, analyzing, and designing, estimating and executing the civil engineering structures</td></tr>
<tr><td>PSO1</td><td>1.75</td><td>1.50</td><td>1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Strength of Materials
Fluid Mechanics
Design of Pre Stressed Concrete Elements
Quantity survey and Contracts Management
Design of RCC & steel structures</td></tr>
<tr><td colspan="4">Action1: Students are made to learn advanced software's which are useful in solving civil engineering problems.</td></tr>
<tr><td colspan="4">PSO2: Ability to identify the soils of different nature through the geotechnical Investigations and providing the suitable foundation to the structures.</td></tr>
<tr><td>PSO2</td><td>1.57</td><td>1.34</td><td>1.It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Applied Geo-technical engineering
Basic Geo-technical engineering
Highway Engineering
Geotechnical Engineering Lab.</td></tr>
<tr><td colspan="4">Action1: Students are made to take up geotechnical projects and involving in technical consultancy cell of the department and motivated to satisfy PSO2.</td></tr>
<tr><td colspan="4">PSO3:Ability to plan, analyses, design and to solve environmental engineering related problems</td></tr>
</table>

PSO3	1.61	1.50	1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below • Municipal and Industrial Waste Water Treatment • Water supply and treatment engineering • Solid waste management
Action1: Students are made to take up environmental projects. **Action2**: Technical field visits are arranged in different fields for the students for better understanding the subjects.			

PSOs Attainment levels & actions for improvement (2018-19) CAYm-2

Table 7.6: PSOs Attainment levels & actions for improvement (2018-19) CAYm-2

PSO1: Ability to develop the skills required for planning, analyzing, and designing, estimating and executing the civil engineering structures			
PSO1	1.74	1.57	1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below • Strength of Materials • Fluid Mechanics • Design of Pre Stressed Concrete Elements • Quantity survey and Contracts Management
Action1: Students are made to learn advanced software which are useful in solving civil engineering problems.			
PSO2: Ability to identify the soils of different nature through the geotechnical investigations and providing the suitable foundation to the structures.			
PSO2	1.67	1.56	1.It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below • Applied Geo-technical engineering • Basic Geo-technical engineering

<table>
<tr><td colspan="4">Action1: Students are made to take up geotechnical projects and involving in technical consultancy cell of the department and motivated to satisfy PSO2.</td></tr>
<tr><td colspan="4">PSO3:Ability to plan, analyses, design and to solve environmental engineering related problems</td></tr>
<tr><td>PSO3</td><td>1.55</td><td>1.44</td><td>1. It is identified that level of attainment is moderate in few subjects of different courses some of them are listed below
Municipal and Industrial Waste Water Treatment
Water supply and treatment engineering
Solid waste management
Water resource management
Environmental Engineering lab.</td></tr>
<tr><td colspan="4">Action1: Students are made to take up environmental projects.
Action2: Technical field visits are arranged in different fields for the students for better understanding the subjects.</td></tr>
</table>

7.2 Academic Audit and actions taken thereof during the period of Assessment (10)

Academic Audit system / process and its implementation in relation to continuous improvement

Academic Audit Report for the Academic Year 2017-18 To 2020-21

Academic audits are conducted in order to monitor and evaluate the teaching learning process Audits are conducted for teaching learning process, laboratory maintenance and departmental activities. The institute established Internal Quality Assurance Cell (IQAC) in the year 2017 -18, as per the guidelines of NAAC & UGC whose major responsibility is to conduct periodical audits and take corrective/preventive measures for assuring/improving the academic performance.

Audit Process and its implementation:

1. Professor Dr. Veeragangadhara Swamy T.M of Computer Science & Engineering is the IQAC Convener. He with the consensus of the Principal and IQAC members constitutes a committee for assessing the academic performance of the different departments.

2. Academic audit is conducted for every year and the details are mentioned below:

Table.7.7: Academic Audit details

SL. No	Audit Date	Audit Members	Remarks
01	19/12/2018	Dr. Mohamed Rafi Prof ,CSE UBDT Davangere	Academic audit by IQAC
02	19/02/2019	Dr. Radahakrishna Professor & HOD, Civil Engineering, RVCE, Bengaluru	NBA audit with External expert by Department
03	16/09/2019	Dr. Veeragangadharaswamy T.M, Professor , CSE,RYMEC Mrs. RakheePatil Prof, ECE,RYMEC MrShivananda K B Asst. PlacementOfficer,RYMEC	Administrative audit by IQAC
04	04/11/2019	Dr.Prashanth B.G Prof. Dept of Mech. JSS academy of Technical education Bengaluru. Dr. BhimasenSoragaon. Prof. Dept of Mech. JSS academy of Technical Education Bengaluru.	Academic audit by IQAC
05	06/03/2021	Dr.PrakashMunnolli Professor department of Civil Engineering SDM College of Engineering and Technology, Dharwad.	Academic audit by IQAC

3. The audit committee will visit the department as per the schedule given by the IQAC to inspect the effectiveness of academic process implementation.

Faculty audit: The following are the records of the faculty members that are verified during the internal academic audits.

- Calendar of Events.
- Lesson Plan, Execution Plan.
- Syllabus, Attendance Registers.
- Individual Time Table.
- IA Question Paper, Scheme of Evaluation and Assignment Questions.

- Model Question Papers, Previous University Question Papers.
- Lab Records, Lab Manuals, Ledger
- Course File
- Personal File
- Remedial and Tutorial Class Records.
- Result Analysis
- Counseling and Mentoring Records.
- Additional Resources to Students (Notes, PPT, Etc.)
- Co-Curricular Activities: Seminar/Conference/Workshop/Guest Lecture Conducted and Attended.
- Industrial Visits, Faculty Achievements: Paper publications, Books etc.
- Feedback mechanism for assessing the Teaching-Learning Process.

5. Audit committee submits the report of audit to the IQAC Convener and also shares it with the concerned Head of the Department.

6. IQAC Convener and members do the analysis of the report and initiates the corrective measures as necessary with the department.

7. The Head of the department discuss the audit findings with the faculty and prepares plan of action in the DAC meeting for addressing any concern(s) identified by the auditor.

8. Department Submits the Action taken report with respect to audit report to IQAC.

Corrective Measures for the improvement of academic performance

Feedback from Students - Course End Survey: A questionnaire about the course is prepared by the course coordinator and the program - coordinator for the students. This serves as a feedback at end of the semester to gauge the degree of attainment of POs and PSOs.

Feedback from students - Course Exit Survey: A questionnaire is prepared by the program coordinator, and given to students at end of the program to get their feedback of the program. The results are analyzed to gauge the degree of attainment of program outcomes.

Feedback from parents: The Program coordinator will collect the feedback from parents about their experience and their wards opinion on the program. This activity is carried out once in every semester for the betterment of the system.

Feedback from the academic/industry experts: Curriculum reviews by Industry/Academic experts provide a broad-based internal and external feedback regarding the relevance and organization of a program's curriculum. Their feedback serves as an evidence for assessing significant changes (individual course competencies) required within a program when the change is inevitable.

Feedback from alumni: A questionnaire is prepared by the program and course coordinator and is given to the alumni. Open ended questions/experiments in the lab Open ended questions are designed for which students formulate meaningful solutions using subject knowledge. These open-ended questions tend to be more objective and less leading than closed-ended questions.

7.3. Improvement in Placement, Higher Studies and Entrepreneur (10)

Assessment is based on improvement in:

- Placement: number, quality placement, core industry, pay packages etc.
- Higher studies: performance in GATE, GRE, PGCET etc and admissions in premier institutions

7.3.1(Placement Details 2017-18 -Till Date)

Table.7.8: Placement details

SL NO	Year	Total no of students	Total no of students placed				Percentage of student placed
			No of students placed (X)	Higher studies (Y)	Entrepreneurship (Z)	Total =X+Y+Z	
1	2017-18	113	51	20	01	72	63.72
2	2018-19	101	44	07	02	53	52.48
3	2019-20	115	58	07	01	66	57.39

7.4. Improvement in the quality of students admitted to the program (10) Assessment is based on improvement in terms of ranks/score in qualifying state level/national level entrances tests, percentage marks in Physics, Chemistry and Mathematics in12th Standard and percentage marks of the lateral entry students.

Table 7.9: Number of Students admitted with opening and closing ranks

Item		2020-21	2019-20	2018-19	2017-18
CET	No. of Students admitted	35	82	110	93
	Opening Score/ Rank	15745	37694	34802	37064
	Closing Score/ Rank	146001	209069	211468	117109
Lateral Entry	No. of Students admitted	37	40	46	30
	Opening Score/ Rank	554	1071	1417	1769
	Closing Score/ Rank	15728	9066	18381	11568
Average CBSE/Any other Board Result of admitted students (Physics, Chemistry&Maths)		58%	80%	60.97%	57.34%

CRITERION 8	FIRST YEAR ACADEMICS	50

8.1 First Year Student-Faculty Ratio (FYSFR) 05

Data for first year courses to calculate the FYSFR:

Table 8.1: First year Student Faculty Ratio

Year	Number of students (approved intake strength)	Number of faculty members (considering fractional load)	FYSFR	*Assessment = (5 ×20)/ FYSFR (Limited to Max. 5)
2020-2021	760	34	22	4.54
2019-2020	760	34	22	4.54
2018-2019	760	39	19	5.26
Average	**760**	**36**	**21**	**4.78**

8.2 Qualification of Faculty Teaching First Year Common Courses 05

Table 8.2:Qualification of Faculty Teaching First Year Common Courses

Year	x	Y	RF	Assessment of faculty qualification (5x + 3y)/RF
2020-2021	9	25	38	3.16
2019-2020	9	25	38	3.16
2018-2019	9	30	38	3.55
Average Assessment				**3.29**

8.3 First Year Academics Performance 10

- Academic Performance = ((Mean of 1st Year Grade Point Average of all successful Students on a 10-point scale) or (Mean of the percentage of marks in First Year of all successful students/10))x (number of successful students/number of students appeared in the examination)
- Successful students are those who are permitted to proceed to the second year.

Table 8.3: First Year Academics Performance

Academic Performance	2020-2021	2019-2020	2018-2019	2017-2018
Mean of CGPA or Mean Percentage of all successful student (X)	Waiting for SEE Results	6.78	6.47	6.84
Total Number of successful students (Y)		463	391	379
Total number of students appeared in the examination (Z)		455	503	431
API [X * (Y / Z)]		**6.89**	**5.03**	**6.01**

Average API [(AP1+ AP2+ AP3)/3] = 5.98

Assessment [1.5 * Average API] =8.97

8.4 Attainment of Course Outcomes of first year courses 10

8.4.1 Describe the assessment processes used to gather the data upon which the evaluation of Course Outcome of first year is done 05

Procedure for calculation of grades for the academic year2019-20 even semester:

As per the University Circular Ref No VTU/BGM/Reg (E)/PS/2020-2021/298 dated 31 July 2020, following is the method of calculation of grades for the students of 2019-20 even semester:

1. CIE marks of each course of current even semester shall be scaled to a maximum of 50.
2. SEE marks of all credit courses of the preceding odd semester shall be scaled to a maximum of 50 and then averaged. If a student has remained absent in the preceding semester, the SEE marks for that course shall be taken as zero.
3. The calculated average SEE marks shall be taken as the SEE marks for each course of the current even semester.
4. The minimum average SEE marks for passing shall be 10/50.
5. Regulations applicable to minimum CIE, SEE and total marks for the current even semester shall be as per applicable regulations.
6. Total marks for any course of the current even semester shall be the sum of CIE of' the current semester (scaled to a maximum of 50 marks) and average SEE marks (scaled to a maximum of 50 marks) of all the credit courses of the

preceding odd semester.

7. Grades shall be assigned based on the applicable regulations.

Where marks require scaling, fractional marks shall be rounded up to the next larger integer.

Academic Year 2019-20 and 2020-21

Table 8.4:Mode of Evaluation: Online / Offline for the Academic Year 2020-21 and 2019-20

<table>
<tr>
<td>2020-21
and
2019-20</td>
<td>

Three internal online tests for a minimum mark of 50 are conducted and is reduced to 30 marks, average of three internals is considered. The remaining 10 marks shall be awarded based on the evaluation of assignment / unit tests / written quizzes that support to cover some of the course / program outcomes and added to the average internal assessment test marks. The final marks out of 40 are considered as CIE marks.
The performance of a student in internal assessment with respect to the CO’s is recorded.
End semester university exam performance of student for the maximum marks of 100 is conducted. 60 % of the marks are considered as external exam performance.
The summation of these two performances of student is considered as cumulative assessment for a prescribed course outcome.
Continuous Internal Evaluation (CIE) and Semester End Examinations (SEE) to constitute the major evaluation prescribed for each course. SEE and CIE to carry 60 % and 40 % respectively, to enable each course to be evaluated for 100 marks, irrespective of its credits.
For laboratory assessment, the performance of a student in conduction of each experiment, final lab internal test and lab exam is considered. Marks are awarded by SEE and CIE to carry 60 % and 40 % respectively.
For the academic year 2020-21 and2019-20 Even Semester, due to Covid-19 SEE have not been conducted by the University. Previous semester i.e.,2019-20 Odd Semester SEE results are considered after converting from 60 to 50 marks. Results for the academic year 2020-21 even semester are yet to be announced by the University.

<u>2018-19: CBCS Scheme</u>
<table>
<tr><th>Semester</th><th>Assessment</th><th>Marks</th></tr>
<tr><td rowspan="3">ODD</td><td>IA Test</td><td>50 MARKS
(Reduced to 30 Marks)</td></tr>
<tr><td>Assignment / Quiz / Test</td><td>10</td></tr>
<tr><td>Total for IA</td><td>40</td></tr>
</table>
</td>
</tr>
</table>

		Semester End Exam (SEE)	60 MARKS (100 Marks reduced to 60%)
		Total	100
	EVEN	IA Test	50 MARKS (Reduced to 30 Marks)
		Assignment / Quiz / Test	10
		Total for IA	40
		Final IA converted to 50 from 40 marks	50
		Semester End Exam (SEE) (Not conducted due to COVID-19)	50 MARKS (Considered from 2019-20 ODD Semester results, converted from 60 to 50 marks.)
		Total	100

Course Attainment Procedure2020-21 and2019-2020

Table 8.5: Course Attainment Procedure2020-21 and2019-2020

DIRECT ATTAINMENT
Attainment tools used for Direct Attainment are 1. Continuous Assessment Online/Offline Tests 2. Assignments 3. Semester End Examination
1. Internal Assessment Test – 30% Weightage to internal Assessment
• 60 % of students score more than 60 % marks out of the relevant marks. • 70 % of students score more than 60 % marks out of the relevant marks. • 80 % of students score more than 60 % marks out of the relevant marks.
Attainment Level 1: 60 % of students score more than or equal to 18 marks out of the 30 marks. **Attainment Level 2:** 70 % of students score more than or equal to 18 marks out of the 30 marks. **Attainment Level 3:** 80 % of students score more than or equal to 18 marks out of the 30 marks.
2. **Final Examination – 70 % of weightage to Final Examination**
• 60 % of students score more than 45 % marks out of the relevant marks.

• 70 % of students score more than 45 % marks out of the relevant marks. • 80 % of students score more than 45 % marks out of the relevant marks.
Attainment Level 1: 60 % of students score more than or equal to 27 marks out of the 60 marks (for even semester 23 marks out of the 50 marks). **Attainment Level 2:** 70 % of students score more than or equal to 27 marks out of the 60 marks (for even semester 23 marks out of the 50 marks). **Attainment Level 3:** 80 % of students score more than or equal to 27 marks out of the 60 marks (for even semester 23 marks out of the 50 marks). **Not Attained: < 60 %**
3. **Assignment**
• 60 % of students score more than or equal to 60 % marks out of the relevant marks. • 70 % of students score more than or equal to 60 % marks out of the relevant marks. • 80 % of students score more than or equal to 60 % marks out of the relevant marks.
Attainment Level 1: 60 % of students score more than or equal to 06 marks out of the 10 marks. **Attainment Level 2:** 70 % of students score more than or equal to 06 marks out of the 10 marks. **Attainment Level 3:** 80 % of students score more than or equal to 06 marks out of the 10 marks.

Academic Year 2018-2019

Table 8.6:Mode of Evaluation: Offline for theAcademic Year 2018-2019

2018-19	• Three internal tests for a minimum marks of 50 is conducted and reduced to 30 marks, average of three internals is considered. The remaining 10 marks shall be awarded based on the evaluation of assignment / unit tests / written quizzes that support to cover some of the course / program outcomes and added to the average internal assessment test marks. The final marks out of 40 is considered as CIE marks. • The performance of a students in internal assessment with respect to the CO's is recorded. • End semester university exam performance of students for the maximum marks of 100 is conducted. 60 % of the marks is considered as external exam performance. • The summation of these two performances of student is considered as cumulative assessment for a prescribed course outcome.

- Continuous Internal Evaluation (CIE) and Semester End Examinations (SEE) to constitute the major evaluation prescribed for each course. SEE and CIE to carry 60 % and 40 % respectively, to enable each course to be evaluated for 100marks, irrespective of its credits.
- For laboratory assessment, the performance of a student in conduction of each experiment, final lab internal test and lab exam is considered. Marks are awarded by SEE and CIE to carry 60 % and 40 % respectively.

