

**NATIONAL BOARD OF ACCREDITATION**

Data Capturing Points of the Program Applied for NBA Accreditation– Tier I/II UG (Engineering) Institute Programs

<b>Program Name :</b> Civil Engineering	<b>Discipline:</b> Engineering & Technology
<b>Level :</b> Under Graduate	<b>Tier:</b> 1
<b>Application No:</b> 10512	<b>Date of Submission:</b> 24-03-2025

**PART A- Profile of the Institute**

<b>A1. Name of the Institute:</b> KLE Technological University	
Year of Establishment : 1947	Location of the Institute: BVB Campus, Vidyanagar, Hubballi
<b>A2. Institute Address:</b> KLE Technological University B.V. Bhoomaraddi College Campus , Vidyanagar Hubballi -580031	
City:Dharwad	State:Karnataka
Pin Code:580031	Website:www.kletch.ac.in
Email:vc@kletch.ac.in	Phone No(with STD Code):0836-2378102
<b>A3. Name and Address of the Affiliating University (if any):</b>	
Name of the University :	City:
State :	Pin Code: 0
<b>A4. Type of the Institution:</b> University	
<b>A5. Ownership Status:</b> Self financing	

**A6. Details of all Programs being Offered by the Institution:**

- No. of UG programs: 10
- No. of PG programs: 8

Table No. A6.1: List of all programs offered by the Institute.

Sr.No.	Discipline	Level of program	Name of the program	Year of Start	Year of Closed	Name of The Department
1	Architecture	UG	Architecture	2015	--	Architecture
2	Computer Application	PG	Master of Computer Application	2015	--	Computer Application
3	Computer Application	PG	Master of Computer Applications (Integrated)	2024	--	Computer Application
4	Engineering & Technology	PG	Advanced Manufacturing Systems	2020	--	Mechanical Engineering
5	Engineering & Technology	UG	Automation & Robotics	2015	--	Automation and Robotics
6	Engineering & Technology	UG	Biotechnology	2015	--	Biotechnology
7	Engineering & Technology	UG	Civil Engineering	2015	--	Civil Engineering
8	Engineering & Technology	UG	Computer Science and Engineering	2015	--	Computer Science and Engineering
9	Engineering & Technology	PG	Computer Science and Engineering	2015	--	Computer Science and Engineering

10	Engineering & Technology	UG	Computer Science and Engineering (Artificial Intelligence)	2021	--	Computer Science and Engineering
11	Engineering & Technology	PG	Design Engineering	2020	--	Mechanical Engineering
12	Engineering & Technology	UG	Electrical & Electronics Engineering	2015	--	Electrical and Electronics Engineering
13	Engineering & Technology	UG	Electronics & Communication Engineering	2015	--	Electronics and Communication Engineering
14	Engineering & Technology	UG	Electronics Engineering (VLSI Design and Technology)	2022	--	Electronics and Communication Engineering
15	Engineering & Technology	UG	Mechanical Engineering	2015	--	Mechanical Engineering
16	Engineering & Technology	PG	Structural Engineering	2015	--	Civil Engineering
17	Engineering & Technology	PG	VLSI Design & Embedded Systems	2015	--	Electronics and Communication Engineering
18	Management	PG	Master of Business Administration	2015	--	Management

**A7. Programs to be considered for Accreditation vide this Application:**

Table No. A7.1: List of programs to be considered for accreditation.

Name of the Department	Having Allied Departments	Name of the Program	Program Level
Civil Engineering	No	Civil Engineering	UG
Mechanical Engineering	No	Mechanical Engineering	UG

Table No. A7.2: Allied Department(s) to the Department of the program considered for accreditation as above.  
Cluster ID. Name of the Department (in table no. A7.1) Name of allied Departments/Cluster (for table no. A7.1)

No Record

**PART-B: Program information****B1. Provide the Required Information for the Program Applied For:**

Table No. B1: Program details.

## A. List of the Programs Offered by the Department:

SR.NO.	PROGRAM NAME	PROGRAM APPLIED LEVEL	YEAR OF START / YEAR OF CLOSED	SANCTIONED INTAKE	INCREASE/DECREASE INTAKE (if any)	YEAR OF INCREASE/DECREASE	CURRENT INTAKE	YEAR OF AICTE APPROVAL	AICTE/COMPETENT AUTHORITY ARROVAL DETAILS	ACCREDITATION STATUS	FROM	TO	NO. OF TIMES PROGRAM ACCREDITED	PROGRAM DURATION
1	Civil Engineering	UG	2015 / --	120	No	NA	120	2015	F.No. South-West/1-43660128086/2024/EOA 08-May-2024	Granted accreditation for 3 years for the period (specify period)	2019	2025	2	4

List of the Allied Departments/Cluster and Programs:

**B2. Detail of Head of the Department for the program under consideration:**

A. Name of the HoD :	MALLIKARJUNA R.PATIL
B. Nature of appointment:	Regular
C. Qualification:	Ph.D

**B3. Program Details**

Table No.B3.1: Admission details for the program excluding those admitted through multiple entry and exit points.

Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	2024-25 (CAY)	2023-24 (CAYm1)	2022-23 (CAYm2)	2021-22 (CAYm3)	2020-21 (CAYm4)	2019-20 (CAYm5)	2018-19 (CAYm6)
N=Sanctioned intake of the program (as per AICTE /Competent authority)	120	120	120	120	120	120	120
N1=Total no. of students admitted in the 1st year minus the no. of students, who migrated to other programs/ institutions plus no. of students, who migrated to this program	84	107	100	103	114	120	116
N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	0	40	32	19	16	30	29
N3=Separate division if any	0	0	0	0	0	0	0
N4=Total no. of students admitted in the 1st year via all supernumerary quotas	0	0	0	0	0	0	0
Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points.	84	147	132	122	130	150	145

CAY= Current Academic Year. CAYm1= Current Academic Year Minus 1 CAYm2= Current Academic Year Minus 2. LYG= Last Year Graduate. LYGM1= Last Year Graduate Minus 1. LYGM2= Last Year Graduate Minus 2.

**B4. Enrolment Ratio in the First Year**

Table No. B4.1: Student enrolment ratio in the 1st year.

Year of entry	N (From Table 4.1)	N1 (From Table 4.1)	N4 (From Table 4.1)	Enrollment Ratio [(N1/N)*100]
2024-25 (CAY)	120	84	0	70.00
2023-24 (CAYm1)	120	107	0	89.17
2022-23 (CAYm2)	120	100	0	83.33

Average [ (ER1 + ER2 + ER3) / 3 ] = 80.83 ≈ 17.00

**B5. Success Rate of the Students in the Stipulated Period of the Program**

Table No.B5.1: The success rate in the stipulated period of a program.

