

NATIONAL BOARD OF ACCREDITATION

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

PART-A: Profile of the Institute

Name of the Program Applied for: B.E - Mechanical Engineering

A1: Name of the Institute: K.L.N. College of Engineering (Autonomous)

Year of Establishment : **1994**

Location of the Institute:
**Madurai – Nedunkulam Road,
Pottapalayam – 630 612
Sivagangai District,
Tamilnadu**

A2: Institute Address: -

City : **Pottapalayam, Sivagangai** State : **Tamil Nadu**

Pin Code : **630 612**

Website: **www.klnce.edu**

E-mail : **info@klnce.edu**

Phone No (with STD Code): **0452 - 2090184**

A3: Name and Address of the Affiliating University (If any): -

Name of the University : **Anna University** City : **Chennai**

State : **Tamil Nadu** Pin Code: **600 025**

A4: Type of the Institution: - (Tick the applicable choice)

Institute of National Importance

Deemed University

University

Autonomous

Non-Autonomous (Affiliated)

Any other (Please specify) *

A5: Ownership Status: - (Tick the applicable choice)

Central Government

State Government

Government Aided

Self-financing

Any Other (Please specify) *

***Provide Details:** _____

A6: Details of all Programs being Offered by the Institution: -

❖ No. of UG programs: **8**

❖ No. of PG programs: **5**

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

S. No.	Level of Program (UG/PG)	Name of the Program	Year of Start	Year of close*	Name of the Department
1.	UG	B.E. Mechanical Engineering	1994	-	Mechanical Engineering
2.	UG	B.E. Electrical and Electronics Engineering	1994	-	Electrical and Electronics Engineering
3.	UG	B.E. Electronics and Communication Engineering	1994	-	Electronics and Communication Engineering
4.	UG	B.E. Computer Science and Engineering	1997	-	Computer Science and Engineering
5.	UG	B.Tech. Information Technology	1999	-	Information Technology
6.	UG	B.Tech. Artificial Intelligence and Data Science	2021	-	Artificial Intelligence and Data Science
7.	UG	B.E. Computer Science and Engineering (Cyber Security)	2022	-	Computer Science and Engineering (Cyber Security)
8.	UG	B.E. Computer Science and Engineering (Internet of Things)	2023	-	Computer Science and Engineering (Internet of Things)
9.	PG	M.E. Communication Systems	2004	-	Electronics and Communication Engineering
10.	PG	M.E. Power System Engineering	2005	-	Electrical and Electronics Engineering
11.	PG	M.E. CSE (With Specialization in Networks)	2013	-	Information Technology
12.	PG	Master of Computer Application (MCA)	1997	-	Master of Computer Application
13.	PG	Master of Business Administration (MBA)	1997	-	Master of Business Administration

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

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

S. No.	Name of the Department	Name of the Program
1.	Mechanical Engineering	B.E. Mechanical Engineering
2.	Electrical and Electronics Engineering	B.E. Electrical and Electronics Engineering
3.	Electronics and Communication Engineering	B.E Electronics and Communication Engineering
4.	Computer Science and Engineering	B.E. Computer Science and Engineering
5.	Information Technology	B.Tech. Information Technology

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)
1	Mechanical Engineering	---
2.	Electrical and Electronics Engineering	---
3.	Electronics and Communication Engineering	---
4.	Computer Science and Engineering	Information Technology
		Artificial Intelligence and Data Science
		Computer Science and Engineering (Cyber Security)
		Computer Science and Engineering (Internet of Things)
5.	Information Technology	Computer Science and Engineering
		Artificial Intelligence and Data Science
		Computer Science and Engineering (Cyber Security)
		Computer Science and Engineering (Internet of Things)

PART-B: Program information

(Data to be filled in for the program applied for Accreditation)

B1: Provide the Required Information for the Program Applied For:-

Table No. B1: Program details.