2018-19: CBCS Scheme

Assessment	Marks
IA	50 MARKS (Reduced to 30 Marks)
Assignment / Quiz / Test	10
Total for IA	40
External Exam (SEE)	60 MARKS (100 Marks reduced to 60%)
Total	100

Course Attainment Procedure 2018-2019

Table 8.7:Course Attainment Procedure 2018-2019

DIRECT ATTAINMENT
Attainment tools used for Direct Attainment are 1. Internal Assessment Test 2. Final Examination 3. Assignment
1. Internal Assessment Test – 30% Weightage to internal Assessment
• 60 % of students score more than 60 % marks out of the relevant marks. • 70 % of students score more than 60 % marks out of the relevant marks. • 80 % of students score more than 60 % marks out of the relevant marks.
Attainment Level 1: 60 % of students score more than or equal to 18 marks out of the 30 marks. **Attainment Level 2:** 70 % of students score more than or equal to 18 marks out of the 30 marks. **Attainment Level 3:** 80 % of students score more than or equal to 18 marks out of the 30 marks.

2. **Final Examination – 70 % of weightage to Final Examination**
• 60 % of students score more than 45 % marks out of the relevant marks. • 70 % of students score more than 45 % marks out of the relevant marks. • 80 % of students score more than 45 % marks out of the relevant marks.
Attainment Level 1: 60 % of students score more than or equal to 27 marks out of the 60 marks. **Attainment Level 2:** 70 % of students score more than or equal to 27 marks out of the 60 marks. **Attainment Level 3:** 80 % of students score more than or equal to 27 marks out of the 60 marks. **Not Attained: < 60 %**
3. **Assignment**
• 60 % of students score more than or equal to 60 % marks out of the relevant marks. • 70 % of students score more than or equal to 60 % marks out of the relevant marks. • 80 % of students score more than or equal to 60 % marks out of the relevant marks.
Attainment Level 1: 60 % of students score more than or equal to 06 marks out of the 10 marks. **Attainment Level 2:** 70 % of students score more than or equal to 06 marks out of the 10 marks. **Attainment Level 3:** 80 % of students score more than or equal to 06 marks out of the 10 marks.

Academic Year 2017-2018

Table 8.8: Mode of Evaluation: Offline for theAcademic Year 2017-2018

2017-18	• Three internal tests for a minimum mark of 30 is conducted and average of three internals is considered. The remaining 10 marks shall be awarded based on the evaluation of assignment / unit tests / written quizzes that support to cover some of the course / program outcomes and added to the average internal assessment test marks. The final marks out of 40 is considered as CIE marks. • The performance of a student in internal assessment with respect to the CO's is recorded. • End semester university exam performance of student for the maximum marks of 100 is conducted. 60 % of the marks is considered as external exam performance.

- The summation of these two performances of student is considered as cumulative assessment for a prescribed course outcome.
- Continuous Internal Evaluation (CIE) and Semester End Examinations (SEE) to constitute the major evaluation prescribed for each course. SEE and CIE to carry 60 % and 40 % respectively, to enable each course to be evaluated for 100marks, irrespective of its credits.
- For laboratory assessment, the performance of a student in conduction of each experiment, final lab internal test and lab exam is considered. Marks are awarded by SEE and CIE to carry 60 % and 40 % respectively.

2017-18: CBCS Scheme

Assessment	Marks
IA	30 MARKS
Assignment / Quiz / Test	10
Total for IA	40
External Exam (SEE)	60 MARKS (100 Marks reduced to 60%)
Total	100

Course Attainment Procedure 2017-2018

Table 8.9:Course Attainment Procedure 2017-2018

DIRECT ATTAINMENT
Attainment tools used for Direct Attainment are 1. Internal Assessment Test 2. Final Examination 3. Assignment
1. Internal Assessment Test – 30% Weightage to internal Assessment
• 60 % of students score more than 60 % marks out of the relevant marks. • 70 % of students score more than 60 % marks out of the relevant marks. • 80 % of students score more than 60 % marks out of the relevant marks.
Attainment Level 1: 60 % of students score more than or equal to 18 marks out of the 30 marks. **Attainment Level 2:** 70 % of students score more than or equal to 18 marks out of the 30 marks. **Attainment Level 3:** 80 % of students score more than or equal to 18 marks out of the 30

marks.
2. **Final Examination – 70 % of weightage to Final Examination**
• 60 % of students score more than 45 % marks out of the relevant marks. • 70 % of students score more than 45 % marks out of the relevant marks. • 80 % of students score more than 45 % marks out of the relevant marks.
Attainment Level 1: 60 % of students score more than or equal to 27 marks out of the 60 marks. **Attainment Level 2:** 70 % of students score more than or equal to 27 marks out of the 60 marks. **Attainment Level 3:** 80 % of students score more than or equal to 27 marks out of the 60 marks. **Not Attained: < 60 %**
3. **Assignment**
• 60 % of students score more than or equal to 60 % marks out of the relevant marks. • 70 % of students score more than or equal to 60 % marks out of the relevant marks. • 80 % of students score more than or equal to 60 % marks out of the relevant marks.
Attainment Level 1: 60 % of students score more than or equal to 06 marks out of the 10 marks. **Attainment Level 2:** 70 % of students score more than or equal to 06 marks out of the 10 marks. **Attainment Level 3:** 80 % of students score more than or equal to 06 marks out of the 10 marks.

8.4.2 Record the attainment of Course Outcomes of all courses with respect to set attainment levels **05**

As the University SEE results of 2020-21 even semester is not yet been announced so considered CAY as 2019-20.

Table 8.10: CO Attainment through all the first-year courses for the year 2019-2020

Index	Course	CO1	CO2	CO3	CO4	CO5
C101	18MAT11	70.6	71.62	72.94	74.24	74.22
C102	18PHY12	53.34	54.56	53.20	52.14	
C103	18ELE13	57.49	58.58	49.81	45.66	
C104	18CIV14	56.07	56.58	57.05	56.99	
C105	18EGDL15	73.82	88.59	90.59	86.90	87.27

C106	18PHYL16	76.00	76.08	76.48	77.04	
C107	18ELEL17	73.72	73.93	74.20	74.37	
C108	18EGH18	88.40	88.45	89.30	88.58	89.49
C109	18MAT11	61.56	64.16	64.74	65.6	65.58
C110	18CHE12	68.28	66.04	71.13	68.53	
C111	18CPS13	51.64	49.99	44.20	44.45	
C112	18ELN14	55.93	57.50	56.20	57.74	
C113	18ME15	75.74	72.99	73.00	75.17	65.02
C114	18CHEL16	96.08	79.92	79.92	79.92	
C115	18CPL17	71.85	65.32	63.40	64.72	
C116	18EGH18	88.40	88.45	89.30	88.58	89.49
C117	18MAT21	90.61	78.68	87.73	89.96	88.78
C118	18PHY22	66.13	67.78	69.07	69.47	
C119	18ELE23	82.72	71.20	73.10	70.31	
C120	18CIV24	54.78	56.00	55.67	57.15	
C121	18EGDL25	70.60	84.72	84.97	85.15	83.93
C122	18PHYL26	75.96	75.92	75.80	76.16	
C123	18ELE27	89.73	86.15	87.60	87.05	
C124	18EGH28	76.27	76.93	76.74	76.65	76.59
C125	18MAT21	81.91	71.72	77.00	80.51	80.62
C126	18CHE22	86.52	83.17	93.77	92.79	
C127	18CPS23	79.81	83.61	84.83	84.60	
C128	18ELN24	66.20	67.72	69.13	68.52	
C129	18ME25	81.41	88.64	86.57	90.10	69.19
C130	18CHEL26	85.93	71.59	71.59	71.59	
C131	18CPL27	81.85	75.32	73.40	74.72	
C132	18EGH28	72.85	73.07	73.10	73.12	72.97
AVERAGE		**73.82**	**72.66**	**73.3**	**73.39**	**78.6**

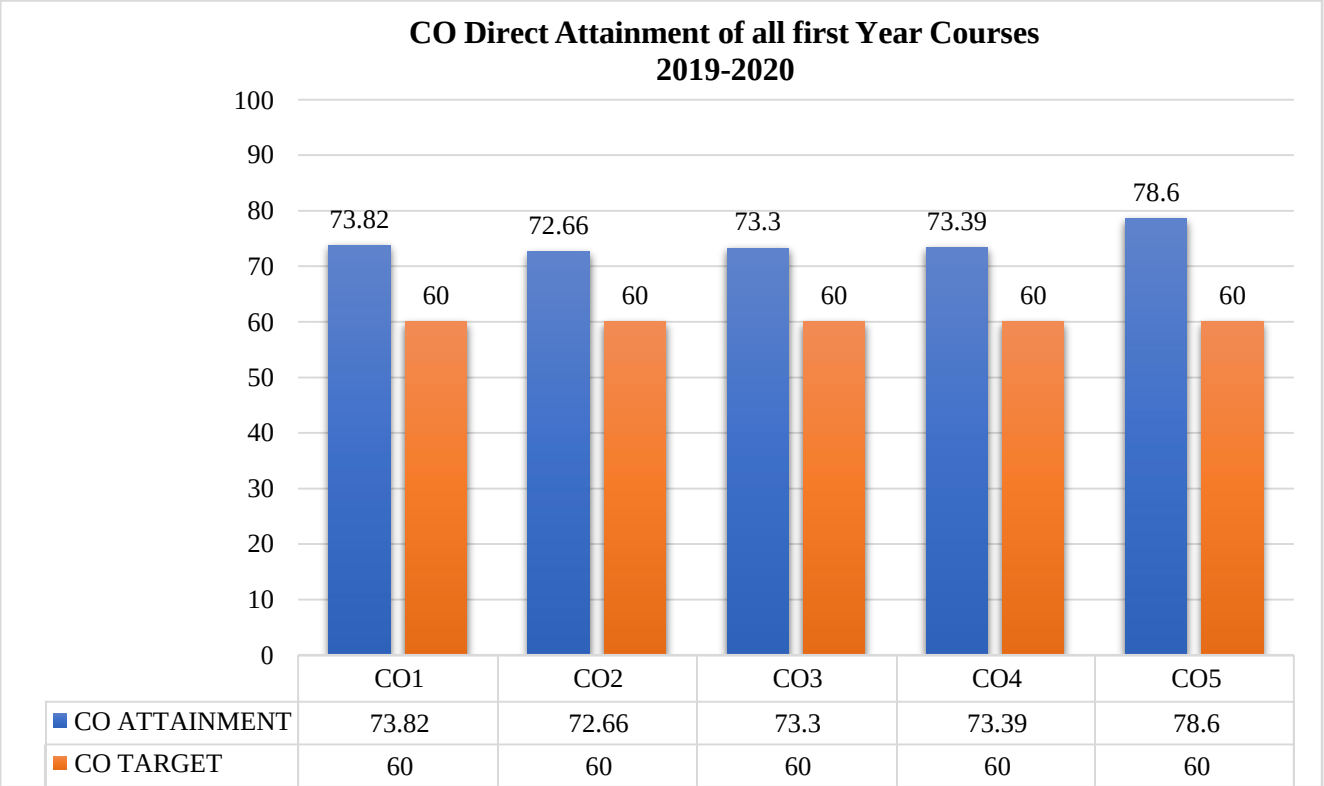


Fig.8.1: CO Direct Attainment Average of all first-year courses 2019-20

Table 8.11: CO Attainment through all the first-year courses for the year 2018-19

Index	Course	CO1	CO2	CO3	CO4	CO5
C101	18MAT11	56.48	56.96	57.95	58.40	60.45
C102	18PHY12	41.38	40.24	37.43	39.73	
C103	18ELE13	53.44	50.85	38.56	39.16	
C104	18CIV14	55.67	57.98	58.25	58.97	
C105	18EGDL15	80.26	80.46	80.46	80.44	
C106	18PHYL16	79.09	78.86	78.6	78.63	
C107	18ELEL17	69.52	64.97	76.96	71.23	
C108	18EGH18	67.28	66.27	70.17	68.51	63.19
C109	18MAT11	56.72	57.24	59.88	61.7	62.44
C110	18CHE12	67.45	68.31	69.39	67.94	
C111	18CPS13	54.56	56.30	50.90	49.96	
C112	18ELN14	49.72	51.02	40.53	48.56	

C113	18ME15	69.53	70.40	59.79	73.57	67.04
C114	18CHEL16	80.46	80.43	64.36	80.45	
C115	18CPL17	77.05	69.37	69.37	69.37	
C116	18EGH18	67.28	66.27	70.17	68.51	63.19
C117	18MAT21	57.70	56.05	58.61	59.14	58.67
C118	18PHY22	61.95	60.61	60.82	60.25	
C119	18ELE23	56.16	52.32	42.77	38.54	
C120	18CIV24	52.38	52.70	53.67	54.00	
C121	18EGDL25	81.42	81.49	81.55	81.02	
C122	18PHYL26	74.82	77.57	78.07	78.63	
C123	18ELE27	65.75	56.98	68.32	65.70	
C124	18EGH28	51.31	50.88	50.53	49.31	48.89
C125	18MAT21	62.92	60.98	62.22	64.00	62.88
C126	18CHE22	62.91	63.53	65.35	63.82	
C127	18CPS23	49.24	51.46	46.34	47.10	
C128	18ELN24	39.25	39.74	31.85	37.70	
C129	18ME25	61.39	64.12	54.16	68.23	63.64
C130	18CHEL26	78.84	78.82	63.06	78.83	
C131	18CPL27	79.28	71.34	71.34	71.34	
C132	18EGH28	51.31	50.88	50.53	49.31	48.89
AVERAGE		**62.89**	**62.04**	**60.06**	**61.94**	**59.93**

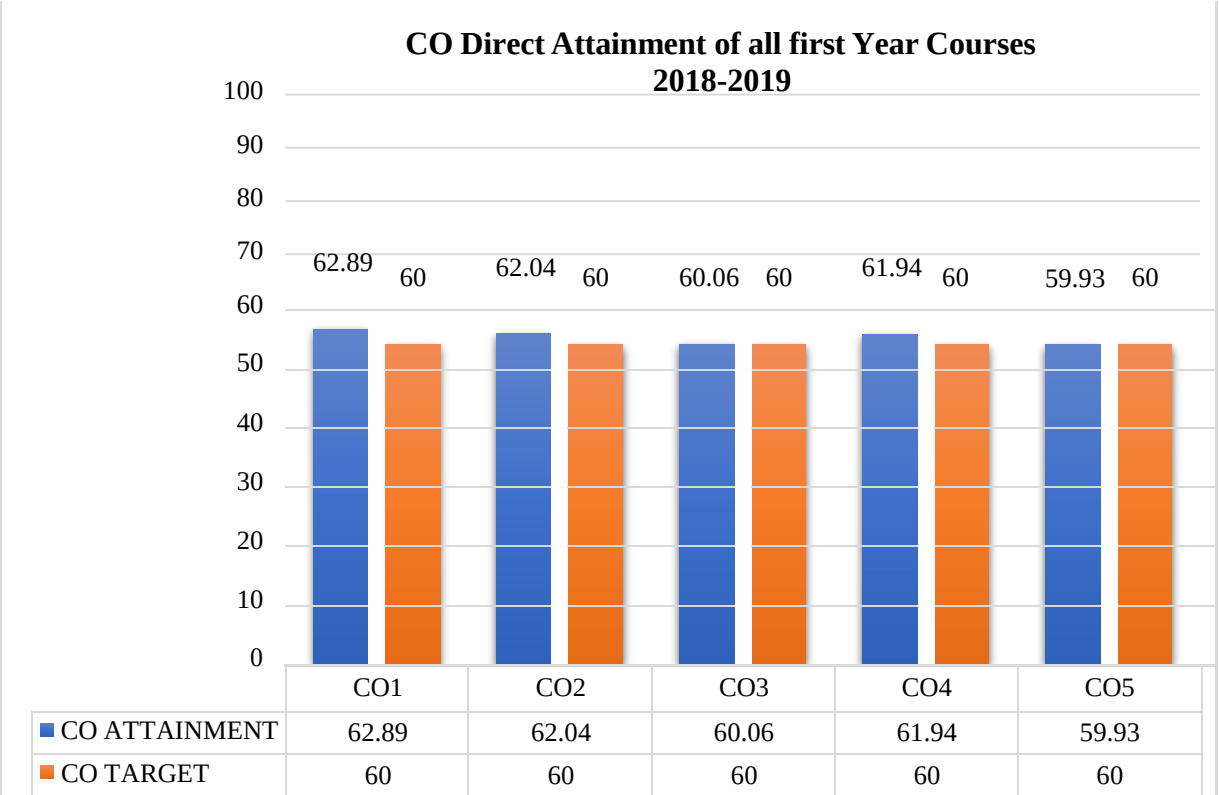


Fig. 8.2: CO Direct Attainment average of all first-year courses 2018-19

Table 8.12: CO Attainment through all the first-year courses for the year 2017-18

Index	Course	CO1	CO2	CO3	CO4	CO5
C101	17MAT11	69.35	70.87	67.87	68.17	
C102	17PHY12	66.05	66.57	66.74	66.17	
C103	17CIV13	57.12	61.95	54.26	56.19	
C104	17EME14	63.95	64.12	57.88	70.12	65.33
C105	17ELE15	63.49	55.45	45.05	43.71	
C106	17WSL16	62.32	71.10	62.83	69.61	
C107	17PHYL17	57.97	58.47	56.99	58.97	
C108	17ENG18					
C109	17MAT11	59.54	66.06	49.29	52.9	
C110	17CHE12	55.18	56.69	56.83	56.21	
C111	17PCD13	62.45	65.25	65.33	52.52	
C112	17CED14	85.33	85.40	85.36	85.33	
C113	17ELN15	53.30	54.12	52.97	52.20	