Item	(2020-21) LYG	(2019-20) LYGM1	(2018-19) LYGM2
A*= (No. of students admitted in the 1st year of that batch and those actually admitted in the 2nd year via lateral entry, plus the number of students admitted through multiple entry (if any) and separate division if applicable, minus the number of students who exited through multiple entry (if any).)	136.00	150.00	149.00
B=No. of students who graduated from the program in the stipulated course duration	117.00	127.00	117.00
Success Rate (SR)= (B/A) * 100	86.03	84.67	78.52

Average SR of three batches ((SR\_1+ SR\_2+ SR\_3)/3): 83.07

**B6. Academic Performance of the First-Year Students of the Program**

Table No.B6.1: Academic Performance of the First-Year Students of the Program.

Academic Performance	CAYm1( 2023-24 )	CAYm2( 2022-23 )	CAYm3 ( 2021-22 )
Mean of CGPA or mean percentage of all successful students(X)	9.04	7.21	7.25
Y=Total no. of successful students	91.00	89.00	90.00
Z=Total no. of students appeared in the examination	106.00	99.00	103.00
API [X*(Y/Z)]	7.76	6.48	6.33

Average API[ (AP1+AP2+AP3)/3 ] : 6.86

**B7: Academic Performance of the Second Year Students of the Program**

Table No.B7.1: Academic Performance of the Second Year Students of the Program.

Academic Performance	CAYm1 ( 2023-24 )	CAYm2 ( 2022-23 )	CAYm3 ( 2021-22 )
X=(Mean of 2nd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 2nd year/10)	7.59	7.79	7.77
Y=Total no. of successful students	123.00	109.00	119.00
Z=Total no. of students appeared in the examination	121.00	109.00	130.00
API [ X * (Y/Z) ]	7.72	7.79	7.11

Average API [ (AP1 + AP2 + AP3)/3 ] : 7.54

**B8. Academic Performance of the Third Year Students of the Program**

Table No.B8.1: Academic Performance of the Third Year Students of the Program

Academic Performance	CAYm1 ( 2023-24 )	CAYm2 ( 2022-23 )	CAYm3 ( 2021-22 )
X=(Mean of 3rd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 3rd year/10)	7.93	7.90	8.08
Y=Total no. of successful students	107.00	118.00	129.00
Z=Total no. of students appeared in the examination	109.00	119.00	134.00
API [ X*(Y/Z) ]:	7.78	7.83	7.78

Average API [ (AP1 + AP2 + AP3)/3 ] : 7.80

**B9. Placement, Higher Studies, and Entrepreneurship**

Table No.B9.1: Placement, higher studies, and entrepreneurship details.

Item	LYG (2020-21)	LYGm1(2019-20)	LYGm2(2018-19)
FS*=Total no. of final year students	136.00	150.00	149.00
X=No. of students placed	63.00	91.00	88.00
Y=No. of students admitted to higher studies	10.00	12.00	6.00
Z= No. of students taking up entrepreneurship	0.00	2.00	1.00
Placement Index(P) = (((X + Y + Z)/FS) * 100):	53.68	70.00	63.76

Average Placement Index = (P\_1 + P\_2 + P\_3)/3: 62.48 Placement Index Points:

**PART C: Faculty Details in Department and Allied Departments**  
**(Data to be filled in for the Department and Allied Departments)**

**C1. Faculty details of Department and Allied Departments**

Table No.C1: Faculty details in the Department for the past 3 years including CAY

Sr.No	Name of the Faculty	PAN No.	Highest degree	University	Area of Specialization	Date of Joining in this Institution	Experience in years in current institute	Designation at Time Joining in this Institution	Present Designation	The date on which Designated as Professor/ Associate Professor if any	Nature of Association (Regular/ Contract/ Ad hoc)	Currently Associated (Y/N)	In case of NO, Date of Leaving	IS HOD?
1	M. V. CHITAWADAGI	XXXXXXX43Q	Ph.D	NITK, Surathkal	Structural Engineering	02/09/1988	36.6	Lecturer	Professor	03/04/2010	Regular	Yes		No
2	GEETA C. BELLAD	XXXXXXX64D	M.E/M.Tech	IIT, Roorkee	Environmental Engineering	31/08/1988	36.6	Lecturer	Associate Professor	02/01/2006	Regular	Yes		No
3	SHIVASHANKAR S. DYAVANAL	XXXXXXX58L	Ph.D	VTU, Belagavi	Structural Engineering	12/08/1991	33.7	Lecturer	Professor	01/02/2012	Regular	Yes		No
4	ANAND M. HUNASHYAL	XXXXXXX71P	Ph.D	VTU, Belagavi	Structural Engineering	17/08/1992	32.7	Lecturer	Professor	09/12/2013	Regular	Yes		No
5	MALLIKARJUNA R.PATIL	XXXXXXX14G	Ph.D	VTU, Belagavi	Environmental Engineering	22/09/1998	26.6	Lecturer	Professor	28/07/2014	Regular	Yes		Yes
6	GURUNATH KAMPLI	XXXXXXX62N	Ph.D	KLE Tech. Hubballi	Construction Engineering & Management	18/02/2014	11.1	Assistant Professor	Associate Professor	10/10/2024	Regular	Yes		No
7	SHIVARAJ HALYAL	XXXXXXX33N	Ph.D	NITK, Surathkal	Highway Technology	17/07/2017	7.8	Assistant Professor	Associate Professor	01/10/2024	Regular	Yes		No
8	PREMA MALALI	XXXXXXX45C	M.E/M.Tech	VTU, Belagavi	Water and Land Managment	04/08/2014	10.7	Assistant Professor	Assistant Professor		Regular	Yes		No
9	CHAITANYA AKKANNAVAR	XXXXXXX76B	M.E/M.Tech	VTU, Belagavi	Structural Engineering	11/07/2017	7.8	Assistant Professor	Assistant Professor		Regular	Yes		No
10	BASANAGOUDA I. PATIL	XXXXXXX57C	M.E/M.Tech	VTU, Belagavi	Structural Engineering	27/07/2017	7.7	Assistant Professor	Assistant Professor		Regular	Yes		No
11	ROOPA A. KURI	XXXXXXX92R	Ph.D	KLE Tech. Hubballi	Structural Engineering	27/07/2017	7.7	Assistant Professor	Assistant Professor		Regular	Yes		No
12	VINAYAK NAIKAR	XXXXXXX84B	M.E/M.Tech	UVCE, Bangalore	Water Resource Engineering	01/08/2018	6.7	Assistant Professor	Assistant Professor		Regular	Yes		No
13	BAPUGOUDA B. BIRADAR	XXXXXXX14H	M.E/M.Tech	VTU, Belagavi	Structural Engineering	25/07/2019	5.7	Assistant Professor	Assistant Professor		Regular	Yes		No