S. No.	Program Name	Year of Start	Sanctioned Intake	Increase / Decrease in intake, if any	Year of Increase / Decrease	AICTE / Competent Authority Approval Details	Accreditation Status*	No. of Times Program Accredited
1.	B.E.- Mech. Engg.	1994	60	90	2005	F.No. 730-52-227(E)/ET/97 dated 19.09.2005	Granted accreditation for THREE YEARS for the period July 2023 to 30.06.2025. Granted accreditation for THREE YEARS for the period February 2019 to 30.06.2022. Granted accreditation for THREE YEARS for the period October 2016 to 30.06.2019. Granted provisional accreditation for TWO YEARS for the period 05.08.2013 to 04.08.2015. Granted accreditation for THREE YEARS for the period 19.07.2008 to 18.07.2011. Granted accreditation for THREE YEARS for the period 19.03.2004 to 18.03.2007.	06
				120	2012	F.No. Southern/1-87512981/2012/EOA dated 10.05.2012		
				90	2021	F.No. Southern/1-9319097910/2021/EOA dated 14.07.2021		
				60	2022	F.No. Southern/1-10975962064/2022/EOA dated 07.07.2022		

* Write applicable one:

- ❖ Applying first time
- ❖ Granted accreditation for 2/3 years for the period (specify period)
- ❖ Granted accreditation for 5/6 years for the period (specify period)
- ❖ Not accredited (specify visit dates, year).
- ❖ Withdrawn (specify visit dates, year)
- ❖ Not eligible for accreditation.

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

Name of the HoD : Dr. P. Udhayakumar

A. Nature of appointment: (Tick the applicable choice)

- ❖ Regular
- ❖ Contract
- ❖ Ad hoc

B. Qualification: (Tick the applicable choice)

- ❖ Ph.D
- ❖ ME / M.Tech
- ❖ Ad hoc

***Please provide details:** _____

B3: Program Details

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

Item (Information is to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	CAY (2024-25)	CAYm1 (2023-24)	CAYm2 (2022-23)	CAYm3 (2021-22)	CAYm4 (LYG) (2020-21)	CAYm5 (LYGm1) (2019-20)	CAYm6 (LYGm2) (2018-19)
N = Sanctioned intake of the program (as per AICTE /Competent authority)	60	60	60	90	120	120	120
N1 = Total no. of students admitted in the 1 st year minus the no. of students, who migrated to other programs/ institutions plus no. of students, who migrated to this program	21	27	17	52	34	45	50
N2 = Number of students admitted in 2 nd year in the same batch via lateral entry including leftover seats	0	9	6	18	54	23	22
N3 = Separate division if any	0	0	0	0	0	0	0
N4 = Total no. of students admitted in the 1 st 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.	21	36	23	70	88	68	72

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.

Item (Students enrolled in the First Year on average over 3 academic years (CAY, CAYm1, and CAYm2))	CAY (2024–25)	CAYm1 (2023–24)	CAYm2 (2022–23)
N= Sanctioned intake of the program in the 1 st year (as per AICTE/Competent authority)	60	60	60
N1= Total no. of students admitted in the 1 st year minus the no. of students, who migrated to other programs/ institutions plus no. of students, who migrated to this program	21	27	17
N4= Total no. of students admitted in the 1 st year via all supernumerary quotas	0	0	0
Enrolment Ratio (ER)= (N1+N4)/N	0.35	0.45	0.28
Average ER= (ER_1+ ER_2+ ER_3)/3	0.36		

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	LYG (2020-24)	LYGm1 (2019-23)	LYGm2 (2018-22)
A*= (No. of students admitted in the 1 st year of that batch and those actually admitted in the 2 nd 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).	86	66	69
B= No. of students who graduated from the program in the stipulated course duration	73	62	69
Success Rate (SR)= (B/A)*100	84.88	93.94	100.00
Average SR of three batches ((SR_1+SR_2+ SR_3)/3)	92.94		

Note *: If the value of A in Table No. B5.1 is less than the sum of the sanctioned intake (N) and the lateral entry including leftover seats (N2), then the value of A in Table No.B5.1 should be the sum of the sanctioned intake (N) and the lateral entry including leftover seats (N2) of Table No.B3.1.

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.