C114	17CPL16	80.57	82.95	76.65	82.25	
C115	17CHEL17	79.96	79.96			
C116	17CIV18	95.32	97.20	97.19	95.04	
C117	17MAT21	57.07	60.9	58.87	60.2	
C118	17PHY22	61.77	62.26	63.13	62.55	
C119	17CIV23	57.62	58.20	56.01	59.13	
C120	17EME24	63.59	63.37	59.92	66.12	66.55
C121	17ELE25	57.13	48.19	38.52	40.43	
C122	17WSL26	65.84	72.32	66.51	74.05	
C123	17PHYL27	71.48	71.39	65.76	71.35	
C124	17ENG28					
C125	17MAT21	62.52	53.39	51.56	53.84	
C126	17CHE22	65.14	64.99	65.55	64.32	
C127	17PCD23	48.32	50.36	49.91	45.86	
C128	17CED24	80.94	80.94	80.94	80.94	
C129	17ELN25	60.18	59.71	58.52	59.57	
C130	17CPL26	83.50	77.33	77.39	77.39	
C131	17CHEL27	77.38	77.38			
C132	17CIV28	93.69	94.06	94.63	92.72	
AVERAGE		**67.27**	**67.7**	**63.66**	**64.92**	**65.94**

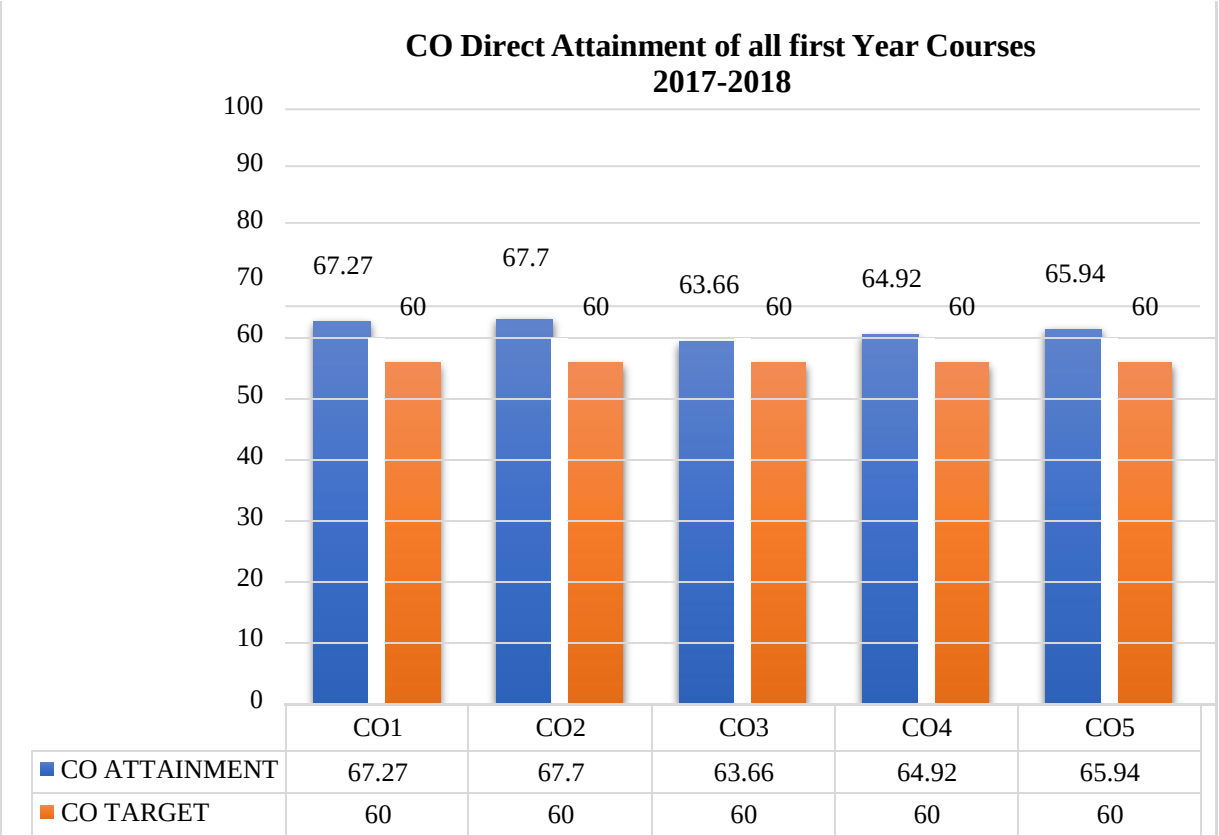


Fig. 8.3: CO Direct Attainment average of all first-year courses 2017-18

8.5 Attainment of Program Outcomes of all first year courses 20

8.5.1 Indicate the results of evaluation of each relevant PO / PSO 10

As the University SEE results of 2020-21 even semester is not yet been announced so considered CAY as 2019-20.

Table 8.13: PO Attainment through all the first-year courses for the year 2019-20

Course	Course Title	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101	18MAT11	2.18	2.18										
C102	18PHY12	1.66	1.10										
C103	18ELE13	1.58	1.47										
C104	18CIV14	1.69	1.67										
C105	18EGDL15	2.68	2.50			2.50					2.68		
C106	18PHYL16	1.78	2.65										

C107	18ELEL17	2.47	2.46							1.96	1.94		
C108	18EGH18										2.31		2.68
C109	18MAT11	1.93	1.93										
C110	18CHE12	2.21	1.48										
C111	18CPS13	1.70	1.28	1.28									
C112	18ELN14	1.56	1.14										
C113	18ME15	2.26	1.51										1.82
C114	18CHEL16	2.88	2.16										
C115	18CPL17	2.23	2.24	2.28	2.24								
C116	18EGH18										2.31		2.68
C117	18MAT21	2.47	2.51										
C118	18PHY22	1.90	1.62										
C119	18ELE23	2.37	2.19										
C120	18CIV24	1.69	1.71										
C121	18EGDL25	2.54	2.37			2.37					2.54		
C122	18PHYL26	1.69	2.64										
C123	18ELE27	2.41	2.47							1.93	1.94		
C124	18EGH28										1.99		2.30
C125	18MAT21	2.24	2.36										
C126	18CHE22	2.67	1.78										
C127	18CPS23	2.59	2.59	0.82									
C128	18ELN24	1.86	1.36										
C129	18ME25	2.50	1.66										2.01
C130	18CHEL26	2.58	1.93										
C131	18CPL27	2.23	2.24	2.28	2.24								

C132	18EGH28										1.91		2.19
AVERAGE		**2.16**	**1.97**	**1.67**	**2.24**	**2.44**				**1.95**	**2.2**		**2.28**

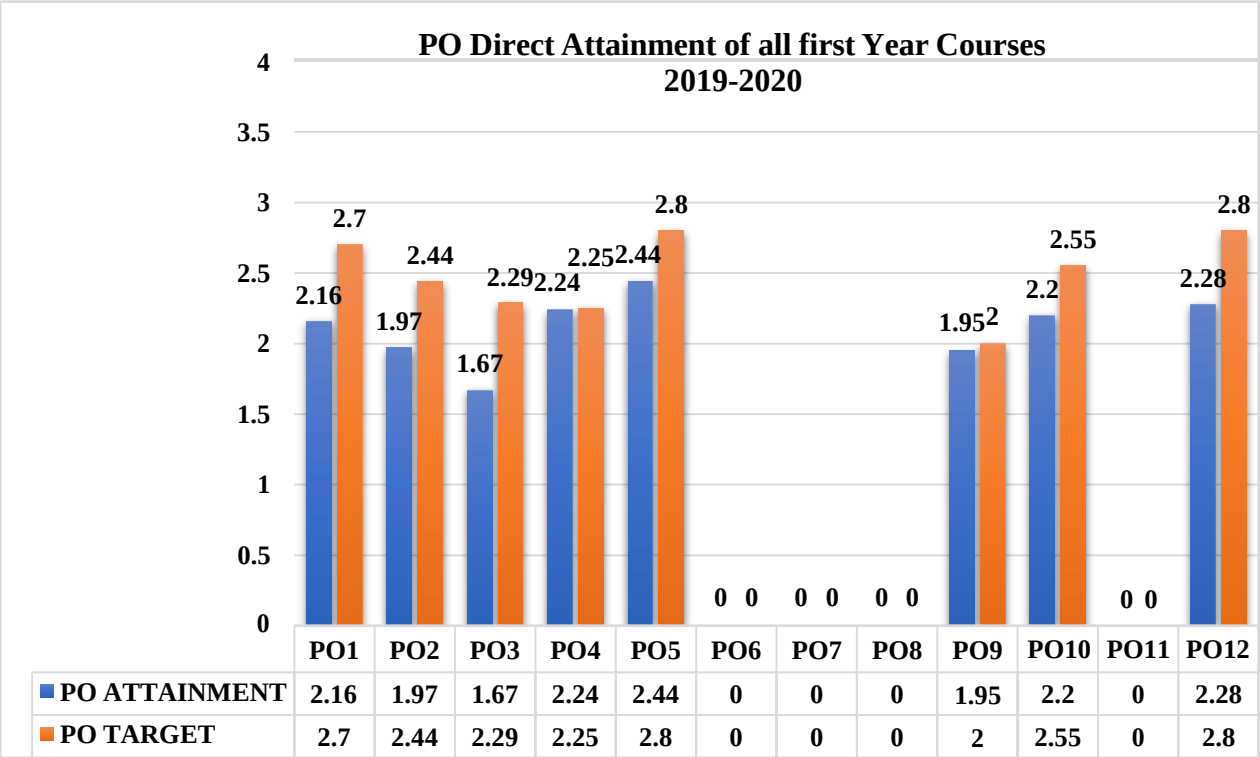


Fig. 8.4: PO Direct Attainment average of all first-year courses 2019-20

Table 8.14: PO Attainment through all the first-year courses for the year 2018-19

Course	Course Title	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101	18MAT11	1.67	1.67										
C102	18PHY12	1.51	1.05										
C103	18ELE13	1.26	1.53										
C104	18CIV14	1.60	1.60										
C105	18EGDL15	2.44	2.00			2.67							
C106	18PHYL16	1.77	2.68										
C107	18ELEL17	2.47	2.47							1.96	1.94		
C108	18EGH18					0.67					1.08		1.27

C109	18MAT11	1.76	1.76										
C110	18CHE12	2.1	1.42										
C111	18CPS13	1.91	1.43	1.43									
C112	18ELN14	1.65	1.20										
C113	18ME15	2.70	1.81	1.86	0.92	1.76		0.94					2.52
C114	18CHEL16	2.09	2.47										
C115	18CPL17	2.08	2.16	2.16	2.08								
C116	18EGH18					0.67					1.08		1.27
C117	18MAT21	1.86	1.86										
C118	18PHY22	2.06	1.59										
C119	18ELE23	1.40	1.60										
C120	18CIV24	1.57	1.57										
C121	18EGDL25	2.55	2.12			2.75							
C122	18PHYL26	1.86	2.78										
C123	18ELE27	2.48	2.47							1.97	1.94		
C124	18EGH28					0.33					0.53		0.68
C125	18MAT21	2	2										
C126	18CHE22	2.05	1.39										
C127	18CPS23	1.75	1.31	1.31									
C128	18ELN24	1.29	0.94										
C129	18ME25	2.23	1.49	1.49	0.76	1.47		0.76					2.23
C130	18CHEL26	2.08	2.46										
C131	18CPL27	2.14	2.22	2.22	2.14								
C132	18EGH28					0.33					0.53		0.68
AVERAGE		**1.94**	**1.82**	**1.75**	**1.48**	**1.33**		**0.85**		**1.97**	**1.18**		**1.44**

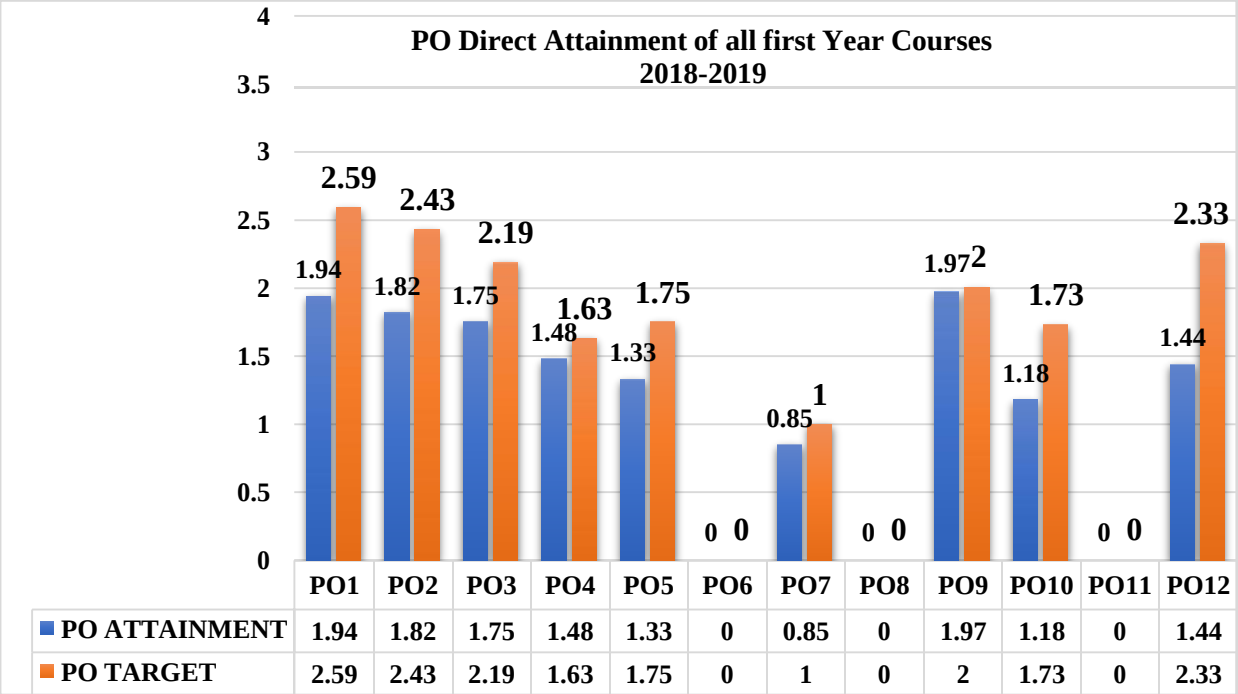


Fig. 8.5: PO Direct Attainment average of all first-year courses 2018-19

Table 8.15: PO Attainment through all the first-year courses for the year 2017-18

Course	Course Title	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101	17MAT11	2.50	2.00										
C102	17PHY12	2.29	1.69										
C103	17CIV13	1.60	1.60										
C104	17EME14	2.52	1.55	1.64	0.81	1.63		0.81					2.25
C105	17ELE15	2.60	2.24										
C106	17WSL16	2.33	1.76	1.77					1.76				1.76
C107	17PHYL17	1.84	2.25										
C108	17ENG18												
C109	17MAT11	2.50	2.00										
C110	17CHE12	2.42	1.61										
C111	17PCD13	1.48	2.23	2.04		2.23							
C112	17CED14	2.61	2.14			2.85							

C113	17ELN15	1.92	1.28										
C114	17CPL16	2.9	2.25	2.25	2.18								
C115	17CHEL17	1.88	2.82										
C116	17CIV18	1.87						1.83					
C117	17MAT21	2.25	2.25										
C118	17PHY22	2.25	1.50										
C119	17CIV23	1.58	1.60										
C120	17EME24	2.47	1.66	1.66	0.85	1.64		0.82					2.47
C121	17ELE25	2.30	2.14										
C122	17WSL26	2.46	1.97	1.87					1.86				1.96
C123	17PHYL27	1.77	2.48										
C124	17ENG28												
C125	17MAT21	2.25	2.25										
C126	17CHE22	2.38	1.59										
C127	17PCD23	1.29	1.91	1.76		1.92							
C128	17CED24	2.43	2.00			2.65							
C129	17ELN25	2.14	1.43										
C130	17CPL26	2.45	2.34	2.34	2.26								
C131	17CHEL27	1.85	2.79										
C132	17CIV28	1.76						1.82					
AVERAGE		**2.16**	**1.98**	**1.92**	**1.53**	**2.15**		**1.32**	**1.81**				**2.11**

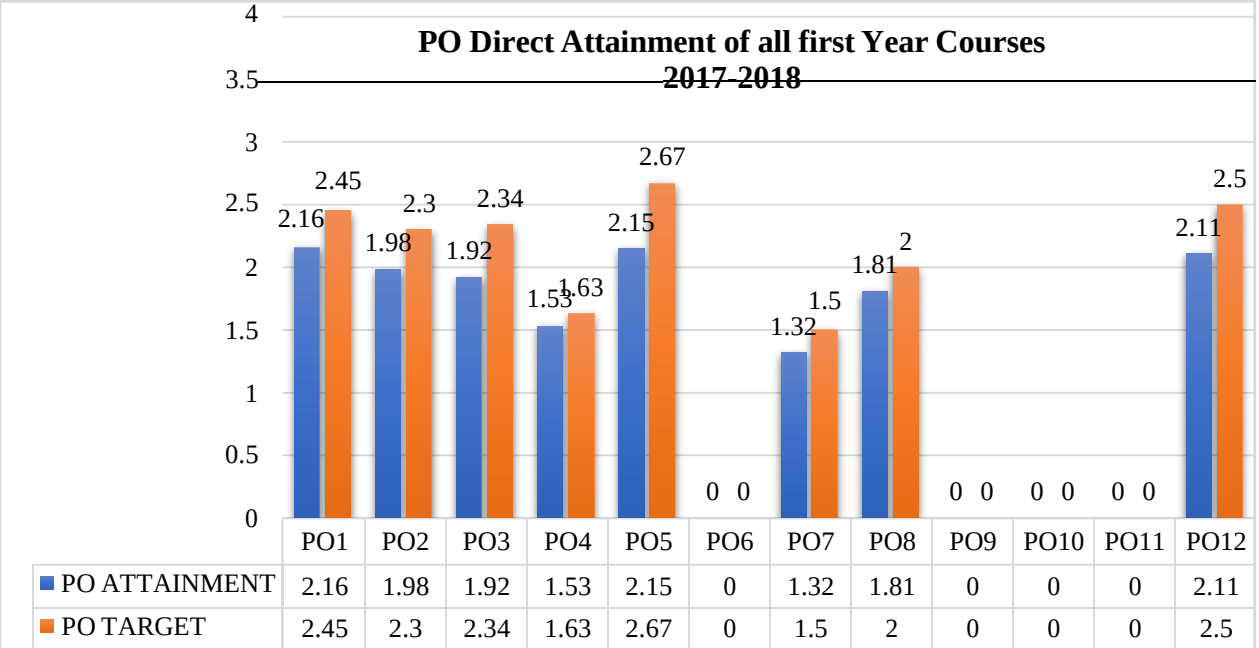


Fig. 8.6: PO Direct Attainment average of all first-year courses 2017-18

8.5.2 Actions taken based on the results of evaluation of relevant POs 10

As the University SEE results of 2020-21 even semester yet not announced, action taken report will be prepared after preparation of CO-PO attainment for the year 2020-21.