14	NAVEEN V. CHIKKAVEERAYANAVAR	XXXXXXX49E	M.E/M.Tech	VTU, Belagavi	Construction Technology	11/10/2021	3.5	Assistant Professor	Assistant Professor		Contractual Fulltime	Yes		No
15	ARUN KUMAR G S	XXXXXXX80D	Ph.D	VTU, Belagavi	Structural Engineering	26/02/2022	3	Assistant Professor	Assistant Professor		Regular	Yes		No
16	ABHISHEK B. KAMADOLLISHETTAR	XXXXXXX23B	M.E/M.Tech	KLE Tech. Hubballi	Structural Engineering	28/02/2022	3	Assistant Professor	Assistant Professor		Contractual Fulltime	Yes		No
17	DARSHAN G. R.	XXXXXXX55R	M.E/M.Tech	VTU, Belagavi	Construction Technology	03/03/2022	3	Assistant Professor	Assistant Professor		Regular	Yes		No
18	NAGALAKSHMI KULKARANI	XXXXXXX67F	M.E/M.Tech	VTU, Belagavi	Environmental Engineering	25/08/2022	2.6	Assistant Professor	Assistant Professor		Contractual Fulltime	Yes		No
19	PANDITHARADHYA B. J.	XXXXXXX90Q	Ph.D	NITK, Surathkal	Highway Technology	22/07/2023	1.8	Assistant Professor	Assistant Professor		Regular	Yes		No
20	PRASHANT KAMMAR	XXXXXXX59E	M.E/M.Tech	VTU, Belagavi	Structural Engineering	14/09/2023	1.6	Assistant Professor	Assistant Professor		Contractual Fulltime	Yes		No
21	HEMANTKUMAR RONAD	XXXXXXX31D	M.E/M.Tech	VTU, Belagavi	Geotechnical Engineering	02/11/2023	1.4	Assistant Professor	Assistant Professor		Contractual Fulltime	Yes		No
22	GURUPUTTARAYYA V. PATIL	XXXXXXX29E	M.E/M.Tech	VTU, Belagavi	Structural Engineering	26/02/2024	1	Assistant Professor	Assistant Professor		Contractual Fulltime	Yes		No
23	MANJUNATH GANGADHAR	XXXXXXX50Q	M.E/M.Tech	KLE Tech. Hubballi	Structural Engineering	30/08/2024	0.6	Assistant Professor	Assistant Professor		Contractual Fulltime	Yes		No
24	VARUNASHREE METI	XXXXXXX39D	M.E/M.Tech	VTU, Belagavi	Structural Engineering	31/08/2024	0.6	Assistant Professor	Assistant Professor		Contractual Fulltime	Yes		No
25	SHARANABASAVA PATIL	XXXXXXX12P	Ph.D	Saveetha University, Chennai	Construction Technology	28/08/2024	0.6	Assistant Professor	Assistant Professor		Regular	Yes		No
26	VEERANAGOUDA B. PATIL	XXXXXXX03L	Ph.D	IIT, Bombay	Structural Engineering	12/08/1991	33.1	Lecturer	Professor	07/01/2011	Regular	No	30/09/2024	No
27	VEERENDRA P. PATIL	XXXXXXX11C	M.E/M.Tech	UVCE, Bangalore	Industrial Structures	12/08/1991	32.10	Lecturer	Associate Professor	02/01/2006	Regular	No	29/06/2024	No
28	VITHAL H. JADHAV	XXXXXXX23H	M.E/M.Tech	Karnataka State Open University, Mysore	Structures	20/09/2017	6.9	Assistant Professor	Assistant Professor		Regular	No	29/06/2024	No
29	PAVITRA TOTAD	XXXXXXX78H	M.E/M.Tech	VTU, Belagavi	Structural Engineering	29/07/2022	1.11	Assistant Professor	Assistant Professor		Contractual Fulltime	No	12/07/2024	No
30	S. S. QUADRI	XXXXXXX47G	Ph.D	IIT, Bombay	Geotechnical Engineering	21/09/1983	39.9	Lecturer	Professor	23/08/2005	Regular	No	30/06/2023	No
31	LAKSHMAN J. POL	XXXXXXX18C	Ph.D	NITK, Surathkal	Water Resource Engineering	08/05/1995	28.2	Lecturer	Professor	09/08/2011	Regular	No	20/07/2023	No
32	KHALIDA MUNTASHER	XXXXXXX50B	M.E/M.Tech	VTU, Belagavi	Highway Technology	27/07/2016	6.10	Assistant Professor	Assistant Professor		Regular	No	31/05/2023	No

33	SHARAVAN KONNUR	XXXXXXX09K	M.E/M.Tech	VTU, Belagavi	Geotechnical Engineering	13/10/2021	1.9	Assistant Professor	Assistant Professor		Regular	No	25/07/2023	No
34	MANJUNATHGOUDA PATIL	XXXXXXX86M	M.E/M.Tech	VTU, Belagavi	Infrastructure Construction & Management	11/11/2021	2.1	Assistant Professor	Assistant Professor		Regular	No	30/12/2023	No
35	PRASAD BISHETTI	XXXXXXX08K	M.E/M.Tech	VTU, Belagavi	Construction Technology	21/03/2022	1.9	Assistant Professor	Assistant Professor		Regular	No	30/12/2023	No
36	SUDHARSHAN B S	XXXXXXX14F	Ph.D	Pes University, Bengaluru	Structural Engineering	10/01/2023	2.2	Associate Professor	Associate Professor	30/03/2024	Contractual Fulltime	Yes		No

Table No.C2: Faculty details of Allied Departments for the past 3 years including CAY.

**C2. Student-Faculty Ratio (SFR)**

No. of UG(Engineering) programs in Department including allied departments/ clusters (UGn):

UG1=1st UG program

UGn=nth UG program

**B**= No. of Students in UG 2nd year (ST)**C**= No. of Students in UG 3rd year (ST)**D**= No. of Students in UG 4th year (ST)

No. of PG (Engineering) programs in Department including allied departments/ clusters (PGm):

PG1=1st PG program.

PGm=mth PG program

**A**= No. of Students in PG 1st year**B**= No. of Students in PG 2nd yearStudent Faculty Ratio (**SFR**) = S/F

S= No. of students of all programs in the Department including all students of allied departments/clusters.

**No. of students (ST)**=Sanctioned Intake (SA)+ Actual admitted students via lateral entry including leftover seats (L) if any (limited to 10 % of SA)

Students who admitted under supernumerary quotas (SNQ, EWS, etc) will not be considered in calculating SFR value. Those students are exempted.