Item		CAYm1 (2023-24)	CAYm2 (2022-23)	CAYm3 (2021-22)
X =	(Mean of 1 st 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 1 st year/10)	7.83	8.19	7.98
Y =	Total no. of successful students	16	9	25
Z =	Total no. of students appeared in the examination	27	17	48
API = X* (Y/Z)		4.64	4.34	4.16
Average API = (API_1 + API_2 + API_3)/3		4.38		

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.

Item		CAYm1 (2023-24)	CAYm2 (2022-23)	CAYm3 (2021-22)
X =	(Mean of 2 nd 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 2 nd year/10)	8.51	8.18	8.83
Y =	Total no. of successful students	14	35	33
Z =	Total no. of students appeared in the examination	23	65	87
API = X* (Y/Z)		5.18	4.40	3.35
Average API = (API_1 + API_2 + API_3)/3		4.31		

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

Item		CAYm1 (2023-24)	CAYm2 (2022-23)	CAYm3 (2021-22)
X =	(Mean of 3 rd 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 3 rd year/10)	8.02	8.75	8.68
Y =	Total no. of successful students	42	53	57
Z =	Total no. of students appeared in the examination	65	87	66
API = X* (Y/Z)		5.18	5.33	7.5
Average API = (API_1 + API_2 + API_3)/3		6.003		

B9: Placement, Higher Studies, and Entrepreneurship**Table No.B9.1:** Placement, higher studies, and entrepreneurship details.

Item		LYG (2020-24)	LYGm1 (2019-23)	LYGm2 (2018-22)
FS*=	Total no. of final year students	86	66	69
X =	No. of students placed	46	46	41
Y =	No. of students admitted to higher studies	0	1	0
Z =	No. of students taking up entrepreneurship	0	0	0
X + Y + Z =		46	47	41
Placement Index (P) = $\left(\frac{X + Y + Z}{FS}\right) * 100$		53.49	71.21	59.42
Average placement index = $(P_1 + P_2 + P_3)/3$		61.37		

Note *: If the value of FS in Table No. B9.1 is less than the sum of the sanctioned intake (N) and the lateral entry including leftover seats (N2), then the value of FS in Table No. B9.1 should be the sum of the sanctioned intake (N) and the lateral entry including leftover seats (N2) of Table No.B3.1.

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

S. No.	Name of the Faculty	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)	If contractual mention Full time or (Part time or hourly based)	Currently Associated (Y/N)	Date of Leaving if any (In case Currently Associated is " No")
1.	Dr. P. UdhayaKumar	Ph.D.	Anna University, Chennai	CAD/CAM	26.12.2002	21.11	Lecturer	Professor & Head	01.12.2012	R		Y	
M.E.	Madurai Kamaraj University, Madurai												
B.E.	Madurai Kamaraj University, Madurai												

S. No.	Name of the Faculty	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)	If contractual mention Full time or (Part time or hourly based)	Currently Associated (Y/N)	Date of Leaving if any (In case Currently Associated is " No ")
2.	Dr. M.R. Thansekhar	Ph.D.	IITM, Chennai	Thermal Engineering	28.06.2010	14.5	Professor & Head	Professor	28.06.2010	R		Y	
		M.E.	Annamalai University, Chidambaram										
		B.E.	Bharathiar University, Coimbatore										
3.	Dr. D. SatheeshPandian	Ph.D.	Anna University, Chennai	Industrial Engineering	17.08.2006	18.3	Lecturer	Associate Professor 1	01.12.2012	R		Y	
		M.E.	Anna University, Chennai										
		B.E.	Madurai Kamaraj University, Madurai										

S. No.	Name of the Faculty	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)	If contractual mention Full time or (Part time or hourly based)	Currently Associated (Y/N)	Date of Leaving if any (In case Currently Associated is " No")
4.	Dr. V. Sivaram kumar	Ph.D.	Anna University, Chennai	Industrial Engineering	13.07.2007	17.4	Lecturer	Associate Professor1	01.12.2012	R		Y	
		M.E.	Anna University, Chennai										
		B.E.	Bharathiar University, Coimbatore										
5.	Dr. A.Hemalatha	Ph.D.	Anna University, Chennai	Industrial Engineering	10.09.2007	17.2	Lecturer	Associate Professor 1	02.01.2017	R		Y	
		M.E.	Anna University, Chennai										
		B.E.	Madurai Kamaraj university										