Table 8.16: PO Attainment Levels and Actions for improvement – 2019-20

POs	Target Level	Attainment Level	Observations
PO1: Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.			
PO1	**2.7**	**2.16**	Not Attained. Difficult to cope up with engineering & science and fundamentals
Action: The activities to be carried out for enhancing the PO involves solving end chapter problems, understand the nature of the given problem, formulate and provide multiple solutions to the given complex problems**.**			
PO2: Problem Analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.			
PO2	**2.44**	**1.97**	Not Attained. Difficult to analyze complex Engineering

<table>
<tr><td colspan="4">Action: PO2 is addressed with the subset of the courses and to enhance the outcome, it requires considerable planning of the course owner, design activities of Assignment and Case Studies and develop appropriate rubrics for evaluation of the performance of each member of the group.</td></tr>
<tr><td colspan="4">PO3: Design / Development of Solutions: Design solutions for complex engineering problems and design system components or process that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, social, and environmental considerations.</td></tr>
<tr><td>PO3</td><td>2.29</td><td>1.67</td><td>Not Attained.</td></tr>
<tr><td colspan="4">Action 1: Assigning designing solutions for Real-time Engineering problems through Assignment and Case Studies by considering the societal and Environmental issues related to public health and safety.</td></tr>
<tr><td colspan="4">PO4: Conduct Investigations of complex Problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.</td></tr>
<tr><td>PO4</td><td>2.25</td><td>2.24</td><td>Overall Target marginally achieved, needs to raise the target and then we need to plan for achieving the next target level</td></tr>
<tr><td colspan="4">Action 1: Design of experiments, analysis, and interpretation of data will be carried out through open ended experiments in the laboratory, in Assignment and Case Studies.</td></tr>
<tr><td colspan="4">PO5: Modern Tools Usage: Create, select and apply appropriate techniques, resources and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.</td></tr>
<tr><td>PO5</td><td>2.8</td><td>2.44</td><td>Not Attained</td></tr>
<tr><td colspan="4">Action 1: PO5 is addressed with the only subset of the courses and to enhance the outcome, it requires considerable planning of the course owner, design activities of Assignment and Case Studies and develops appropriate rubrics for evaluation of the performance of each member of the group.</td></tr>
<tr><td colspan="4">PO6: The Engineer and Society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.</td></tr>
<tr><td>PO6</td><td colspan="3">Organized non audit courses to fill the gap</td></tr>
<tr><td colspan="4">Action 1: Universal Human Values programs are organized to fill the gap.</td></tr>
<tr><td colspan="4">PO7: Environment and Sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.</td></tr>
<tr><td>PO7</td><td colspan="3">NA</td></tr>
</table>

<table>
<tr><td colspan="4">PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.</td></tr>
<tr><td>PO8</td><td colspan="3">NA</td></tr>
<tr><td colspan="4">PO9: Individual and Teamwork: Function effectively as an individual, and as a member or leader in diverse teams and in multidisciplinary settings.</td></tr>
<tr><td>PO9</td><td>2</td><td>1.95</td><td>Marginally attained, needs to raise the target and then we need to plan for achieving the next target level</td></tr>
<tr><td colspan="4">Action 1: Group assignments that involve group decision making, division of work through negotiation are focused to enhance the team work.
Action 2: Students are encouraged to participate as a leader in Co-curricular activities to improve their leadership qualities.</td></tr>
<tr><td colspan="4">PO10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large such as, being able to comprehend and write effective reports and design documentation, make effective presentation and give and receive clear instructions.</td></tr>
<tr><td>PO10</td><td>2.55</td><td>2.2</td><td>Not Attained</td></tr>
<tr><td colspan="4">Action 1: Writing exercises like technical documents, report writing will be embedded into courses with an evaluation rubric relating to the correctness and writing skill.
Action 2. A short video presentation of the technical seminar is to be recorded and presented to peers for evaluations. Further feedback on the activity is recorded with respect to rubrics designed for evaluation of communication skill.</td></tr>
<tr><td colspan="4">PO11: Project Management and Finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one’s own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.</td></tr>
<tr><td>PO11</td><td colspan="3">NA</td></tr>
<tr><td colspan="4">PO12: Life-Long Learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.</td></tr>
<tr><td>PO12</td><td>2.8</td><td>2.28</td><td>Not Attained</td></tr>
<tr><td colspan="4">Action: Ability to engage in Independent or with Team to carry out assignments, seminars and engaging in lifelong learning in the border context of the technological stage.</td></tr>
</table>

Table 8.17: PO Attainment Levels and Actions for improvement – 2018-19

POs	Target Level	Attainment Level	Observations
PO1: Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.			
PO1	**2.64**	**1.94**	Improved compared to last year
Action 1: Invited Guest Lectures. **Action 2:** Fundamental concepts were discussed in class room periodically.			
PO2: Problem Analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.			
PO2	**2.42**	**1.82**	Scope for improvement. Ability to identify, formulate and analyze the problems can be enhanced.
Action 1: Guest Lectures.			
PO3: Design / Development of Solutions: Design solutions for complex engineering problems and design system components or process that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, social, and environmental considerations.			
PO3	**2.19**	**1.75**	Scope for improvement. Design skills can be improved.
Action 1: Lab demonstrations / video presentations to design and develop solutions for problems to be arranged. **Action 2:** Collaborative learning by group activity, arrange activity to solve different problems to different groups and share the answers [Reference: Assignments]			
PO4: Conduct Investigations of complex Problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.			
PO4	**1.63**	**1.48**	Scope for improvement. Guest lectures.
Action 1: Guest Lectures.			
PO5: Modern Tools Usage: Create, select and apply appropriate techniques, resources and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.			
PO5	**1.75**	**1.33**	Lack of knowledge in application of modern tools

<table>
<tr><td colspan="4">Action 1: Guest Lectures.
Action 2: Laboratory.</td></tr>
<tr><td colspan="4">PO6: The Engineer and Society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.</td></tr>
<tr><td>PO6</td><td colspan="3">Organized non audit courses to fill the gap</td></tr>
<tr><td colspan="4">Action 1: Universal Human Values programs are organized to fill the gap.</td></tr>
<tr><td colspan="4">PO7: Environment and Sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.</td></tr>
<tr><td>PO7</td><td>1</td><td>0.85</td><td>Scope for improvement.</td></tr>
<tr><td colspan="4">Action 1: Discussion on environment and sustainability concepts by different fields of engineering.</td></tr>
<tr><td colspan="4">PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.</td></tr>
<tr><td>PO8</td><td colspan="3">NA</td></tr>
<tr><td colspan="4">PO9: Individual and Teamwork: Function effectively as an individual, and as a member or leader in diverse teams and in multidisciplinary settings.</td></tr>
<tr><td>PO9</td><td>2</td><td>1.97</td><td>Scope for improvement.
Group activities can be arranged.</td></tr>
<tr><td colspan="4">Action 1: Encouraging students as volunteers in technical and cultural fests.
Action 2: Encouraging students to participate in sports events.
Action 3: Group Assignments.</td></tr>
<tr><td colspan="4">PO10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large such as, being able to comprehend and write effective reports and design documentation, make effective presentation and give and receive clear instructions.</td></tr>
<tr><td>PO10</td><td>1.73</td><td>1.18</td><td>Scope for improvement.
Presentation and communication skills can be improved.</td></tr>
<tr><td colspan="4">Action 1: English course as an extra learning is arranged [Reference: English course].
Action 2: Ability to participate in group activity and communicate effectively.</td></tr>
<tr><td colspan="4">PO11: Project Management and Finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one’s own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.</td></tr>
<tr><td>PO11</td><td colspan="3">NA</td></tr>
<tr><td colspan="4">PO12: Life-Long Learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.</td></tr>
<tr><td>PO12</td><td>2.33</td><td>1.44</td><td>Scope for improvement.</td></tr>
</table>

			Ability to participate in group activity and communicate effectively.
Action 1: Encouraging students to participate in various co-curricular activities. **Action 2:** Orientation Programme on interdisciplinary applications in engineering.			

Table 8.18: PO Attainment Levels and Actions for improvement – 2017-18

POs	Target Level	Attainment Level	Observations
PO1: Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.			
PO1	**2.45**	**2.16**	Needs improvement
Action 1: Basic knowledge in all relevant subjects were refreshed during classroom teaching in order to update themselves and refreshed in subjects. **Action 2:** Fundamental concepts were discussed in class room periodically.			
PO2: Problem Analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.			
PO2	**2.3**	**1.98**	Needs improvement.
Action 1: Suggestions will be given to students to refer research articles available in library.			
PO3: Design / Development of Solutions: Design solutions for complex engineering problems and design system components or process that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, social, and environmental considerations.			
PO3	**2.34**	**1.92**	Needs improvement.
Action 1: Students will be encouraged to participate various model exhibitions organized by other institutes.			
PO4: Conduct Investigations of complex Problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.			
PO4	**1.63**	**1.53**	Needs improvement.
Action 1: Science model exhibition and poster exhibition conducted for first year students to develop their investigation skills.			
PO5: Modern Tools Usage: Create, select and apply appropriate techniques, resources and modern engineering and IT tools including prediction and modeling to complex engineering			

activities with an understanding of the limitations.			
PO5	**2.67**	**2.15**	Needs improvement.
Action 1: Organized orientation programs on training and placement. **Action 2:** Students will be advised to utilize digital library to know more about latest tools.			
PO6: The Engineer and Society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.			
PO6	NA		
PO7: Environment and Sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.			
PO7	**1.5**	**1.32**	Needs improvement.
Action 1: Social awareness like green campus initiated and encouraged to participate in workshop conducted in various institutes.			
PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.			
PO8	**2**	**1.81**	Needs improvement.
Action 1: Augmented course like constitutional and professional ethics and human rights in curriculum by universities.			
PO9: Individual and Teamwork: Function effectively as an individual, and as a member or leader in diverse teams and in multidisciplinary settings.			
PO9	**NA**		
PO10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large such as, being able to comprehend and write effective reports and design documentation, make effective presentation and give and receive clear instructions.			
PO10	**NA**		
PO11: Project Management and Finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.			
PO11	**NA**		
PO12: Life-Long Learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.			
PO12	**2.5**	**2.11**	Improved compared to last year
Action 1: Students are encouraged towards research and innovation.			

CRITERION 9	STUDENT SUPPORT SYSTEMS	50

9.1 Mentoring system to help at individual levels 05

"Mentoring is to support and encourage people to manage their own learning in order that they may maximize their potential, develop their skills, improve their performance and become the person they want to be."

Mentoring is a powerful personal development and empowerment tool. It is an effective way of helping students to progress in their careers and is becoming increasing popular as its potential is realized. It is a partnership between two people (mentor and mentee) normally working in a similar field or sharing similar experiences. It is a helpful relationship based upon mutual trust and respect. A mentor is a guide who can help the mentee to find the right direction and who can help them to develop solutions to career issues. Mentoring provides the mentee with an opportunity to think about career options.

The RYMEC Institute is working towards enhancing the institutional culture to better serve the needs of an ever-changing and dynamic learning community. Effective mentoring begins with the faculty. When it comes to academic success and persistence, there is no substitute for a healthy relationship between faculty and students. Mentoring and Guidance provides

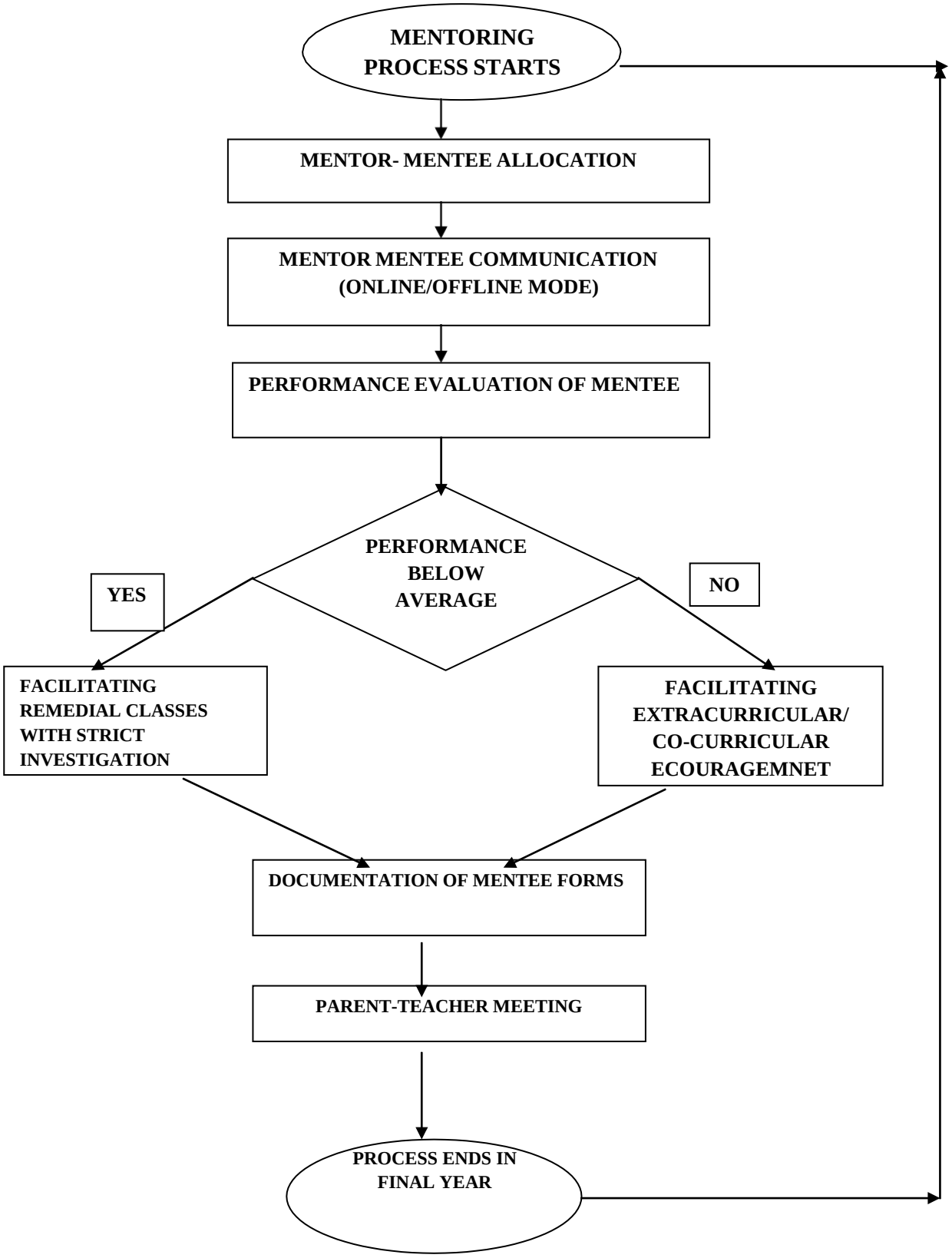
- Encouraging students to discuss their ideas.
- Encouraging students to try new techniques and expand their skills.

Each faculty is assigned 15 to 20 students. The faculty monitors their progress and reports to department in-charge of counseling cell. This mentoring is for over-all development of the student. A counseling sheet is maintained by faculty, where attendance, examination marks and family details are recorded. The same is continued till the student completes his/her graduation. The periodic status will be submitted to the parents/Guardians.