F=Total no. of regular or contractual faculty members (Full Time) in the Department, including allied departments/clusters (excluding first year faculty (The faculty members who have a 100% teaching load in the first-year courses)).

No. of UG Programs in the Department1 No. of PG Programs in the Department1

Table No.C2.1: Student-faculty ratio.

Description	CAY(2024-25)	CAYm1 (2023-24)	CAYm2 (2022-23)
UG1.B	132	132	132
UG1.C	132	132	132
UG1.D	132	132	132
<b>UG1: Civil Engineering</b>	<b>396</b>	<b>396</b>	<b>396</b>
PG1.A	18	18	18
PG1.B	18	18	18
<b>PG1: Structural Engineering</b>	<b>36</b>	<b>36</b>	<b>36</b>
DS=Total no. of students in all UG and PG programs in the Department	432	432	432
AS=Total no. of students of all UG and PG programs in allied departments	0	0	0
S=Total no. of students in the Department (DS) and allied departments (AS)	<b>S1= 432</b>	<b>S2= 432</b>	<b>S3= 432</b>

Description	CAY(2024-25)	CAYm1 (2023-24)	CAYm2 (2022-23)
DF=Total no. of faculty members in the Department	26	24	27
AF= Total no. of faculty members in the allied Departments	0	0	0
F=Total no. of faculty members in the Department (DF) and allied Departments (AF)	<b>F1= 26</b>	<b>F2= 24</b>	<b>F3= 27</b>
FF=The faculty members in F who have a 100% teaching load in the first-year courses	3	3	3
Student Faculty Ratio (SFR)=S/(F-FF)	<b>SFR1= 18.78</b>	<b>SFR2= 20.57</b>	<b>SFR3= 18.00</b>
Average SFR for 3 years	<b>SFR= 19.12</b>		

### C3. Faculty Qualification

- Faculty qualification index (FQI) =  $2.5 * [(10X + 4Y) / RF]$  where
- X=No. of faculty members with Ph.D. degree or equivalent as per AICTE/UGC norms.
- Y=No. of faculty members with M. Tech. or ME degree or equivalent as per AICTE/ UGC norms.
- RF=No. of required faculty in the Department including allied Departments to adhere to the 20:1 Student-Faculty ratio, with calculations based on both student numbers and faculty requirements as per section C2 of this documents: (RF=S/20).

Table No.C3.1: Faculty qualification.

Year	X	Y	RF	<b>FQ = 2.5 x [(10X + 4Y) / RF ]</b>
2024-25(CAY)	9	17	21.00	18.81
2023-24(CAYm1)	6	18	21.00	15.71
2022-23(CAYm2)	7	21	21.00	18.33

### C4. Faculty Cadre Proportion

- Faculty Cadre Proportion is 1(RF1): 2(RF2): 6(RF3)
- RF1= No. of Professors required =  $1/9 * \text{No. of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (S)}$  as per C2 of this documents:.
- RF2= No. of Associate Professors required =  $2/9 * \text{No. of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (S)}$  as per section C2 of this documents:.
- RF3= No. of Assistant Professors required =  $6/9 * \text{No. of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (S)}$  as per section C2 of this documents:.
- Faculty cadre and qualification and experience should be as per AICTE/UGC norms.

Table No.C4.1: Faculty cadre proportion details.

Year	Professors		Associate Professors		Assistant Professors	
	Required RF1	Available AF1	Required RF2	Available AF1	Required RF3	Available AF3
2024-25	2.00	4.00	4.00	0.00	14.00	13.00
2023-24	2.00	5.00	4.00	0.00	14.00	14.00
2022-23	2.00	7.00	4.00	0.00	14.00	17.00
Average	RF1=2.00	AF1=5.33	RF2=4.00	AF2=0.00	RF2=14.00	AF2=14.67

### C5. Visiting/Adjunct Faculty/Professor of Practice

Table No. C5.1: List of visiting/adjunct faculty/professor of practice and their teaching and practical loads.

(CAYm1)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Sudarshan	Adjunct Professor	STAC Consultant, Bangaluru	Recent Topic Trends	36.00
2	Sudarshan	Adjunct Professor	STAC Consultant, Bangaluru	Design Project	30.00

(CAYm2)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Rajesh Shirkol	Adjunct Professor	RREN, Structural Consultant, Bangalore	Recent Topic Trends	36.00
2	Dr. S.S. Bhavikatti	Professor Emeritus	K.L.E. Technological University, Hubballi.	Theory of Plates and Shells	50.00

(CAYm3)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Dr. S.S. Bhavikatti	Professor Emeritus	K.L.E. Technological University, Hubballi.	Theory of Plates and Shells	50.00

#### C6. Academic Research

Table No. C6.1: Faculty publication details.

S.No.	Item	2023-24 (CAYm1)	2022-23 (CAYm2)	2021-22 (CAYm3)
1	No. of peer reviewed journal papers published	9	8	14
2	No. of peer reviewed conference papers published	11	6	11
3	No. of books/book chapters published	0	12	3

#### C7. Sponsored Research Project

Table No. C7.1: List of sponsored research projects received from external agencies.