S. No.	Name of the Faculty	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)	If contractual mention Full time or (Part time or hourly based)	Currently Associated (Y/N)	Date of Leaving if any (In case Currently Associated is " No")
6.	Dr. C. AnbuMeenakshi	Ph.D.	Anna University, Chennai	Production Engineering	10.09.2007	17.2	Lecturer	Associate Professor1	01.12.2018	R		Y	
		M.E.	Anna University, Chennai										
		B.E.	Madurai Kamaraj university										
7.	Dr.J.Rajeshbabu	Ph.D.	Anna University, Chennai	Industrial Engineering	04.08.2003	21.3	Lecturer	Associate Professor 1	01.06.2011	R		Y	
		M.E.	Madurai Kamaraj University, Madurai										
		B.E.	Madurai Kamaraj University, Madurai										

S. No.	Name of the Faculty	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)	If contractual mention Full time or (Part time or hourly based)	Currently Associated (Y/N)	Date of Leaving if any (In case Currently Associated is " No")
8.	Mr.R.V.Suresh babu	M.E.	Madurai Kamaraj University, Madurai	Industrial Engineering	24.07.2006	18.4	Senior Lecturer	Associate Professor 1	01.06.2011	R		Y	
		B.Tech	Anna University, Chennai										
9.	Mr.N.Rajkumar	M.E.	Anna University, Chennai	Manufacturing Engineering	10.09.2007	17.2	Lecturer	Associate Professor 1	02.01.2017	R		Y	
		B.E.	Annamalai University										
10.	Dr. D. Muthukrishnan	Ph.D.	Anna University, Chennai	CIM	02.09.2009	15.2	Lecturer	Assistant Professor (Sr. Gr)	01.09.2013	R		Y	
		M.E.	Anna University, Chennai										
		B.E.	Madurai Kamaraj University										

S. No.	Name of the Faculty	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)	If contractual mention Full time or (Part time or hourly based)	Currently Associated (Y/N)	Date of Leaving if any (In case Currently Associated is " No ")
11.	Mr. E. V.Ganesh Babu	M.E.	Anna University, Chennai	CAD/CAM	01.08.2008	16.4	Lecturer	Assistant Professor 2		R		Y	
		B.E.	Anna University, Chennai										
12.	Mr. S. Nallathambi	M.E.	Anna University, Chennai	Thermal Engineering	07.12.2011	12.11	Assistant Professor 2	Assistant Professor 2		R		Y	
		B.E.	Anna University, Chennai										
13.	Mr. M. Mohanraj	M.E.	Anna University, Chennai	Engineering Design	14.06.2012	12.5	Assistant Professor 2	Assistant Professor 2		R		Y	
		B.E.	Madurai Kamaraj University										
14.	Mr. T. Samynathan	M.E.	Anna University, Chennai	Thermal Engineering	24.07.2013	11.4	Assistant Professor 2	Assistant Professor 2		R		Y	
		B.E.	Anna University, Chennai										

S. No.	Name of the Faculty	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)	If contractual mention Full time or (Part time or hourly based)	Currently Associated (Y/N)	Date of Leaving if any (In case Currently Associated is " No")
15.	Mr. T.L. Vijaya Kumar	M.E.	Anna University, Chennai	Engineering Design	07.07.2014	10.4	Assistant Professor 2	Assistant Professor 2		R		Y	
		B.E.	Anna University, Chennai										
16.	Mrs. B.Devi	M.E.	Anna University, Chennai	Engineering Design	18.09.2014	10.2	Assistant Professor 2	Assistant Professor 2		R		Y	
		B.E.	Anna University, Chennai										
17.	Dr. P.Sabarinath	Ph.D.	Anna University, Chennai	Manufacturing Technology	01.07.2004	20.4	Lecturer	Associate Professor 1	01.06.2011	R		N	09.11.2024
		M.E.	Bharathidasan University, Trichy										
		B.E.	Madurai Kamaraj University, Madurai										