9.1.1 Objective of the Mentoring System

- To provide guidance to students towards achieving professional fulfilment and assessment of his/her academic progress as well as personal growth.
- To familiarize the greater culture of the institution to all aspiring graduates and in still the realization of potential of successes through accomplishment of qualitative education.
- To create collaborative environment amongst students and facilitators while aptly establishing network of transparency both in academic and administrative matters.
- To lay the foundation of lifelong learning and ethical conduct and behaviour in all aspects of larger life through dissemination of knowledge compounded with positive motivation, morale boasting and sense of community acceptance.

9.1.2 Process Flow Diagram



9.1.3 Types of Mentoring Systems

Table 9.1: Types of Mentoring Systems

SL. NO.	TYPES OF MENTORING SYSTEM	FUNCTIONS
1.	ACADEMIC SPECIFIC	• Identify academically slow learning students and council them in presence of HOD to ensure that they improve their attendance. • Identify academically weaker students and provide them with additional reading materials, model questions along with solutions.
2.	PROFESSIONAL GUIDANCE/ CAREER ADVANCEMENT	• Motivate them to expand their domain knowledge base through participating in technical competitions. • Stimulate students to exhibit innovations in project by participating in project exhibitions. • Encourage students to present their ideas through paper presentations in conference. • Encourage students to do certification course which adds value in addition to their qualifications related to the career such as MOOC,NPTEL,PLACEMENT PREPARATION • Provide career guidance and workshop apart from soft skill training provided by training and placement cell.
3.	ALLROUND DEVELOPMENT	• To encourage the students to learn teamwork, leadership and motivate them to participate them in sports and cultural activities. • To create ethical and moral awareness. • Encourage and motivate students in social and environmental causes, national service scheme (NSS) and blood donations camps.
4.	PSYCHOLOGICAL COUNSELLING	• Conducting workshops to support the students to strength their interpersonal relationships, improve their Inferiority Complex, Exam Phobia etc. • Conducting Yoga/ Meditation training classes to students to manage their stress levels.

9.1.4 Policy mechanism of Mentoring System

Table 9.2: Policy mechanism of Mentoring System

1	Mentors	Teaching faculty act as Mentor
2	No. of students per mentor	15 to 20 plus
3	Frequency of meeting	Meeting conducted every month after internal assessment by OFFLINE MODE/ONLINE MODE/PHONECALLS/SMS/WATSAPP GROUP

4	Parents feedback	The Parents feedback is collected after every parents meet in the department or through phone calls.
5	Analysis	The feedback analysis will be referred by the HOD's for corrective measures, through Head of the Institution

9.1.5 Outcome of Mentoring System

- Improvement in student attendance.
- Students excel in academics performance and technical skills and participate in extracurricular activities.
- Improvement in quality of projects.
- Improvement in personality development of an individual student mental stamina.
- Enhances the scope for career advancement of each student and aiming for higher education.
- Proficiency in addressing the societal issues.

9.2 Feedback Analysis and Reward/Corrective measures taken, if any 10

The feedback collection process is very important for quality improvement of the Institution. The faculty feedback is collected from the students every semester. This process contributes to evaluate the faculty performance for reward / corrective measures. The online feedback will be taken from the students in regular class hours and monitored by the inter department faculty.

Average Percentage of Students who participate: Students having attendance more than 75% are participated.

The feedback analysis process:

The inter department faculty collect the feedback from students through online and consolidated report generated online is forwarded to the Principal's Office for further Corrective Measures. The same will be sent to respective HOD's.

Table 9.3: Feedback analysis grading

Grading	Points
Excellent	9.01 - 10
Good	7.01 - 9.0
Average	3.01 - 7.00
Poor	1.00 – 3.00

The teaching performance indices are analyzed by the Principal's Office and the same is conveyed to the concerned.

Basis of Reward / Corrective Measures:

The indices used for measuring the quality of teaching, learning and summary of the index values are mentioned in below.

1) Creating interest in the Subject.
2) Regularity in handling the Classes/E-Classes.
3) Presentation of the Subject.
4) Audibility or Clarity of Speech.
5) Interaction with Students.
6) Clarifying Students Doubts.
7) Fairness in evaluation of I A test and assignment books.
8) Ability to design Quizzes/Tests/Assignments/Examinations and projects to evaluate students understanding of the course.
9) Interact and encourages students to ask question/participation.
10) Fulfilment of course objectives and outcomes.

System of Reward:

Best performing faculty is rewarded by issuing a Letter of Appreciation. Performance rating of faculty through student feedback system is one of the factors in evaluating the annual performance and to release the annual increment.

Corrective Actions taken:

The faculties performing below average are trained continuously through Faculty Development Program to improve the quality of the staff.

9.3 Feedback on facilities 05

Assessment is based on student feedback collection, analysis and corrective action taken.

Feedback on facilities

A standard procedure for feedback on facilities is taken up in the college. Feedback is collected from the students on facilities available in the college such as Water facility, Internet facility, Canteen facility, Sports and Gymnastic facility,etc.

The feedback is analyzed and the necessary corrective measures are implemented after discussions with the Management.

Following is the process of feedback on facilities.

i. Feedback collection process
ii. Feedback analysis
iii. Corrective measures

i) Feedback collection process:

Table 9.4:Details of feedback collection process

Items	Description
Feedback collected on all facilities provided by the college.	YES
Feedback collection process	Computerized
Feedback receiver	Administrative officer / Admin manager / Academic Dean
Frequency of feedback collection	Once in a semester
Metrics used for calculation	Poor: 1 to 3
	Average: 3.01 to 7
	Good: 7.01 to 9
	Excellent: 9.01 to 10
Purpose of comments	For improving the quality of facilities.

FORMAT of Student Feedback on Facility:

Questionnaires:

1. Interaction with the Principal.
2. Interaction with HODs.
3. Response at the Reception
4. Good support/interaction from Office
5. Availability of Staff in working Hours.
6. Extra Curricular Activities.
7. Discipline in Campus.
8. Internet facility at Internet Centre
9. House Keeping at College Campus

10. Drinking Water Facility
11. Washroom facilities and maintenance
12. Sports Activities
13. Mentor-Mentee System
14. Are you happy with the food served in the present canteen?
15. Are you aware of the NSS Activities in our University?

Rating of Scale

Poor --- 1 to 3

Average --- 3.01 to 7

Good --- 7.01 to 9

Excellent --- 9.01 to 10

ii) Feedback analysis:

The feedback given by the students is consolidated and analyzed. Principal will discuss about the consolidated report with the management and come out with necessary actions.

iii) Corrective measures:

Corrective measures will be implemented at the college level with respect to the decision made by the management.

9.4 Self-Learning 05

Self-learning helps the students to develop sense of responsibility that equips with the essential attributes required for their career. Self learning helps the students in gaining the knowledge and applying to larger domains. Self learning helps better understanding of the discipline. Self learning facility is provided for both students and staff such as webinars, MOOCS, NPTEL, SWAYAM, SWAYAM PRABHA, EDUSAT, AICTE, FDP'S etc. Self learning helps to actively participation in industrial training.

Facilities, Materials and Scope for self learning facilities provided by the college.

- E-learning
- Technical Talks
- Workshops
- Webinars
- Industrial Tour

- Internship
- Project Exhibitions
- MOOC certificates
- NPTEL
- SWAYAM
- EDUSAT
- AICTE webinars
- SWAYAM PRABHA

E-learning details

Table 9.5: E-learning details

Sl.No	Facilities	Information Resources
1	SWAYAM	Available Online
2	SWAYAM PRABHA	TV CHANNAL
3	IIT Bombay -X	FDP101X,SKANI-101X,FDP201X, ET611TX , CS101.1X, ET702X-MOOC,SKVIZ101X .
4	NPTEL online courses	Available Online
5	NITTTR	Available Online
6	E-SHIKSHANA	Available Online
7	VTU E-LEARNING CENTRE	e-CONTENT, e-RESOURCES, e-LIBRARY Available.
7	VTU EDUSAT	CD's available for all the subjects
8	WEBINAR	Available Online
9	Digital Library	Notes, Question Papers, Manual Solutions etc
10	Language Lab	Communication skills, vocabulary, phonetics, etc.
11	TEACHING SKILLS	Available Online
12	Professional activities	Available Online
13	Soft skills	Available Online
14	Work place communication	Available Online
15	English for oral communication	Available Online

16	Financial literacy	Available Online
17	Handling large project	Available Online

MOOC

A massive open online course is an online course aimed at unlimited participation and open access via web. In addition to traditional course materials such as filmed lectures, readings and problem sets, many MOOCs provide interactive user forums to support community interactions between students, professors and teaching assistants (TAs). MOOCs are a recent and widely researched development in distance education which was first introduced in 2008 and emerged as a popular mode of learning in 2012.

Learning beyond syllabus and creation of facilities for self-learning is to make the students well-verse in all the directions. The format for this system is as specified below.

CONTENTS BEYOND SYLABUS

RYMEC supports for students to learn the subjects in a broader way so as to inculcate the skills of creativity, applying domain knowledge for practical problems and to improve the quality of self-learning. Contents beyond the syllabus are given to students by respective subject teachers in the form of:

- Case Studies
- Mini Projects
- Assignments
- Quiz

9.5 Career Guidance, Training and Placement 10

Career Guidance

Career guidance for engineering students is a must so that graduates can discover their strengths and weaknesses before venturing out into the highly competitive world, some Precautionary as well as career-boosting measures need to be taken by graduates.

Career counseling or career guidance process involves individuals (school or college students or professionals) exploring various career options, understanding more about the opportunities, analyzing the career prospects and earning potential. The process also includes an all-inclusive career assessment test which evaluates individuals' interests, strengths and

weaknesses, ability/aptitude, personality traits and capabilities.The Students are guided by mentors and also career guidance program is conducted by companies like

i) RARE MINDS, Bengaluru
ii) AECC Global India, Bengaluru
iii) NEOPAT Chennai
iv) TYOTA KIRLOSKAR MOTOR Pvt. Ltd.
v) FACE pulse, Coimbatore
vi) ETHNUS, Bengaluru

Table 9.6: Career Development workshop

Sl. No.	Orientation Program	Resource person/ Company
1.	Managing Your Personality in World Working Virtually	RARE MINDS, Bengaluru
2.	UNLOCK Jobs Part-2	SA-MUDRA FOUNDATION
3.	How to get Scholarship on Microsoft Google certification	QUANTUM LEARNING
4.	Career Pathway & Study Abroad Opportunities	AECC Global India, Bengaluru.
5.	Carrier Opportunities in VLSI industry	Chip Edge Technologies, Bengaluru
6.	Web Development as Carrier for Engineers	Face pulse, Coimbatore
7.	Young Ambassador Program	QtPi Robotics, Bangalore
8.	Industry Expectations from Young Engineers	By Dr. Binoy Mathew Director, VTU CPC, Bengaluru
9.	Software Development & Testing	By Mr. Keshav CEO, JSPIFERS, Bengaluru
10.	How to land in a dream IT Product company job as a fresher	FACE-PREP, Coimbatore

Training and Placement Cell

Campus training and placements play a major role in shaping up the career goals of students. It is the dream of every engineering student to get placed in a top organization visiting their campus for recruitment. A placement year can **give students inspiration for final year projects and dissertations**. It can also help develop your soft skills, such as being able to work in a team and the ability to solve complex problems, which are all valuable assets for both your academic and professional career. To cater this, an independent Training and

Placement Cell is in function in the institute since 2001. The Training and Placement Cell is headed by Concerned Officers and supported by Departmental co-coordinators. The vision of the training and placement cell is "**Transforming every student – an employer's** choice". Our mission is "Develop the students to face global competitive world with confidence and attain desired placement". Our industry partners are TCS, JSW. Our Trusted recruiters are TCS, HCL, Emphasis, IGATE, Cigital, SLK Software Services, Advanced electronics Ltd, Global Edge, Tech Mahindra, L&T, Accenture, Mind Tree, JSW, Kirloskar and many more.

Pre Placement Training:

Pre-placement training is imparted to all the final year students, as part of the curriculum to enhance the competency among students with respect to various soft skills and domain specific areas like finance, HR etc. During campus placements, recruiters test for an array of skill sets in their potential employees. In addition to being knowledgeable in their core subjects, students should also possess a great aptitude and soft skills. Hence pre placement training is necessary. The Pre placement training has been conducted by **Universal Education Bangalore, Bizotic, Bangalore GTT, Pune and Ethnus, Bangalore** the contents of Pre Placement training are mention as below.

CONTENTS OF PRE-PLACEMENT TRAINING

Quantitative aptitude

- Basic math
- HCF,LCM and simple and compound interest
- Data sufficiency 1
- Data sufficiency 2
- Analytical Reasoning
- Logical Reasoning 2
- Progression
- Permutation and Combination
- Ratios and Proportion
- Averages and Blood Relations
- Percentages, Profit and loss
- Speed, time and distance
- Time and Work
- Logical Reasoning 1
- Data Interpretation 1

- Data Interpretation 2

Verbal aptitude

- Parts of speech & Vocabulary Building
- Synonyms, Antonyms
- Analogies
- Sentence Completion Sentence Correction & Incorrect sentence
- Reading comprehension 1
- Reading comprehension 2
- Error detection

Soft skills

- Group discussion
- Personal interviews
- Language Skill (Written)
- Resume building
- Communication Skill
- Grooming

9.6 Entrepreneurship cell **05**

EDC is headed by Dr.Srishaila J M, Associate Professor, Department of Civil Engineering with a team of faculty coordinators from other departments of the college.

The goal of EDC is to assist students, entrepreneurs, including Institution faculty, with pre-venture, start-up or existing business with financial management, marketing, technology and product development, commercialization issues, to understand the employability options, opportunities to control unemployment and to create better opportunities for youngsters.

Working in collaboration with New Age Incubation Network (NAIN) Government of Karnataka and District Industry Centre – DIC, BALLARI. EDC has conducted various activities for the college students creating and promoting entrepreneurship awareness in the campus.

Recent activities carried out at college premises:

1. VTU TEQIP 1.3 Sponsored (STTP) 3 day short term training program for students Program on Employability& Entrepreneurial Skills On 6th - 8th September 2019 In Association with Visvesvaraya Technological University Belagavi, Karnataka

Aryabhatta Knowledge University Patna, Bihar Biju Patnaik University of Technology Rourkela, Orissa

2. BOOT CAMP in association with K-Tech and Department of IT-BT, Government of Karnataka on 29th August 2019.Many students presented their ideas during above said activities.
3. Ideathon programme is organized to students to present their ideas on projects as on 7/9/2019.
4. Online Covid Quiz is organized to students as on 30/05/2020.
5. Webinar on Artificial Intelligence is organized in association with K-Tech and Department of IT-BT, Government of Karnataka on 7th October 2020.
6. Webinar on IOT is organized in association with K-Tech and Department of IT-BT, Government of Karnataka on 23rd March 2021.
7. Webinar on Entrepreneurship, startups in association NAIN as on 28th May 2021.
8. BOOT CAMP in association with K-Tech and Department of IT-BT, Government of Karnataka on 8th June 2021

9.7 Co-Curricular and Extra-curricular Activities **10**

NSS-UNIT RYMEC

NSS UNIT of RYMEC is headed by Prof. Virupaksha Gouda H of Mechanical Engineering Department. NSS UNIT of our college is functioning from many years and organizing several useful programs for the society.

The programs like Voluntary Blood donation camps, Tree plantation, Health education & Health orientation programs, Essay writing- Drawing competitions, Free medical and Health check up camps, Helping towards flood affected people etc.

Objective of NSS:

1. Creating awareness of social service for the students
2. Motivating the students to serve for society in tree plantation, blood donation etc.,
3. Not only education also promoting the students towards moral ethics, healthy and sound thinking about society.
4. Helping for the poor and disabled people by organizing health orientation programs.

Outcome of the programs:

From our NSS UNIT many patients, poor and disabled people were benefited.

i) Covid-19 Vaccination Drive-3:

The Covid-19 Vaccination drive was organized by NSS Team Members in the college on 12-07-2021 from 10.00am onwards, in association with District Health and Family Welfare Office, Ballari. All teaching, non-teaching staff members and students of various departments are participated in the vaccination drive and around 375+ have got vaccinated.

Covid-19 Vaccination Drive-2

As per the Circular received from VTU Registrar, instructed to ensure that, the Covid-19 related vaccination for all Staff and Students of institution be taken up and to be completed by 8th of July 2021. In view of this the Covid-19 Vaccination drive was organized by NSS Team Members in the college on 02-07-2021 from 10.00am onwards, in association with District Health and Family welfare Office, Ballari. All teaching, non-teaching staff members and students of Various departments are participated in the vaccination drive and around 600+ have got vaccinated.

ii) Oxygen Challenge

As per the Circular received from Department of NSS and Youth Empowerment and Sports, Govt. of Karnataka to organize "Oxygen Challenge" program to plant 5 lac Seed Balls thought the Karnataka State on occasion of "International Environment Day". In this connection the Plantation Programme was organized in the premises of RYM Engineering College, Ballari near Ganesha Temple in association with ABVP, Karnataka State and Ballari Division on 17-06-2021 from 10:30am onwards. Dr. D Basavana Gouda, Professor of EEE Dept and NSS Team Members have taken initiation to organize the plantation program. All teaching, non-teaching staff members and students of Various departments are participated in the program and made it huge success. Around 1500 Seed Balls sown in and around campus.

iii) AICTE Sponsored Work Shop on Sansad Adarsh Grama Yojana

Dr.K Veeresh, Principal, RYMEC and Dr.Kotresh,S& Prashanth Keni of NSS UNIT, RYMEC participated in AICTE sponsored workshop on SANSAD ADARSH GRAMA YOJANA (SAGY) at Nagarjuna College of Engineering & Technology, Bengaluru on 25th& 26th of November-2017.