(CAYm1)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
S S Quadri	-	Larsen & Toubro Construction, Hubli.	Review of Foundation Recommendation for the proposed construction of WSS-ELSR at Suncity, Hubballi	Larsen & Toubro Construction, Hubli.	1 Week	0.08
S S Quadri	-	Asst. Executive Engineer, South Western Railway Wadi	Asst. Executive Engineer, South Western Railway Wadi	Asst. Executive Engineer, South Western Railway Wadi	2 Weeks	0.12
Chaitanya Akkanavar	-	Dy. Chief Engineer, South Western Railway Hubli	Concrete mix design for Gadag-Wadi New BG line: Proposed construction of major bridges of Br.No.299	Dy. Chief Engineer, South Western Railway Hubli.	4 Weeks	0.23
Bapugouda Biradar	-	Arurag Deshpande, Hubli	Proof check Report of Over Head Tank of 5 lakh Litre Capacity	Arurag Deshpande, Hubli.	1 Week	0.04
Bapugouda Biradar	-	The Executive Engineer (C) Postal Civil Sub Division, Dharwad-580001.	Structural design for RCC building for Proposed Girls Hostel in Agriculture college Premises in Bheemarayaangudi Yadgiri District	The Executive Engineer (C) Postal Civil Sub Division, Dharwad-580001.	2 Weeks	0.38
Pankaj Baraker	-	Deputy Chief Engineer, South Western Railway, Hubli.	Soil testing for Bagalkot-Kudachi New BG line- Proposed earthwork, Minor/RUB's and other miscellaneous works	Deputy Chief Engineer, South Western Railway, Hubli.	1 Week	0.07
Pankaj Baraker	-	Asst. Executive Engineer, South Western Railway, Gadag	Soil investigation for Construction of 14 Nos. of (12 PC +2 SI) Police Quarters in Uttar Kannada Districts at Yellapur Taluk Under Police Gruha	Asst. Executive Engineer, South Western Railway, Gadag	2 Weeks	0.14
Darshan G R	-	Sahyadri Construction Co. Songli	Concrete mix design for Construction work of Hubli Super Specialty Hospital.	Sahyadri Construction Co. Songli	4 Weeks	0.26
Bapugouda Biradar	-	M/s. V.R. Nayak, Hubli	Proof check Report of proposed construction of car parking shelter at Whitefield Railway Station	M/s. V.R. Nayak, Hubli	2 Weeks	0.49
Chaitanya Akkanavar	-	Asst. Executive Engineer, NWKSRTC Hubli.	Non-destructive test for columns at Central Bus Station at Gokul Road, Hubballi.	Asst. Executive Engineer, NWKSRTC Hubli.	2 Weeks	0.25
Bapugouda Biradar	-	Divisional Engineer/HQ, South Western Railway,, Hubli.	Proof check for structural work for a Proposed Construction Ty-II Quarters 04 nos at S. W. Railway, Hubballi.	Divisional Engineer/HQ, South Western Railway,, Hubli.	1 Week	0.09
Shivaraj Halyal	-	Deputy Chief Engineer, South Western Railway, Hubli.	Soil test for Kotamachagi SH-83 from Km 10.00 to 65.00 (in selected Reaches) in Ramadurg Takuka of Belgaum Dist.	Deputy Chief Engineer, South Western Railway, Hubli.	3 Weeks	0.13
Shivaraj Halyal	-	Dy. Chief Engineer, South Western Railway, Hubli	Soil Test for Construction of New Railway Line between Chainage 56/500 and Chainage 75/7400 (18.90km) Kushtagi-Jumlapur	Dy. Chief Engineer, South Western Railway, Hubli	4 Weeks	0.33
Chaitanya Akkanavar	-	The Deputy Chief Engineer, South Western Railway,Hubli.	Concrete mix design Construction of ROBs lieu LC 34 at Km 67/600-700 in Badami yard & ROB in lieu of LC 41 at Km. 80/600-700 in Guledgudda Road yard-Submission of QAP & WPSS.	The Deputy Chief Engineer, South Western Railway,Hubli.	8 Weeks	0.46
Shivaraj Halyal	-	Dy. Chief Engineer, South Western Railway, Hubli.	Soil testing for Hubballi-Chikkajur Doubling project-Proposed construction of formation, drainage, side drain and other miscellaneous works between Savanur to Hubballi south.	Dy. Chief Engineer, South Western Railway, Hubli.	3 Weeks	0.13
						Amount received (Rs.):3.20

(CAYm2)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
S.S. Quadri	-	South Western Railways, Hubballi	Soil Investigation and classification Gadag-Hotgi Doubling project: Earthwork works	South Western Railways, Hubballi	1 Week	0.04
Basangouda patil	-	South Western Railways, Hubballi	Proof check of structural designs Proposed Hostel building of SWR training center at Saptapur, Dharwad	South Western Railways, Hubballi	3 Weeks	0.14
S.S. Quadri	-	KIADB, Belgaum Division	Concrete Mix-design Water Supply pipeline at Mulawada Industrial Area, Phase-2, Kholar Taluk Vijayapur	KIADB, Belgaum Division	4 Weeks	0.54
Shashibhuashan B	-	Omega Consultants, Hubli.	Soil Investigation Test for construction of Legacy Waste disposal site at Gangavathi.	Omega Consultants, Hubli.	3 Weeks	0.13
S.S. Quadri	-	South Western Railways, Gadag	Soil Investigation and Classification for Blanket Material construction of Minor Bridges, extension of RUB/LCs, Gate lodges, Gadag SWR	South Western Railways, Gadag	2 Weeks	0.04
S.S. Quadri	-	South Western Railways, Gadag	Soil Investigation and Classification for Blanket Material construction of Minor Bridges, extension of RUB/LCs, Gate lodges, Gadag SWR	South Western Railways, Gada	2 Weeks	0.04
S.S. Quadri	-	South Western Railways, Gadag	Soil Investigation and Classification for Blanket Material construction of Minor Bridges, extension of RUB/LCs, Gate lodges, Gadag SWR	South Western Railways, Gadag	2 Weeks	0.04
M.R. Patil	-	Prakruthi Builders, Hubli.	Design for Layout, Design of Sewer Lines, Water Distribution Line, Septic Tank, Rainwater Drain and Flexible Pavement	Prakruthi Builders, Hubli.	4 Weeks	0.25
Bapugouda Biradar	-	Walvekar, Structural Solutions, Hubli	Proof check of structural designs Proposed Construction of Agriculture Collage Building (Balance Portion) in Agriculture College Campus, Kalburgi	Walvekar, Structural Solutions, Hubli	5 Weeks	0.67
S.S. Quadri	-	South Western Railways, Hubballi	California Bearing Ratio, Safe Bearing Capacity of Soil Gadag-Hotgi doubling Project: Execution of earthwork, Gadag-Bagalkot stations	South Western Railways, Hubballi	3 Weeks	0.11
V.H. Jadhav	-	South Western Railways, Hubballi	Soil inspection for settlement of the earthen embankment. Earthen embankment settlement in between Hulakoti-Binkandakatti stations	South Western Railways, Hubballi	6 Weeks	1.15
Bapugouda Biradar	-	Kasturi Constructions, Hubli	Structural analysis and Proof check for escalators. Escalators at PF No. 1 for SSS Hubballi Junction	Kasturi Constructions, Hubli	5 Weeks	0.05
V.H. Jadhav	-	PWD Executive Engineer office, Karwar	Inspection and technical analysis of landslide Landslide of Karwar Anshi Ghat on Aurad Sadashivagad SH-34	PWD Executive Engineer office, Karwar	2 Weeks	0.34
M.R. Patil	-	South Western Railways, Hubballi	Improvement works to Devaragudihal Lake at Hubballi	South Western Railways, Hubballi	8 Weeks	2.76
C.S. Akkanavar	-	B.M. Associates, Hubli	Structural Design Proof check report of the proposed RCC Armoury Building for South Western Railway Hubballi Division	B.M. Associates, Hubli	5 Weeks	0.14
						Amount received (Rs.):6.44