S. No.	Name of the Faculty	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)	If contractual mention Full time or (Part time or hourly based)	Currently Associated (Y/N)	Date of Leaving if any (In case Currently Associated is " No")
18.	Dr. N. Nagasubramanian	Ph.D.	Anna University, Chennai	Manufacturing Engineering	16.12.2011	11.9	Assistant Professor 2	Assistant Professor 2		R		N	06.10.2023
		M.E.	Anna University, Tirunelveli										
		B.E.	Anna University, Chennai										

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

S. No.	Name of the Faculty	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)	If contractual mention Full time or (Part time or hourly based)	Currently Associated (Y/N)	Date of Leaving if any (In case Currently Associated is "No")
1.	-	-	-	-	-	-	-	-	-	-	-	-	-

C2: Student-Faculty Ratio (SFR)

- ❖ No. of UG(Engineering) programs in Department including allied departments/ clusters (UG_n):
 - UG₁=1st UG program
 - UG_n=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 (PG_m):
 - PG₁=1st PG program.
 - PG_m=mth PG program
 - **A**= No. of Students in PG 1st year
 - **B**= No. of Students in PG 2nd year
- ❖ Student 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)).

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

Year	CAY (2024-25)	CAYm1(2023-24)	CAYm2(2022-23)
UG ₁ . B // 2 nd year students of UG ₁ program	66	66	66
UG ₁ . C // 3 rd year students of UG ₁ program	66	99	132
UG ₁ . D // 4 th year students of UG ₁ program	99	132	132
UG ₁ // Total no. of students(2 nd , 3 rd , 4 th) in UG ₁ program	231	297	363
...			
UG _n . B // 2 nd year students of UG _n program	-	-	-
UG _n . C // 3 rd year students of UG _n program	-	-	-
UG _n . D // 4 th year students of UG _n program	-	-	-
UG _n // Total no. of students(2 nd , 3 rd , 4 th) in UG _n program	UG _n .B+UG _n .C+UG _n .D	UG _n .B+UG _n .C+UG _n .D	UG _n .B+UG _n .C+UG _n .D
PG ₁ . A // 1 st year students of PG ₁ program	-	-	-
PG ₁ . B // 2 nd year students of PG ₁ program	-	-	-
PG ₁ // Total no. of students(1 st , 2 nd) in PG ₁ program	PG ₁ .A+ PG ₁ .B	PG ₁ .A+ PG ₁ .B	PG ₁ .A+ PG ₁ .B
.....			
PG _m . A // 1 st year students of PG _m program	-	-	-
PG _m . B // 2 nd year students of PG _m program	-	-	-
PG _m // Total no. of students(1 st , 2 nd) in PG _m program	PG _m .A+ PG _m .B	PG _m .A+ PG _m .B	PG _m .A+ PG _m .B
DS=Total no. of students in all UG and PG programs in the Department	231	297	363
AS=Total no. of students of all UG and PG programs in allied departments
S=Total no. of students in the Department (DS) and allied departments (AS)	S1=UG ₁ +UG ₂ +.. +UG _n +PG ₁ + ...PG _m S1=231	S2=UG ₁ +UG ₂ +.. +UG _n +PG ₁ + ...PG _m S2=297	S3=UG ₁ +UG ₂ +.. +UG _n +PG ₁ + ...PG _m S3=363
DF=Total no. of faculty members in the Department	16	17	18
AF= Total no. of faculty members in the allied Departments
F=Total no. of faculty members in the Department (DF) and allied Departments (AF)	16	17	18
The faculty members in F who have a 100% teaching load in the first-year courses	-	-	-
Student Faculty Ratio (SFR)=S/(F-FF)	SFR1= S1/(F1-FF1) 231/16= 14.44	SFR2=S2/(F2-FF2) 297/17= 17.47	SFR3=S3/(F3-FF3) 363/18= 20.17
Average SFR for 3 years	Average SFR=(14.44+17.47+20.17)/3=17.36		