SAANSAD ADARSH GRAM YOJANA

M.P. Constituency: Ballari

Member of Parliament: Sri B. Sriramulu (during 2017)

Village: Tambrahalli: Taluk: H.B. Halli.

NSS UNIT: Rao Bahadur Y.Mahabaleswarappa Engineering College

Brief Report:

We the NSS Unit of RYMEC visited the Tambrahalli village (120KM from Ballari) which was declared as Saansad Adarsh Gram Yojana from the honorable Member of Parliament Sri B.Sriramulu. In this visit, we collected the information related to this program from the villagers and we organized some orientation programs Viz., Solar energy awareness, water conservation, Rain water harvesting, Global warming awareness to the people. The programs were organized in KinnalPorammambeGurusiddappa high school, Thambrahalli village.

LEAD ACTIVITY

LEAD team of RYMEC is headed by Prof. Dr.Chidananda.H of Computer Science & Engineering department. Our college LEAD team is functioning from 2017**.**

ABOUT LEAD

The LEaders Accelerating Development (LEAD) Program of Deshpande Foundation, Hubballi, Karnataka fosters innovative and entrepreneurial thinking within college students by exposing them to social issues and by encouraging them to volunteer their time and effort into the community. LEAD ignites their latent talent to come up with creative solutions. LEAD is an incubator where innovation meets implementation, knowledge meets experience, social issues meet solutions and efforts meet impact.

Activates carried out under LEAD:

i) 'Break the chain' campaign to fend off the Covid-19spread.

On 5th April2020RYMEC LEAD students, presented an online presentation to provide awareness to the public regarding the pandemic situation.

FeedingVoicelesscreaturesduringCOVID-19period

ii) CHILD_LABOUR_DAY

World Day against Child Labor 2020 focuses on the impact of crisis on child labor. TheCOVID-19 health pandemic and the resulting economic and labor market shock are having huge impact on people's lives and livelihoods. Unfortunately, children are often the first to suffer. The crisis can push millions of vulnerable children in to child labor.On this day i.e 12/06/2020our LEAD Students have given a meaningful message to the society:

Do not ask children to take tool Instead send them to School(after school reopening)

iii) International Yoga Day On the occasion of 6th International Yoga Day i.e 21st June2020, our LEAD students performed some yoga practice and given training to others to prevent from the unprecedented pandemic.

YOGA training to children on International YOGA Day

iv) Webinar on " Post COVID-19 and How to Enhance Our Immune System" with Dr. KhadarVali on29/06/2020.

v) LEAD RYMEC, on 26/07/2021 prepared handmade greetings, a gift to expresses gratitude to our indomitable courage of the Indian soldiers on the occasion of #KARGIL VIJAY DIVAS

vi) RYMEC LEAD Students received as a BEST TEAM AWARD 2K18 in LEAD Valedictory Program

Activities carried out under Youth Red Cross – Unit RYMEC

i) Visit to Old-Age Home

A visit to old Age home has been organized, students involved voluntarily and distributed clothes and served food for the senior citizens. Students have spent a meaningful time with them, and made them happy. Program was organized by Youth Red Cross coordinator Mr. Aladalli Sharanabasappa. Old age home in-charge Mr. Venkobanna was thankful to the management and students for such a gentle program.

Students serving Food at Old Age Home

Sports Achievements

B Balaji of ECE branch, 5th semester has won GOLD MEDAL in WORLD KARATE CHAMPIONSHIP of 2019 held at Jaipur, Rajasthan from 10th to 13th January 2019 more than 40+ countries participated.

Mr. Balaji has secured First Place, with Gold Medal in "IMAS World Kumite Championship – 2019".

- Aruna Kumari Branch: IP participated in women's Indonesia-India International Throwball Championship from 25th to 26th February 2018
- Prashanth Kumar H .Branch – Mechanical, selected for VTU Hockey team Inter University tournament held at Bangalore University, Bangalore, from 22nd to 28thJanuary 2018.
- Laxmikanth N. Branch – Civil, Selected for VTU Hockey team Inter University tournament held at Bangalore University. Bangalore, from 22nd to 28thJanuary 2018.
- Girish K M. Branch – Mechanical, Selected for VTU KHO-KHO team Inter University tournament held at Mysore University. Mysore, from 17th to 20thJanuary 2018.
- RYMEC students represented Karnataka Men and Women's Handball Team and secured First place in All India Tournament And Men Team secured 3rdPlace at Delhi organized by Student Olympic Association of India from 26-10-2018 to 28-10-2018 In this event following students has participated: SAHANA DESHPANDE , RAJANI S, DIVYA D, SAI AKHILA V, SAIDU BEGUM, SUSHMA POLICE PATIL AND MURALI KRISHNA.

- VTU Inter- Zone Cricket team got 4th place, game held at RYMEC Ballari from 15th to 18th March 2018.
- VTU Rest of Bangalore Zone volley ball women's team got 3rd place, game held at GMIT Davangere from 7th and 8th march 2018
- VTU Kalburgi Zone Cricket team game organized at RYMEC Ballari from 9th to 13th March 2018 and RYMEC won the game with winner title.
- VTU Kalburgi Zone Kho-Kho game organized at RYMEC Ballari on 06th& 07th April 2018 and RYMEC won the game with winner title.
- VTU Kalburgi Zone shuttle badminton for men winner tournament held at GNDEC Bidar on 27th& 28th Aug. 2018
- VTU Kalburgi Zone shuttle badminton for women winner tournament held at GNDEC Bidar on 27th& 28th Aug. 2018
- VTU Kalburgi Zone table tennis women team runners held at Shetty IT Kalburgi from 3rd and 4thSeptember 2018
- VTU Rest of Bangalore Zone volley ball women's team 3rd place held at NMAMIT NITTE from 1 7th to 19th march 2019.
- Shiva Kumar STM. Branch: Mechanical. Selected for Indian Throw ball team for Indo-Bangladesh International Throw ball Championship held at Chhattisgarh India from 14th to 16th MAY 2017.
- Shiva Kumar STM. Branch: Mechanical Selected for Indian Throw ball team for Indo-Thailand International Throw ball series held at Bangkok Thailand from 21th to 25th JUNE 2017.

Unnat Bharat Abhiyan, a flagship program of Ministry of Human Resource Development (MHRD)

RYMEC selected under Unnat Bharat Abhiyan, a flagship program of Ministry of Human Resource Development (MHRD) Government of India through a challenge mode application. RYMEC selected the cluster of villages under Unnat Bharat Abhiyan (UBA) in consultation with the District Collectors.

About Unnat Bharat Abhiyan:

- It is a flagship program of the Ministry of Education. It was launched in 2014.
- It aims to link the Higher Education Institutions (HEIs) with a set of at least (5) villages, so that these institutions can contribute to the economic and social betterment of these village communities using their knowledge base.

- It covers two major domains for holistic development of villages – human development and material (economic) development - in an integrated way.
- The Indian Institute of Technology Delhi (IIT, Delhi) has been designated as the National Coordinating Institute (NCI) for the UBA scheme.

Main Objectives:

1. To engage the faculty and students of HEIs in identifying development issues in rural areas and finding sustainable solutions for the same.
2. Identify & select existing innovative technologies, enable Customisation of technologies, or devise implementation methods for solutions, as required by the people
3. To allow HEIS to contribute to devising system for smooth implementation of various Government Programs .

Name of the Proposed Villages:

1. Sanganakal
2. Haraginadone
3. Somasamudra
4. Kolur
5. Sirivaram

Chief coordinator:

- Dr. U M Netravati acting as a UBA Chief coordinatorof RYMEC.
- Dr. Chidananda H, Sri.U Shantha Kumar, Sri.Aparna KS, Sri. Virupaksha Gouda H,Sri. Shiva Kumari I,Sri. M I Basavalinganagouda,Sri. Chennaveeranagouda and Sri. K Suresh are the team members

i) Activities organized under UBA-RYMEC:

On 10/08/2021Grama Sabha Meeting conducted in Haraginadone village to identify the major issues in the village by discussing with village people.

1. 0n 10/08/2021Village and Household survey conducted in Haraginadone village to identify the problems in the village.

2. Awareness programme on COVID-19 organized by UBA-RYMEC in Haraginadone village on 10/08/2021

Swachha Bharath Mission Cell RYMEC

Name of the Convener's: Mrs.Anusuya Patil and Mr.Santosh Mugali

Objective of the SBM:

1. Maintaining RYMEC campus clean
2. Discussing about the trees leaves and others renewable things to compost
3. Preparation of Display boards about cleanness
4. Collection of Feedback and Suggestion s from Students and Staff
5. All members of Swachha Bharat Mission Cell RYMEC to Instruct and Guide toHouse Keepers to maintain Cleanness campus of RYMEC and Toilet room.


POCO
SHOT ON POCO M2

Co-curricular Activities

i) MANDARA

ii) VIDHARA

DEPARTMENT OF COMPUTER SCIENCE ENGINEERING AND INFORMATION SCIENCE ENGINEERING is organizing **VIDARA 2020** ON 26th and 27th November 2020.

VIDARA is a tech fest conducted in the dept of CSE every year ,VIDARA means a flower that blossoms in a desert. This flower is an emblem for a student who needs to grow and blossom in every hard time.

Opportunities for learning, growing and achieving exist everywhere at RYMEC, Life at RYMEC is a blend of academics, extracurricular and co-curricular activities.VIDARA 2020 allows students' to explore their new ideas of problem solving ,it strengthens students' logical thinking skills and it develops students' potential and talents to the fullest.

This tech fest is a platform for all students to participate in various technical and non-technical events so as to identify the hidden talents .The various events conducted in Vidara2020 are:

List of events:

Event 1: "SHODHANA": Inviting new and innovative startup solutions for day to day problems.

Event 2: Elocution Competition

Event 3: Photography(Inviting you to share photos from your celebrations of Diwali in this pandemic, Show us your most creative and unique pictures of the festival of lights.)

Event 4: Quiz

Event 5: Crossword

Event 6: Alumni Talk

VIDHARA-TECH FEST conducted annually by CSE-FORUM by CSE staff and students, for tall the basic degree students and technical degree students. The various events conducted are both technical like debugging,coding,quiz etc and nontechnical event alike dancing,singing,video games, movie making etc.

iii) TALENTRONICS FORUM

Department of Electronics and Communication Engineering is organizing Every year Talentronics Forum. The various events conducted are both technical like debugging, coding, quiz etc and nontechnical event alike dancing,singing,video games, movie making etc.

Main Objectives of Forum

- To bring holistic development of students of the ECE Department through technical and cultural events.
- To increase their exposure to the professional world by organizing expert lectures.
- To organize Industrial Visits to places related to the ECE field.
- To encourage Student projects related to ECE.
- To organize Intra-department technical and non-technical competitions.

iv) Dept of Mechanical facilitates a techno cultural democracy for the students. The department has inaugurated student's forum with the title "MECH-TANTRIKA".

v) Department of EEE having forum named has "VIDYUTSAV" under this forum, the events like Technical Talk, photo hunt, Brainstorming Activities were conducted, also Competitions like Logo Design, Rangoli and Skits were organized.

CRITERION 10	GOVERNANCE,INSTITUTIONAL SUPPORTAND FINANCIAL RESOURCES	120

10.1 Organization, Governance and Transparency 40

10.1.1 State the Vision and Mission of the Institute 05

VISION OF THE INSTITUTE

"To build Professionally Excellent, Knowledgeable, Globally Competitive, Socially Responsible Engineers and Entrepreneurs"

MISSION OF THE INSTITUTE

M1. To provide quality education in Engineering and Management.

M2. To establish a continuous Industry Institute interaction, Participation and Collaboration to contribute skilled Engineers.

M3. To develop human values, social values, entrepreneurship skills and professional ethics among the technocrats.

M4. To focus on innovation and development of technologies by engaging in cutting edge research areas.

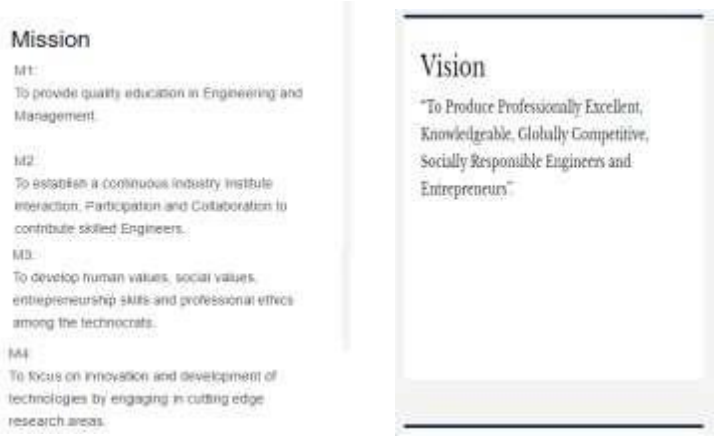


Fig. 10.1:Vision and Mission of the institute displayed in college Website *https://www.rymec.in*

10.1.2 Governing Body, Administrative Setup, and Functions of Various Bodies, Service Rules, Procedures, Recruitment, and Promotional Policies — 10

The Governing Body:

Governance is the key activity that connects between the management, staff, students and the community. The governing body of Institution is a legal structure responsible for the overall functioning of the college. In general, it is responsible for the Quality of service (QoS) the college offers to the student and other local community and society, as well as the college annual budget, health, and strategic direction. Institution has a governing body in place wherein the members are drawn from distinguished cross-sections of the society as shown in Table 10.1.

Table 10.1: Structure of Governing Body

Sl.No.	Name	Designation	Occupation
1.	Sri. H.M. Gurusidda Swamy	President., V.V. Sangha, Ballari.	Advocate
2.	Sri. Allum Channappa	Vice President/Chairman, RYMEC, Ballari.	Advocate
3.	Sri. B.V. Basavaraj	Secretary, V.V. Sangha, Ballari.	Advocate
4.	Sri. Gonal Rajshekhar Gouda	Treasurer	Business
5.	Dr. T.Hanumantha Reddy	Member - Secretary	Principal, RYMEC, Bellary
6.	Dr. Parama Shiva Murthy	VTU Nominee	Principal, Govt Engineering College, Chamarajanagar
7.	Sri. R.Manjunath	Director, DTE	Director, DTE Bangalore
8.	Sri. Shakthi Velu	Regional officer	Regional officer, AICTE, Bangalore.
9.	Dr. K. Ramesh Gopal	Industrial Representative	Business

The Administrative Setup:

Institute believes in dedicated work culture with love and affection to each and every stake-holder. Involvement of each and everyone in the decision-making and transparency associated therein also form the important features of the work culture. A core team of 24 to28 members lead the processes in the institute. The administrator list is given below.

Table 10.2: List of Administrators

Sl. No.	Name	Designation	Responsibility
1.	Sri. Allum Chanappa	Chairman, RYMEC	Administration
2.	Dr. T.Hanumantha Reddy	Principal	Administration
3.	Dr. Savita Sonoli	Vice-Principal, Professor & HOD, ECE	Admission Head
4.	Dr. Girisha H	Professor& HOD,CSE	Dean Academics
5.	Dr. B Sreepathi	Professor & HOD -ISE Dean Examinations	VTU Examinations, Network Maintenance, Digital Library, Online Placement Test, Consultancy Work for online Test. Web site coordinator
6.	Dr. Hiregoudar Yerrenagoudaru	Professor & PG Coordinator	Dean R & D at Institute Level
7.	Dr. C Thotappa	Professor & PG Coordinator	Mechanical Dept. NBA Co-ordinator.
8.	Dr. H M Mallikarajuna	Professor & HOD,Civil Engineering	Departmental Academic Work, Consultancy Work.
9.	Dr. Kori Nagaraj	Professor & HOD, Mechanical Engg.	Departmental Academic Work
10.	Sri. Shambulingana Gouda	Assistant Professor	Electrical Maintenance
11.	Dr. A Thimmana gouda	Professor, MBA Co-ordinator	Departmental Academic Work
12.	Dr. Phakirappa Jeevargi	Professor & HOD,Mathematics& 1st Year Coordinator	Departmental Academic Work, Dean (Academic & Student Welfare for first year).
13.	Dr. Hiremath Suresh Babu	Professor & HOD,Chemistry.	Departmental Academic Work
14.	Dr. N M Nagabhushan	Professor & HOD,Physics	Research Coordinator(Physics)
15.	Dr.Prabhavathi.S	Professor, ECE Dept.	NIRF coordinator
16.	Dr.Veeragangadharaiah Swamy	Professor	IQAC Coordinator
17.	Sri. Gururaj K K	Assistant Professor	Training & Placement

		& Placement Officer	
18.	Sri. Virupaksha Gouda H	Assistant Professor	NSS /RED CROSS Coordinator
19.	Dr. S. P. Jagadeesh	Associate Professor	Chief warden
20.	Smt. Sridevi S Malipatil	Assistant Professor	Girls Hostel Warden
21.	Sri. K.M. Shiva Prasad	Assistant Professor	Boys Hostel Warden
22.	Smt. Girija Vani	Assistant Professor	Girls Hostel Warden
23.	Sri. Phanindra Reddy	Assistant Professor	Boys Hostel Warden
24.	Smt. Chinna V Gowdar	Assistant Professor	EDUSAT Co-ordinator
25.	Sri. Sridhar Belagi	Assistant Professor	A-View Co-ordinator
26.	Sri. Vishwanath Reddy	Librarian	Library