(CAYm3)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
S.S. Quadri	-	S.W. Rly. Gadag	Soil test Report Gadag-Hotgi Doubling project: Earthwork	S.W. Rly. Gadag	2 Weeks	0.07
C.S.Akkanavar	-	Sr. Section Engineer, SWR, Hubballi.	Sr. Section Engineer, SWR, Hubballi.	Sr. Section Engineer, SWR, Hubballi.	4 Weeks	0.32
Bapugouda Biradar	-	Pencil Space Arahitects, Hubli	Proof check report Academic block railway department Hubballi	Pencil Space Arahitects, Hubli	2 Weeks	0.49
Fatheali Shilar	-	ARK Construction, Hubli.	Concrete Mix-design for construction of Road Over Bridge (ROB) Hubballi-Ballari Section: -Proposed	ARK Construction, Hubli.	6 Week	0.42
Satish Annigeri	-	Shri D.H. Tadasad, Kusugal	Stability Report for GDG-HG section-Proposed of Hole Alur Provision of 75,000 ltrs. GRP tank	Shri D.H. Tadasad, Kusugal	3 Weeks	0.12
S.S. Quadri	-	Assistant Executive Engineer KUWS & D. Board, Sub-Division, Gadag.	Soil test report for Construction of Impounding Reservoir for impound drinking water required for Gajendragad, Naregal and Ron Towns	Assistant Executive Engineer KUWS & D. Board, Sub-Division, Gadag.	2 Weeks	0.19
Bapugouda Biradar	-	Quad Infra	Proof check report for Proposed construction of Raita Samparka Kendra building in Hamsabhatti	Quad Infra	2 Weeks	0.97
S.S. Quadri	-	USS Properties, Dharwad.	Soil Testing for Housing project VSS Township at Mummigatti, Dharwad	USS Properties, Dharwad.	1 Week	0.08
Satish Annigeri	-	Santosh Rokhade, Hubli.	Providing designs for 10 lakh litre GLR for South Western	Santosh Rokhade, Hubli.	2 Weeks	0.10
Arunkumar G S	-	S.W. Railway, Hubli.	Proof Check report of Type II Railway Quarters Building	S.W. Railway, Hubli.	2 Weeks	0.12
						Amount received (Rs.):2.88

**Total Amount (Lacs) Received for the Past 3 Years: 12.52****Note\*:**

- Only sponsored research projects will be considered. Infrastructure-based projects will not be considered here.

**C8. Consultancy Work**

Table No. C8.1: List of consultancy projects received from external agencies.

(CAYm1)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
All Faculty Members	All Faculty Members	Civil	Material Testing	Government,private	1	11.66
All Faculty Members	All Faculty Members	Civil	Concrete Mix-design	Government,private	1	4.28
All Faculty Members	All Faculty Members	Civil	Consultancy works	Government,private	1	0.58
						Amount received (Rs.):16.52

(CAYm2)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
All Faculty Members	All Faculty Members	Civil	Material Testing	Government,private	1	8.88
All Faculty Members	All Faculty Members	Civil	Concrete Mix-design	Government,private	1	2.78
All Faculty Members	All Faculty Members	Civil	Consultancy works	Government,private	1	1.78
						Amount received (Rs.):13.44

(CAYm3)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
All Faculty Members	All Faculty Members	Civil	Material Testing	Government,private	1	7.09
All Faculty Members	All Faculty Members	Civil	Concrete Mix-design	Government,private	1	1.47
All Faculty Members	All Faculty Members	Civil	Consultancy works	Government,private	1	0.23
						Amount received (Rs.):8.79

Total amount (Lacs) received for the past 3 years: 38.75

Note\*:

- Only consultancy projects will be considered. Infrastructure-based projects will not be considered here.

**C9. Institution Seed Money or Internal Research Grant to its Faculty for Research Work**

Table No. C9.1: List of faculty members received seed money or internal research grant from the Institution.

(CAYm1)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
NIL	NIL	00	0.00	0.00	00
			Amount received (Rs.): 0.00		

(CAYm2)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
Dr. Anand Hunashyal	Structural analysis monitoring	01 Year	3.20	3.20	REU Guided 1 paper
Roopa Kuri	Surface crack detection	01 Year	0.65	0.07	1 Conference paper
Chaitanya Akkannavar	Performance evaluation	01 Year	1.30	1.39	3 MTech. Graduated 2 Journal Papers and 2 International Conference paper published
Prasad Bishetti	To assess the potential of zinc slag	01 Year	5.16	4.71	Registered for full-time PhD at IIT Dharwad
Darshan G R	Repair and restoration of plain cement	01 Year	5.50	5.50	2 Conference papers
Naveen C	Replacement of natural aggregate	01 Year	6.50	5.00	Drafting manuscript
			Amount received (Rs.): 22.31		

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
NIL	NIL	0	0.00	0.00	0
			Amount received (Rs.): 0.00		

Total amount (Lacs) received for the past 3 years : 22.31

## PART D: Laboratory Infrastructure in the Department

(Data to be filled in for the Department)

### D1. Adequate and Well-Equipped Laboratories, and Technical Manpower

Table No.D1.1: List of laboratories and technical manpower.

Sr. No	Name of the Laboratory	Number of students per set up(Batch Size)	Name of the Important Equipment	Weekly utilization status(all the courses for which the lab is utilized)	Technical Manpower Support		
					Name of the Technical staff	Designation	Qualification
1	Survey Practice	17	i.Total Station. ii. Handheld GPS. iii.Auto-Level (Sokkia). iv.Dumpy Level. v. Theodolite. vi.Digital	i.16hrs/week (S)	Basavaraj Kokati	Assistant Instructor	Diploma (Civil)
2	Material Testing Laboratory	17	i.Compression Testing Machine. ii. Universal Testing Machine. iii.Reverse Torsion Testing Machine.	i.16hrs/week (M)	Channappa Y	Mechanic	ITI
3	Geotechnical Engineering Laboratory	20	i.Direct Shear Test apparatus. ii.Consolidation apparatus 2 & 3 Gang Type. iii.Triaxial Shear	i.16hrs/week (C)	Abhishek S D	Assistant Instructor	Diploma (Civil)
4	Computer-Aided Design Laboratory	20	i.Hardware ii.Computers - i3, i5 Desktops. iii.Printer iv.UPS v.Scanner vi.Software vii.SAP 2000. viii.ETABS.	i.8hrs/week (B)	Renuka Sangali Deepika	Instructor	Diploma (CS) B.E (Civil)
5	Environmental Engineering Laboratory	17	i.Electronic Balance with 0.01 mg precision. ii.UV Spectrophotometer. iii.Digital Turbidity Meter. iv.pH	i.16hrs/week (E)	Geeta Soddi	Assistant Instructor	Diploma (Civil)
6	Highway Engineering Laboratory	20	i.Thermostatically Controlled Oven. ii.Orifice Type Viscometer. iii. CBR Testing Machine with Mould.	i.16hrs/week (H)	Harish Bagewadi	Instructor	Instructor Diploma (Civil)
7	Concrete Technology Laboratory	17	i.Le-Chatlier's apparatus. ii.Concrete Mixer. iii.Slump Test apparatus. iv.Compaction Factor Apparatus. v.	i.16hrs/week (C)	Gangadharayya Hiremath	Assistant Instructor	Diploma (Civil)

### D2. Safety Measures in Laboratories

Table No. D2.1: List of various safety measures in laboratories.