Functions of Various Bodies:

Table 10.3: Governing Council and its Functionalities

Position	Functions
Governing Council	➢ Frame directive principles and policies ➢ Amend and approve policies from time to time ➢ Approve budgets
Chairman	➢ Frame directive principles and policies. ➢ Amend and approve policies from time to time ➢ To look after the overall development of institute ➢ Mobilize external resources to strengthen the institute ➢ Plan & provide for necessary facilities / equipment for development.
Principal	➢ Design & define organization structure. ➢ Delegates responsibilities of various positions in the organization ➢ Ensure periodic monitoring & evaluation of various processes & sub- processes ➢ Ensure effective purchase procedure ➢ Define quality policy and objectives ➢ Conduct periodic meeting of various bodies such as Governing Council, Women's Grievances Redressal Committee etc. ➢ Manage accounts and finance ➢ Employee recruitment process
Vice- Principal(s)	➢ To discharge routine duty of Principal during absence of Principal

	➢ Annual Magazine ➢ Resource Provision ➢ Transport ➢ Housekeeping including hostels ➢ Prepare and execute academic calendar ➢ Oversee the teaching-learning process ➢ Initiate supplementary teaching measures ➢ Co-curricular activities ➢ Formation of student council ➢ Cultural activities ➢ Sports activities ➢ Student discipline ➢ Student health care
Head of the Departments/ P.G. Coordinators	➢ Plan and execute academic activities of the department ➢ Maintain discipline and culture in the department ➢ Maintain the department neat and clean ➢ Pick and promote strengths of students / faculty / staff ➢ Monitor academic activities of the department ➢ Propose Department Budget ➢ Maintain records of departmental activities and achievements
Administrative Officer	➢ Propose admission policy ➢ Arrange campaign ➢ Execute the admission process ➢ Design and print admission brochure ➢ Maintain and update college website ➢ Maintain softcopy of photographs ➢ Publicity of events
Training and Placement Officer	➢ Liaison with industry ➢ Identify and provide for training needs of students ➢ Arrange campus interviews ➢ Proposing annual T & P budget
Superintendent - (Establishment, Accounts, Admissions)	➢ Corresponding with AICTE, DTE, VTU, etc ➢ College roster ➢ Service Books ➢ Faculty personal files ➢ Recruitment process ➢ Maintain minutes of meeting ➢ Co – ordinate day to day activities of office ➢ AICTE, DTE, VTU, etc committee preparation

	➢ Annual College budget
Librarian	➢ Plan and execute modus operandi of routine activity of the library ➢ Plan and propose expansion / development ➢ Maintain library discipline and culture ➢ Prepare annual budget for library
Alumni Association	➢ Arrange periodic meetings of student council ➢ Ensure alumni registration ➢ Prepare alumni news letter ➢ Arrange annual alumni meet (“ Apoorva Milana ”) ➢ Proposing annual budget
Director of Physical Education	➢ Ensure smooth conduct of sports ➢ Ensure proper use of gymnastics ➢ Purchasing of sport items ➢ Encourage students to participate in zonal tournaments ➢ Creation and upkeep of sports facilities ➢ Proposing annual budget
Student Professional Activities	➢ Organize events through students professional societies / chapters ➢ Encourage student participation ➢ Publication of technical magazine and news letters ➢ Record of student participation and achievements in Co-curricular and extra – curricular activities

Service Rules:

Service rules are constituted by V.V Sangha and mentioned in “V.V Sangha Institution service Manual”.

Recruitment Procedure:

- The approval to the required posts for various departments as per statutory norms is taken from the Governing council and notification in the news papers, to invite applications as per AICTE norms.
- After receiving the applications, scrutinizing and short listing of eligible candidates is done on merit basis for various departments.
- Panel of experts comprise of VTU/DTE/AICTE/Industrial Nominee, Principal, HOD, subject expert will interview the eligible candidates.
- The selected candidates are appointed, and orders are issued.
- Appointed Candidates should report to the duty on or before the given time.

Procedures and Promotional Policies:

- Policies regarding promotion are as per AICTE.
- Additional increments are given to faculty who excel in academics and research.

10.1.3 Decentralization in Working and Grievance Redressal Mechanism 10

Decentralization in working

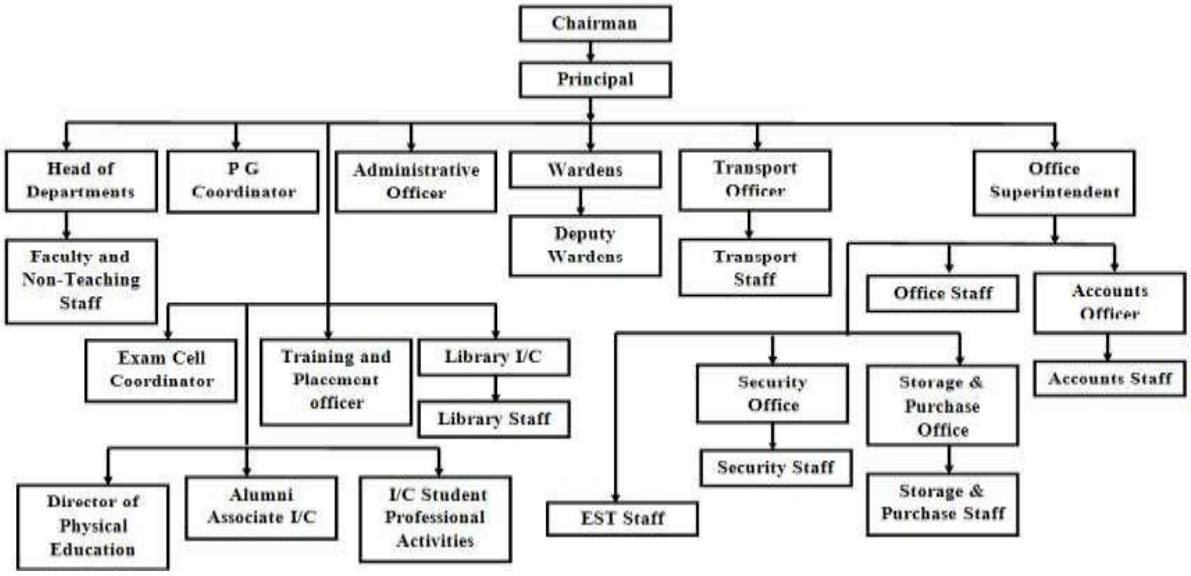


Fig. 10.2: Decentralized Administrations

GRIEVANCE REDRESSAL CELL

The function of the cell is look into the complaints lodged by any student if any and then judge its merit. The grievance cell is also empowered to look into matters of harassment. Anyone with a genuine grievance may approach the department members in person or in consultation with officer in-charge student's grievance cell. In case person is unwilling to appear in self, grievance may be dropped in writing at the letter box/suggestion box of the grievance cell at administrative block.

Mechanism for Collecting Grievances

1. **SMS** to Department Committee Member, HODs, Hostel Warden, Convener and Principal.
2. **Email** to Principal, Convener and Committee Member of the Department.
3. **Written Complaint** to Principal, Convenor and Committee Member of the

Department.

4. **Orally** to Department Committee Member, HODs, Hostel Warden, Convener and Principal.

Process for disposal of Grievances

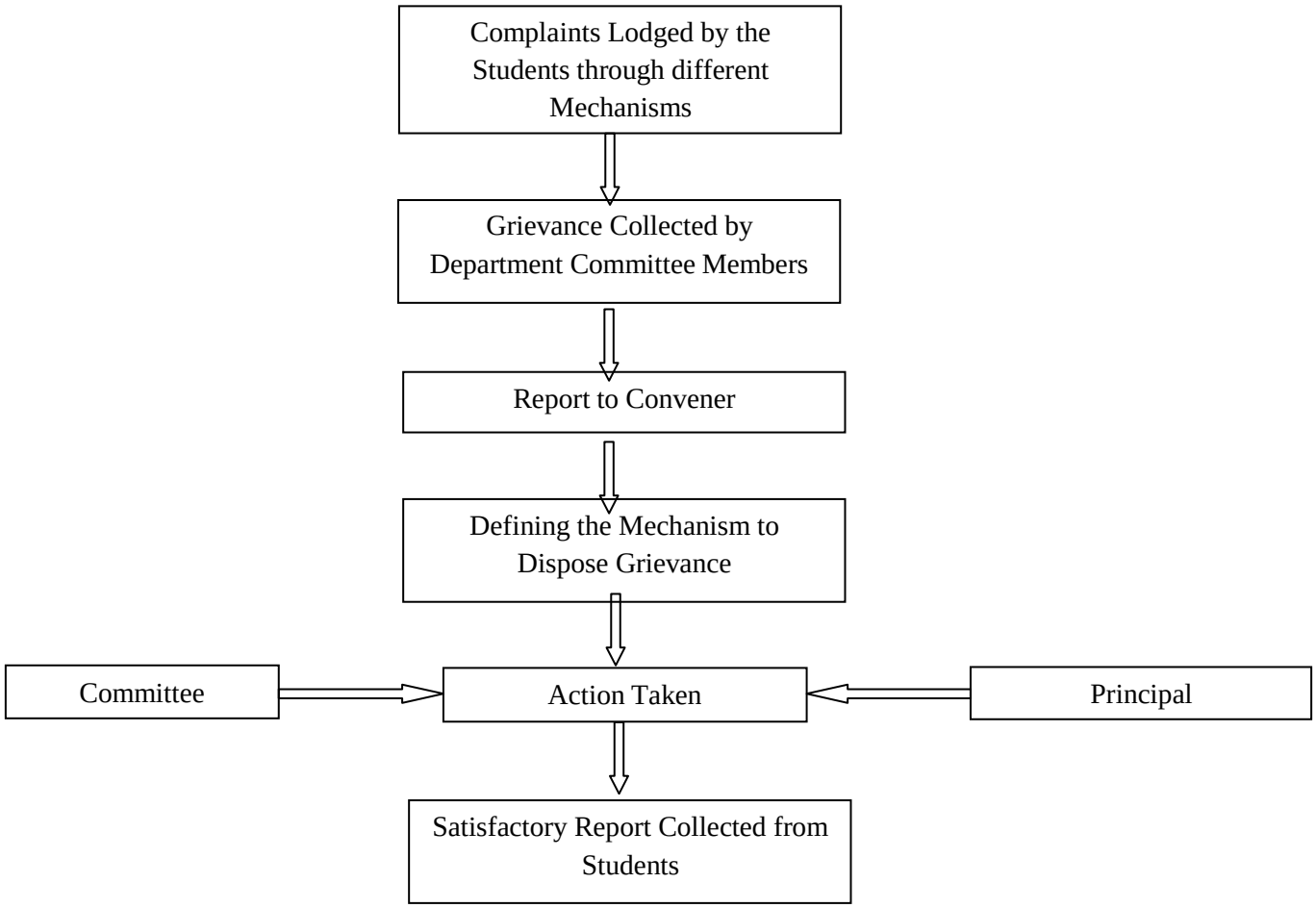


Fig. 10.3: Grievance Disposal Mechanism

Table10.4: Central Grievance Redressal Cell Committee

Sl.No.	Name of the Faculty	Designation	Department	Role	Contact Number
1	Dr.Prabhavathi.S	Professor	E&CE	Convener	8105289789
2	Mrs.Amrutha G E	Assistant Professor	EEE	Member	7349138852
3	Mr.A.M Shivaprakash Swamy	Assistant Professor	Mechanical	Member	9036900991
4	Mrs.Manjula Patil	Assistant Professor	ISE	Member	9986413377
5	Mr.Sharanagouda.V.Patil	Assistant Professor	E&CE	Member	9980376126
6	Mr.ShivaKumar	Assistant Professor	CSE	Member	9449556693
7	Mr.Basavalinganagouda M. I.	Assistant Professor	Civil	Member	9739967538
8	Mr.Prabhakar Meti	Assistant Professor	Mathematics	Member	9036550309

Anti-Ragging Committee

- The following team members are informed to act members of Anti-Ragging group.
- Group members are informed to make surprise visits as per the schedule given and one of team members are requested to write a brief report after inspection.
- These groups are formed to prevent and curb the menace of Ragging.

Table 10.5: Anti Ragging Committee

Sl.No.	Name of the Member	Designation	Department	Role	Contact Number
1	Dr. B.Doddabasavana Goud	Professor	EEE	Convener	9449171271
2	Dr.D.Sai Madhavi	Associate Professor	CSE	Member	9945829150
3	Sri.M.R.Vijaykumar	Associate Professor	Civil	Member	9886893258
4	Sri.Manjunatha H.M	Associate Professor	Mathematics	Member	9481709495
5	Smt.K.R.Bhagya	Assistant Professor	Physics	Member	8762707799
6	Sri.Vasanth Kumar	Police Sub-Inspector	Police	Member	
7	Sri.S.M.Sanna Basaiah	Parents/Guardian	Rtd. Health Inspector	Member	
8	Sri.M.Venu Gopal	Parents/Guardian	Govt.Official	Member	

Table10.6: Anti Ragging Squad

Sl.No.	Name of the Member	Designation	Department	Role	Contact Number
1	Sri.Shridhar Bilagi	Assistant Professor	E&CE	Member	8105828383
2	Sri.Adanagouda	Assistant Professor	Civil	Member	9972612107
3	Sri.K.Phanidra Reddy	Assistant Professor	E&CE	Member	9241220917
4	Sri.Prabhakar Meti	Assistant Professor	Mathematics	Member	9036550309
5	Sri.S.P.Jagadeesh	Associate Professor	Mechanical	Member	9481716642

Table10.7: Monitoring Cell on Ragging

Sl.No.	Name of the Member	Designation	Department	Role	Contact Number
1	Sri. K.Raghavendra Prasad	Associate Professor	EEE	Member	9448035570
2	Sri.B.Veeresh	Associate Professor	Mathematics	Member	9449632718
3	Sri.Khaja Mouinuddin	Associate Professor	E&CE	Member	8105263354
4	Mrs.Sridevi Mali Patil	Assistant Professor	CSE	Member	9008055312
5	Mrs.RohiniH.M.	Assistant Professor	E&CE	Member	9902502026

Table10.8: Committee of Wardens

Sl.No.	Name of the Member	Designation	Dept.	Contact Number
1	Sri.K.M.Shivaprasad	Asst. Professor & Warden of GN Boys Hostel	CSE	7899964163
2	Sri.Phanidhar Reddy	Asst. Professor & Warden of Campus Boys Hostel	E&CE	9241220917
3	Mrs.Sridevi Mali Patil	Asst. Professor & Warden of WW Hostel	CSE	9008055312
4	Mrs.Girija Vani G	Asst. Professor & Warden of Gandhinagar Girls Hostel	E&CE	9481718384

10.1.4 Delegation of Financial Powers 10

Financial powers are delegated/authorized to Principal to spend up to Rs. 1,00,000(One Lakh Rupees) and the HOD's of all the departments of this Institute are also authorized to spend up to Rs. 25,000(Twenty-Five Thousand Rupees) for academic purposes.

10.1.5 Transparency and availability of correct / unambiguous information in public domain 05

Dissemination and Availability of institute/program specific information through the web:

- The institute has hosted its own website which is updated regularly .The institute and programme specific information is made available to all aspirants through the web-site.
- The web-site URL is: **www.rymec.in**

Table10.9: URL Links

Sl. No.	Content	URL
1.	Institution Mission & Vision	https://www.rymec.in/
2.	Audited Statements	https://www.rymec.in/index.php/about-us/location
3.	NSS	https://rymec.in/index.php/nss
4.	Placement	https://www.rymec.in/index.php/placement-main
5.	AICTE Mandatory	https://www.rymec.in/index.php/aicte-mandatory
6.	NBA Accreditation Programs	https://www.rymec.in/index.php/nba-acredition-programs
7.	IQAC	https://www.rymec.in/index.php/iqac-bot
8.	Facebook	www.facebook.com/rymec1980
9.	YouTube	https://www.youtube.com/channel/UC11Ds9esAQmsLD2nabcnmlw

10.2 Budget Allocation, Utilization, and Public Accounting at Institute level 30

CFY-2020-21

Table 10.10: Details of Total Income and Expenditure 2020-2021

Total Income: 17,80,68,290				Actual Expenditure: 16,46,38,354			Total Number of Students: 2580
Fee	Govt.	Grant	Other Sources	Recurring Including Salaries	Non-Recurring	Special Projects/ Any other, Specify	Expenditure per Student
16,88,61,837	19,250	26,86,000	65,01,203	15,39,97,620	1,06,40,734	--	63,813

CFYm1-2019-20

Table 10.11: Details of Total Income and Expenditure 2019-2020

Total Income: 18,52,52,434				Actual Expenditure: 21,87,41,442			Total Number of Students: 2516
Fee	Govt.	Grant	Other Sources	Recurring Including Salaries	Non-Recurring	Special Projects/ Any other, Specify	Expenditure per Student
17,15,92,742	65,300	14,96,415	1,20,97,976	17,60,24,016	4,27,17,426	--	86,940

CFYm2-2018-19

Table 10.12: Details of Total Income and Expenditure 2018-2019

Total Income: 18,19,56,393				Actual Expenditure: 17,81,11,619			Total Number of Students: 2565
Fee	Govt.	Grant	Other Sources	Recurring Including Salaries	Non Recurring	Special Projects/ Any other, Specify	Expenditure per Student
16,68,55,086	36,000	63,500	1,50,01,807	16,91,49,356	89,62,263	--	69,439

CFYm3-2017-18

Table 10.13: Details of Total Income and Expenditure 2017-2018

Total Income: 21,02,84,966				Actual Expenditure: 19,37,07,423			Total Number of Students: 2590
Fee	Govt.	Grant	Other Sources	Recurring Including Salaries	Non Recurring	Special Projects/ Any other, Specify	Expenditure per Student
17,46,79,277	38,451	10,00,000	3,45,67,238	17,77,51,819	1,59,55,604	--	74,790

Table 10.14:Actual Expenses during 2017-2021

Items	Budgeted in CFY	Actual expenses in CFY	Budgeted in CFY m1	Actual expenses in CFY m1	Budgeted in CFY m2	Actual Expenses in CFY*m2*	Budgeted in CFY m3	Actual Expenses in CFY*m3*
	2020-2021		2019-2020		2018-2019		2017-2018	
Infrastructure Built-up	2,00,00,000	86,32,644	3,50,00,000	3,20,30,375	30,00,000	27,51,639	1,25,00,000	1,16,70,452
Library	10,00,000	7,38,158	40,00,000	22,88,084	40,00,000	24,14,111	40,00,000	30,39,712
Laboratory equipment	50,00,000	16,22,273	50,00,000	88,81,746	50,00,000	42,25,128	1,00,00,000	37,77,440
Laboratory consumables	10,00,000	1,35,118	5,00,000	2,21,946	5,00,000	4,15,132	10,00,000	3,63,180
Teaching and non-teaching staff salary	13,00,00,000	11,28,72,483	13,00,00,000	12,95,62,982	13,00,00,000	12,81,57,804	13,00,00,000	12,87,68,357
Maintenance and spares	1,00,00,000	70,88,964	1,25,00,000	1,16,77,731	1,25,00,000	92,63,565	1,25,00,000	1,17,28,486
R&D	50,00,000	25,345	10,00,000	3,90,527	10,00,000	5,63,767	10,00,000	7,01,299
Training and Travel	50,00,000	2,33,596	20,00,000	17,74,712	20,00,000	12,09,662	20,00,000	14,07,863
Miscellaneous expenses *	50,00,000	16,50,813	25,00,000	20,18,071	25,00,000	16,69,763	35,00,000	20,12,649
Other, specify	5,00,00,000	3,15,75,497	3,25,00,000	3,04,35,399	3,25,00,000	2,74,42,444	3,25,00,000	3,02,37,985
Total	**23,20,00,000**	**16,45,74,891**	**22,50,00,000**	**21,92,81,573**	**19,30,00,000**	**17,81,13,015**	**20,90,00,000**	**19,37,07,423**

10.2.1 Adequacy of budget allocation 10

The Budget proposal for the academic year is prepared by the individual departments as per the guidelines by V.V Sangha and Principal office. The collective budget proposals are scrutinized by the budget committee at the college level and further taken to governing council and management council for approval and sanction. Once it is sanctioned, the Principal will issue the budget order accordingly. The budget allocation and utilization for the last three years is adequate.

10.2.2 Utilization of allocated funds 15

Table 10.15: Utilization of allocated funds during 2017 - 2021

	2020-21	2019-20	2018-19	2017-18
Utilization of the Budget (%)	70.93	97.45	92.28	92.68

10.2.3 Availability of the audited statements on the institute's website 05

The audit statements of the academic years are available in the institute website: www.rymec.in/index.php/mandatory-disclosures

10.3 Programme Specific Budget Allocation, Utilization 30

CFY – 2020-2021

Table 10.16: Total Budget Allocation and Utilization 2020-21

Total Budget: 10,00,000		Actual Expenditure: 8,06,108		Total Number of Students: 445
Non Recurring	Recurring	Non Recurring	Recurring	Expenditure per Student
6,00,000	4,00,000	5,69,053	2,37,055	1,811

CFYm1 – 2019-2020

Table 10.17: Total Budget Allocation and Utilization 2019-20

Total Budget: 37,00,000		Actual Expenditure: 34,67,587		Total Number of Students: 493
Non Recurring	Recurring	Non Recurring	Recurring	Expenditure per Student
30,00,000	7,00,000	30,09,864	4,57,723	7,304

CFYm2– 2018-2019

Table 10.18: Total Budget Allocation and Utilization 2018-19

Total Budget: 21,50,000		Actual Expenditure: 14,57,405		Total Number of Students: 513
Non Recurring	Recurring	Non Recurring	Recurring	Expenditure per Student
12,00,000	9,50,000	10,37,929	4,19,476	2,841

CFYm3 – 2017-2018

Table 10.19 Total Budget Allocation and Utilization 2017-2018

Total Budget: 28,60,000		Actual Expenditure: 17,59,885		Total Number of Students: 491
Non Recurring	**Recurring**	**Non Recurring**	**Recurring**	**Expenditure per Student**
12,00,000	16,60,000	10,97,344	6,62,541	3,584.29

Table 10.20:Actual Expenses during 2017-2021

Items	Budgeted in CFY (2020-21)	Actual expenses in CFY (2020-21)	Budgeted in CFY*m1* (2019-20)	Actual expenses in CFY *m1* (2019-20)	Budgeted in CFY *m2* (2018-19)	Actual expenses in CFY *m2* (2018-19)	Budgeted in CFY*m3* (2017-18)	Actual expenses in CFY *m3* (2017-18)
Laboratory Equipment	6,00,000	5,69,053	30,00,000	30,09,864	12,00,000	10,37,929	12,00,000	10,97,344
Software	--	--	--	--	--	--	--	--
Laboratory Consumable	25,000	18,900	1,00,000	59,706	1,00,000	67,343	2,00,000	19,908
Maintenance and Spares	3,00,000	2,14,255	5,00,000	3,16,207	3,50,000	53,035	7,50,000	3,51,952
R&D,	25,000	--	50,000	30,401	1,00,000	12,682	5,00,000	64,658
Training and Travel	25,000	--	25,000	3,500	2,00,000	2,01,074	10,000	2,000
Miscellaneous Expenses for academic activities (AC's)	25,000	3,900	25,000	47,909	2,00,000	85,342	2,00,000	2,24,023
Total	**10,00,000**	**8,06,108**	**37,00,000**	**34,67,587**	**21,50,000**	**14,57,405**	**28,60,000**	**17,59,885**

10.3.1 Adequacy of budget allocation 10

The department wise budget is sanctioned by VV Sangha office and the sanction letters are sent to the Principal, RYMEC. The principal along with the respective HOD's further over sees the utilization of the sanctioned budget. After approval of the budget from governing council and management council the process of procuring is carried out as per the norms specified by the V.V.Sangha.

10.3.2 Utilization of allocated funds 20

Table 10.21: Budget Utilization 2017-2021

Year	2020-21	2019-20	2018-19	2017-18
Utilization of the Budget (%)	80.61	93.71	67.78	61.53

10.4 Library and Internet 20

10.4.1 Quality of learning resources (hard/soft) 10

Relevance of available learning resources including e-resources:

"Knowledge Centre" is established along with the parent institution in the year 1980 with prime objective of supporting the parent organization programs. It is having, functionally designed building and it is located in the convenient accessible place in the college campus to the different group of library users. The main goal of the knowledge centre is improving the service effectiveness, economy and efficiency of library management system, safeguard the interest and benefits of the stakeholders and facilitate to develop the innovative thoughts and knowledge sharing culture among the library users. The Knowledge Centre enfolded both print and digital form of global standard mass and scholarly knowledge contents.

The collection includes books, e-books, Journals (Print and Electronic), Conference proceedings etc., and Library gives utmost importance to collection development of learning materials. ***The department heads in consultation with the department faculties with reference to VTU Syllabus, recommend the required learning materials to be added to the library. The number of titles and volumes are added every year in accordance with the norms and standards set by V.T.U. and A.I.C.T.E.***

Table 10.22:Library Collection:

The rich collection of the library comprises the following resources:

Sl.No.	Learning / Reading Materials	Nos.
1	Print Books	1,69,883
2	e-Books	24,220
3	Print Journals	131
4	e-Journals	07 Databases
5	Bounded Journals	776

E-Resources: The Library collaborated with VTU Consortium for subscription of E-Resources (e-Journals and e-Books).

Table 10.23: E – Journals databases

Sl. No.	Publishers	No. of Resources	URL
1.	ELSEVIER	296Journals	*www.sciencedirect.com*
2.	IEEE Proceedings Order Plan (POP)	530,000 papers – from100 core IEEE conference titles in POP	*https://ieeexplore.ieee.org*
3.	Springer Nature	690 Journals	*https://link.springer.com/*
4.	Taylor & Francis	555 Journals	*https://www.tandfonline.com/*
5.	Emerald	120 Journals	*https://www.emeraldinsight.com/*
6.	ProQuest	Ful ltext: 3900 Journals Indexed: 7800Abstract	*https://www.proquest.com/165290*
7.	Knimbus	E-Books: 10,000+	*https://new.knimbus.com*

Table 10.24:E – Books

Sl. No.	Publishers	No. of Resources	URL
1.	ELSEVIER	436 e-Books	*www.sciencedirect.com*
2.	Springer Nature	13139 e-Books	*https://link.springer.com/*
3.	Taylor & Francis	4950 e-Books	*https://www.taylorfrancis.com/*
4.	McGraw-Hill Education	505 e-Books	*https://www.expresslibrary.mheducation.com/bookshelf*
5.	New Age International	220 e-Books	*https://digital.elib4u.com/bookshelf*
6.	Packt	5000 e-Books	*https://rbmec.knimbus.com/user#/home*
7.	Knimbus	10,000+e-Books	*https://digital.elib4u.com/bookshelf*

Digital library

Digital library system is integrated with campus network to enhance the learners' body of knowledge. Digital Library server comprises ***of VTU e-Learning/NPTEL Learning Resources of different courses and subjects, Career Oriented Tutorial Videos, PPTs, PDFs of study materials Previous Question Papers, Research Materials etc.,***

The library users can also access digital resources throughout campus network. The users can access the digital resources by using web browsers and File Explorer by using following link/URL in the campus network:

- \\192.168.8.8 - File Explorer
- \\192.168.8.4 – File Explorer
- http://192.168.8.4/ - NPTEL/VTU E-learning – Videos

Table 10.25:Accessibility to students

Carpet Area	943 sqm
Seating Capacity	150
Library Hours	8.00 am to 8.00 pm Reference 10.00 am to 5.30 pm Lending on all working days.
Access Type	Open Access
Average users per day.	46.02 users for Reference Section (2017-2020)
Average Circulation per day.	301 Books (2017-2020)
Membership	VTU Consortium for E-Journals and E-Books
	DELNET for Inter Library Loan.
Automation and Barcode	Yes with KOHA LMS Software
Web-OPAC	Yes with patron account.
Digital Library Contents	Yes- On-Campus Access through Intranet
	Yes - Off-Campus - IP Based Remote Access
NPTEL Facility	Yes on-Campus
General Library Circulation	Yes
Book Bank Facility	Yes – Self-Finance
Library Advisory Committee	Yes
Wifi	Yes
Multimedia Computers	Yes with high speed Internet Facility

- **Reference Service**: The Library maintains a separate reference collection consisting of encyclopedias, dictionaries, directories, Competitive books, general books, handbooks, technical data, atlases, bibliographies, etc., with seating capacity of 150 users.
- **E- Services:** Computer Centre is setup with latest configuration Computers at Library for accessing and downloading e-Resources (E-Journals & E-books etc.,) with 35 Mbps leased line internet connection. These services are IP enabled. Computer Centre is also equipped with sophisticated Multimedia headphone for accessing NPTEL Videos. Library is part of Campus Network, all the e-resources are accessible throughout the campus view intranet. A dedicated server is available for remote access of e-resources.
- **E- Services:** Computer Centre is setup with latest configuration Computers at Library for accessing and downloading e-Resources (E-Journals & E-books etc.,) with **35 Mbps leased line internet connection**. These services are IP enabled. Computer Centre is also equipped with sophisticated Multimedia headphone for accessing NPTEL Videos
- **Reprographic Service:** The library offers photocopy services. However, this service is offered to users under special arrangement with the librarian.
- **Lending Section:** The Library allows its users to borrow information resources for a specific duration dictated by the user group. Books from the open shelves and Reserves are loaned out from the Circulation Desk.
- **Inter Library Loan**:The library is a member of the DELNET and participates in all the resource sharing initiatives that include library cooperation. These initiatives enable library users to access and use other libraries, to benefit from such arrangement contact the librarian for more information.
- **Web-OPAC Service:**Online catalogue facility is available to users through intranet and internet. Link **http://103.44.2.242**/. **Mobile App** is provided for users for easy access of their transactions and for OPAC
- **Book Bank Service:**Very economic and Self-Financing Book Bank facility is extended to student user community. A set of books for the whole semester will be issued at the starting of the semester for one semester period and same should be returned after semester and students can borrow the next semester books.

- **Question Bank Service:**Hard Copy of the VTU Old Question Papers are available for the reference use and Soft copy of the same may be downloaded from Digital Library.
- **User Education/Orientation:**As a part of Induction programme Library tour is arranged for newly admitted students. The students can download the **USER MANUAL** from our website from Library User Manual tab/link. User Manual provides the entire information of the library system including retrieval of learning material. Many awareness events are conducted for the benefit of the users of library like e-resources access, book exhibition etc.,

Support to Students for Self-learning activities:

Everything in engineering cannot be taught in the classroom or laboratories. The explosion in knowledge related to applied science and engineering has been so much that four years is too short a period even to cover one branch of engineering. This fact calls for the relevance for self-learning for young engineers. Library is provided adequate facilities like Computer Centre with high-speed internet, Wi-Fi etc., for self-learning to students so that they get motivated to learn more and more and ultimately become life-long learners and innovators.

The Library provides excellent facilities and academic ambience for the users for self-learning following activities.

- **VTU e-Learning / NPTEL**: Library has established separate server to host VTU e-Learning / NPTEL videos which can be accessed via intranet within the campus. One can access the videos in the entire campus without internet. It offers more than 750+ videos of different streams of Engineering and Management. These videos serve as a supplement to classroom teaching and learning activities
- **SWAYAM (Study Webs of Active-Learning for Young Aspiring Minds) and MOOC (Massive Open Online Courses)**: Library has made arrangements for the user to access SWAYAM and and MOOC.
- **e-PG Pathshala:** e-PG Pathshala is an initiative of the MHRD under its National Mission on Education through ICT (NME-ICT). Link to e-PG Pathshala is provided to create awareness and to encourage students to take online courses
- **Shodhganga:** The Shodhganga@INFLIBNET Centre provides a platform for research students to deposit their Ph.D. theses and make it available to the entire scholarly community in open access. Link to Shodhganga is provided to create awareness and to encourage students to use it.

- **Open access resources:** Link of many open access resources is provided which helps in self-study of the students
- **National Digital library:** Our library has obtained Institutional membership of NDL. We enroll our students and faculty to NDL and encourage to uses lakhs of resources available freely
- **DELNET:** Institution is member of DELNET. DELNET offers across to nearly 1.75 crore records of books, periodicals, articles, thesis and dissertations and other databases. Besides this also provides inter library loan and document delivery services all its member libraries.

10.4.2 Internet 10

Table 10.26:Internet details for the year 2020-21

Name of the Internet provider	AirTel
Available bandwidth	835 Mbps
Wi-Fi availability	Yes
Internet access in labs, classrooms, library and office of all department	Yes
Security arrangements	Yes

Table 10.27:Existing Internet Connections in College FY 2020-21

Sl. No	Service Provider	Type of Connection	Bandwidth	Remarks	Service Agent
1	AIRTEL	Leased line/OFC	35 MBPS	Used for e-journal access at Library , Wi-Fi, Common facilities like Principal Office, Placement, FY Dept, Admission, EST etc	Wave Enterprises
2	AIRTEL	FTTH/Unlimited	100 MBPS	MBA dept	Shreya Enterprises
3	AIRTEL	FTTH/Unlimited	100 MBPS	ME/IPE dept	
4	AIRTEL	FTTH/Unlimited	100 MBPS	Library dept	
5	AIRTEL	FTTH/Unlimited	100 MBPS	ECE dept	
6	AIRTEL	FTTH/Unlimited	100 MBPS	CSE dept	Shreya Enterprises
7	AIRTEL	FTTH/Unlimited	100 MBPS	ISE dept	
8	AIRTEL	FTTH/Unlimited	100 MBPS	Civil dept	
9	AIRTEL	FTTH/Unlimited	100 MBPS	EEE dept	
		Total	**835 Mbps**		

Wi-Fi Locations: Corridor Main Building, Library &PG Block, CSE /ISE and All Hostels.

Declaration

(The head of the institution needs to make a declaration as per the format given)

I undertake that, the institution is well aware about the provisions in the NBA's accreditation manual concerned for this application, rules, regulations, notifications and NBA expert visit guidelines in force as on date and the institute shall fully abide by them.

It is submitted that information provided in this Self Assessment Report is factually correct. I understand and agree that an appropriate disciplinary action against the Institute will be initiated by the NBA, in case any false statement/information is observed during pre-visit, visit, post visit and subsequent to grant of accreditation.

T. [signature] 4/10/2021

Date: 4/10/2021.

Place: BALLARI

Signature & Name

Head of the Institution with seal

T. HANUMANTHA REDDY.

PRINCIPAL
R.Y.M. Engineering College,
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