Sr. No	Laboratory Name	Safety Measures

1	Survey practice	<ul style="list-style-type: none"> <li>The students are informed to handle the equipment carefully.</li> <li>Students are strictly told to wear appropriate safety attire in the lab: aprons, shoes, etc.</li> <li>Students cannot wear open-toed shoes (sandals) in the lab.</li> <li>Before the commencement of experiments, all the equipment is checked and ensured that they are in working condition.</li> <li>In case of any breakages, students are asked to bring it to the notice of the lab in charge.</li> <li>During Minor Project on site: Student must wear an apron, shoes with</li> <li>Necessary safety gear and personal medication throughout the period of the visit.</li> </ul>
2	Material testing laboratory	<ul style="list-style-type: none"> <li>Students are asked to strictly follow safety instructions given by the instructor/faculty before beginning any work in the lab.</li> <li>Students are asked to wear appropriate safety attire in the lab coat, shoes, etc.</li> <li>Students cannot wear open-toed shoes (sandals) in the lab.</li> <li>Carrying out experiments as per appropriate standards is ensured.</li> <li>Students are not allowed to handle equipment without prior consent of the instructor/faculty.</li> <li>Students are asked to wash their hands before experimenting and leaving the laboratory.</li> <li>A fire extinguisher is provided.</li> </ul>
3	Geotechnical Engineering Laboratory	<ul style="list-style-type: none"> <li>Students are not allowed to operate any machine or equivalent without the prior permission of the Laboratory in charge.</li> <li>All testing machines are to be operated per the instructions given in the manuals in the presence of the laboratory in charge.</li> <li>Apparatus are kept in proper order in their respective place after completion of each test.</li> <li>The waste materials produced from the test are removed or dumped in the specified place outside after the test.</li> <li>Students are instructed to use the first aid box in case of an accident.</li> </ul>
4	Computer-aided design laboratory	<ul style="list-style-type: none"> <li>Entry door and exit door Provided</li> <li>Backup batteries are provided in a separate enclosure</li> <li>A fire extinguisher is provided.</li> </ul>
5	Environmental Engineering Laboratory	<ul style="list-style-type: none"> <li>Ingestion of toxic or infectious material, eating, drinking, and smoking in the lab is prohibited.</li> <li>Use of gloves while preparing reagents is a must.</li> <li>Pipetting by mouth is not allowed.</li> <li>Acids and bases are stored separately.</li> <li>Students are asked to add acids and bases slowly to water to avoid spattering.</li> <li>If acids or bases are accidentally splashed in the eye or on the skin, students are instructed to flush with water immediately, continue flashing for 15 minutes.</li> <li>washing and rinsing all the glass wares is done before and after conducting the experiment</li> <li>Chemicals and reagent bottles must be restored back immediately after use.</li> <li>Students are asked to store chemical containers with closed caps.</li> <li>All the reagents prepared are correctly and clearly labeled.</li> <li>Work areas are kept clean and free from obstructions.</li> <li>Students are instructed to use the first aid box in case of an accident.</li> <li>A fire extinguisher is provided</li> </ul>
6	Highway Engineering Laboratory	<ul style="list-style-type: none"> <li>Before entering the lab, all students are asked to wear aprons and shoes.</li> <li>Hand gloves and a mask will be provided for bituminous experiments.</li> <li>Students are allowed to work only in the presence of laboratory staff.</li> <li>A fire extinguisher is provided.</li> <li>Students are instructed to use the first aid box in case of an accident.</li> </ul>
7	Concrete Technology Laboratory	<ul style="list-style-type: none"> <li>Students are not allowed to operate any machine or equivalent without the prior permission of the Laboratory in charge.</li> <li>Students are instructed to wash their hands before experimenting and leaving the laboratory.</li> <li>Students are strictly told to wear appropriate safety attire in the lab coat, shoes, etc.</li> <li>Students cannot wear open-toed shoes (sandals) in the lab.</li> <li>All tests need to be performed as per appropriate standards.</li> </ul>

### D3. Project Laboratory/Research Laboratory

**Table No. 7.5.1.(a): List of project laboratory/research laboratory /Centre of Excellence.**

Sl. No.	Area of Work	Resource	Utilization	PO's/PSO's
1.	Strength of Materials	Computerized UTM of 100-ton Capacity	UG & PG students	PO-4
2.	Structural Simulation	ABAQUS/ SAFIR	UG & PG students	PO-5
3.	Nonlinear Analysis of Structure	SAP-2000	UG & PG students	PO-5
4.	Analysis	Workstation	UG, PG & Ph.D. students	PO-5
5.	Performance-Based Bituminous Mix Design	Wheel rut shaper and tester	UG & Ph.D. Students	PO-4
6.	Applications of Nano Composites in Civil Engineering	Computerized UTM of 100-ton Capacity	UG, PG & Ph.D. students	PO-4

**Table No. 7.5.1.(b): List of project laboratory/research laboratory /Centre of Excellence.**

Sl. No.	Name of the Lab	Area of Work	Resource	Utilization	PO's/PSO's
1.	Material testing laboratory	Strength of Materials	Computerized UTM of 100-ton Capacity.	UG & PG students	PO-4
		Applications of Nano Composites in Civil Engineering	Computerized UTM of 100-ton Capacity.	UG, PG & Ph.D. students	PO-4
2.	Computer-aided design laboratory	Structural Simulation	ABAQUS/ SAFIR	UG & PG students	PO-5
		Nonlinear Analysis of Structure	SAP-2000	UG & PG students	PO-5
		Analysis	Workstation	UG, PG & Ph.D. students	PO-5
3.	Highway Engineering Laboratory	Performance-Based Bituminous Mix Design	Wheel rut shaper and tester	UG & Ph.D. Students	PO-4

**UTM 100-ton capacity:** A 100-ton capacity Universal Testing Machine (UTM) is employed to evaluate the mechanical and sensing performance of cement-based nanocomposite materials. This high-capacity UTM enables the application of controlled compressive and flexural loads on full-scale structural specimens such as beams, columns, and cubes, facilitating accurate assessment of their load-bearing capacity and mechanical behavior under realistic conditions. During testing, variations in the electrical resistance of embedded nanomaterials are monitored to validate their piezoresistive behavior. This experimental setup is well-suited for investigating stress-strain relationships, crack propagation, and damage detection in structural elements. The robust load capacity of the UTM ensures reliable testing of high-strength materials and supports the development of smart, self-sensing infrastructure systems by establishing a strong correlation between mechanical loading and electrical response.

**SAFIR:** SAFIR was employed to perform a transient thermal analysis of reinforced concrete (RC) columns subjected to fire. The software facilitated the simulation of heat transfer within the column cross-section exposed to the ISO 834 standard fire curve. The resulting temperature contours were used to determine temperature-dependent material properties of concrete and steel at each layer of the section. These temperature profiles formed the basis for deriving updated stress-strain curves, from which stress block parameters were calculated. This thermal-mechanical integration using SAFIR enabled a more accurate evaluation of the residual strength of the RC columns under elevated temperatures, which was further used to generate Pu-Mu interaction diagrams and validate the proposed analytical method against experimental results.

**Nonlinear analysis of structure:** SAP2000 software is widely used in our laboratory for minor projects and student research work, particularly when dealing with nonlinear seismic analysis. It provides a user-friendly interface and powerful tools to model complex structures and simulate real-world behavior under earthquake loads. In the context of this work, SAP2000 is used to carry out nonlinear static (pushover) and dynamic (time history) analyses of structures.

**Workstation:** The computing capabilities of these workstations enable the simulation of building energy performance using advanced software tools, helping students and researchers evaluate energy efficiency, thermal comfort, and sustainability. Additionally, the workstations support programming, testing, and real-time data processing for IoT sensor networks used in structural health monitoring and smart construction practices. These applications help students gain hands-on experience in modern building technologies and digital construction tools.

**Wheel rut shaper and tester:** A wheel rut shaper and tester is used to assess the rutting resistance and long-term performance of bituminous mixes under simulated loading conditions as part of a performance-based mix design project. The device applies repetitive wheel loading to asphalt specimens at varying temperatures, replicating the conditions experienced by flexible pavements under actual traffic. The rut depth, which is the measure of permanent deformation in the wheel path, is continuously recorded to evaluate the resistance of the mix to plastic flow. This testing setup plays a critical role in the evaluation and optimization of bituminous mix designs, which offer better performance in terms of

durability, load-carrying capacity, and resistance to permanent deformation. It allows researchers to compare conventional and modified binders, additives, and gradations based on their rutting behavior. The test results contribute to the selection of materials and mix proportions that comply with performance-based specifications, ensuring enhanced pavement lifespan and serviceability under varying climatic and traffic conditions.

## PART E: First Year faculty and financial Resources

(Data to be filled in for the first year course faculty and budget allocation and utilization)

### E1. First Year Student-Faculty Ratio (FYSFR)

Table No. E1.1: FYSFR details.

Year	Sanctioned intake of all UG programs (S4)	No. of required faculty (RF4= S4/20)	No. of faculty members in Basic Science Courses & Humanities and Social Sciences including Management courses (NS1)	No. of faculty members in Engineering Science Courses (NS2)	Percentage= No. of faculty members $((NS1*0.8) + (NS2*0.2))/(No. of required faculty (RF4))$ ; Percentage= $((NS1*0.8) + (NS2*0.2))/RF$
2022-23(CAYm2)	1320	66	28	35	45
2023-24(CAYm1)	1380	69	34	40	51
2024-25(CAY)	1380	69	37	45	56

### E2. Budget Allocation, Utilization, and Public Accounting at Institute Level

Table No. E2.1: Budget and actual expenditure incurred at Institute level.

Items	Budgeted in 2024-2025	Actual Expenses in 2024-2025 till	Budgeted in 2023-2024	Actual Expenses in 2023-2024 till	Budgeted in 2022-2023	Actual Expenses in 2022-2023 till	Budgeted in 2021-2022	Actual Expenses in 2021-2022 till
Infrastructure Built-Up	292200000	326478832.00	320300000	275490296.08	226000000	272900679	156800000	150171688
Library	11600000	9771428.06	8100000	6934858.90	6550000	6684290	4800000	5746857.10
Laboratory equipment	40000000	42049437.00	30000000	42637137	60000000	45115063	45000000	18684451
Teaching and non-teaching staff salary	557000000.00	547558408.00	512840000	498123229	508167243	486223533	489576100	487334443
Outreach Programs	1700000	1728431.00	1200000	1185057	1800000	1759579.55	1000000	297819
R&D	12000000	105528834.70	91000000	67685714.98	60500000	85916358	47500000	37085398
Training, Placement and Industry linkage	28000000.00	29750015.28	39400000	27868861.85	16700000	22804772.45	16500000	10724576
SDGs	500000	0	0	0	0	0	0	0
Entrepreneurship	6500000.00	5907410.00	8500000	8288555	6000000	5721313	3000000	2689169
Others, specify	244950000.00	250756247.82	221575000	222576706.76	200300000	212374205	172500000	141933476.42
<b>Total</b>	<b>1302450000.00</b>	<b>1319529043.86</b>	<b>1232915000</b>	<b>1150790416.57</b>	<b>1086017243</b>	<b>1139499793.00</b>	<b>936676100</b>	<b>854667877.52</b>

**E3. Budget Allocation, Utilization, and Public Accounting at Program Specific Level**

Table No. E3.1: Budget and actual expenditure incurred at program level.

Items	Budgeted in 2024-2025	Actual Expenses in 2024-2025 till	Budgeted in 2023-2024	Actual Expenses in 2023-2024 till	Budgeted in 2022-2023	Actual Expenses in 2022-2023 till	Budgeted in 2021-2022	Actual Expenses in 2021-2022 till
Laboratory equipment	500000.00	451612.00	1300000.00	1252516.00	1200000.00	1039777.00	200000.00	117410.00
Software	1000000.00	826000.00	0	0	0	0	0	0
SDGs	100000.00	0	0	0	0	0	0	0
Support for faculty development	200000.00	185104.00	1250000.00	918851.00	90000.00	89125.00	150000.00	108945.00
R & D	1600000.00	1429597.00	3050000.00	3033938.00	2015000.00	1917845.00	1212000.00	1206854.36
Industrial Training, Industry expert, Internship	1600000.00	1551196.00	1750000.00	1222806.46	1610000.00	1610262.00	1440000.00	874562.28
Miscellaneous Expenses*	82790000.00	81858074.26	85556000.00	82200376.00	100870000.00	101308635.00	92036000.00	86304108.64
<b>Total</b>	<b>87790000.00</b>	<b>86301583.26</b>	<b>92906000.00</b>	<b>88628487.46</b>	<b>105785000.00</b>	<b>105965644.00</b>	<b>95038000.00</b>	<b>88611880.28</b>