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	FQI= $2.5 * [(10X + 4Y)/RF]$
CAY (2024-25)	8	8	11.55	24.24
CAYm1 (2023-24)	9	8	14.85	20.53
CAYm2 (2022-23)	10	8	18.15	18.18

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 Faculty (RF1)	Available Faculty (AF1)	Required Faculty (RF2)	Available Faculty (AF2)	Required Faculty (RF3)	Available Faculty (AF3)
CAY (2024-25)	1	2	3	5	8	9
CAYm1 (2023-24)	2	2	3	6	10	9
CAYm2 (2022-23)	2	2	4	6	12	10
Average Numbers	RF1=1.6	AF1=2	RF2=3.3	AF2=5.6	RF3=10	AF3=9.3

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.

S. No.	Name of the Person	Designation & Organization	Name of the Course	No. of hours handled
CAYm1 2023-24				
1.	Dr. S. Arumuga Perumal	Director, Riyasaa Labs, Nagercoil	20OE503- Internet of Things	52
Total no. of hours:				52
CAYm2 2022 - 23				
CAYm3 2021 - 22				

C6: Academic Research**Table No. C6.1:** Faculty publication details.

S. No.	Item	CAYm1 2023 - 24	CAYm2 2022 - 23	CAYm3 2021 - 22
1.	No. of peer reviewed journal papers published	7	5	12
2.	No. of peer reviewed conference papers published	17	17	11
3.	No. of books/book chapters published	1	1	-

C7: Sponsored Research Project

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

S. No.	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)
CAYm1 2023 – 24							
1.	Dr. A. Hemalatha Associate / Mech. Engg.	T. Dharmavel K. Suresh Gopi	Mechanical	Development of Coating Material using Flax Seeds for Solar Panel	Niral Thiruvizha 2024 Government of Tamilnadu	6 months	0.1
2.	Dr. P. Udhayakumar Prof & Head / Mech. Engg.	Dr. A. Hemalatha Associate / Mech. Engg.	Mechanical	Design and Development of Customized 3D Printed Health Care Products	The Institution of Engineers (India), Kolkatta	6 months	0.34
Amount received (Rs.)							0.44
CAYm2 2022 – 23							
CAYm3 2021 – 22							
1	Dr. S.Parthasarathy Prof. / EEE. Engg.	Mr.S. Nallathambi Asst. Prof / Mech. Engg.	Mechanical and Electrical	Laser based Hydraulic Controlled Variable Length land Leveler cum plough Device with Remote Monitoring system	Department of Science and Technology	2 years	85.35 Received during 2021-22 (14 Lacs)
Amount received (Rs.)							85.35
Total Amount (Lacs) Received for the Past 3 Years							85.79

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

S. No.	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)
CAYm1 2023 - 24							
CAYm2 2022-2023							
1.	Dr.P. Udhayakumar Prof & Head / Mech. Engg.	Dr. A. Hemalatha Associate / Mech. Engg.	Mechanical	Verification of Assets and to value the current status of the assets	Hi Tech Arai Pvt Ltd Madurai / Trichy / Chennai	June 2022 to March 2023	5.04
Amount received (Rs.)							5.04
CAYm3 2021-2022							
1.	Dr.P. Udhayakumar Prof & Head / Mech. Engg.	Mr.A.Mohamed Rashick	Mechanical	Design of Flow meter in Milk Filling	Ruby Food Products Pvt Ltd, Madurai	24.11.21 to 23.12.21	0.05
Amount received (Rs.)							0.05
Total amount (Lacs) received for the past 3 years							5.09

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.

S. No.	Faculty name	Project title/ Support for Activity	Duration	Amount (Lacs)	Amount Utilized (Lacs)	Outcomes of the project
CAYm1 2023 - 24						
1.	Dr. D. Muthukrishnan Assistant Professor / Mech. Engg. Mr. M. Mohanraj, Assistant Professor / Mech. Engg. Dr. M.R. Thansekhar, Professor / Mech. Engg.	Influence of short time post weld heat treatment and pre weld heat treatment on the performance of friction stir welded AA6101-T6 & AA1350 Aluminium sheets/ Quality Circle - ARD, K.L.N. College of Engineering	1 Year	0.249	-	In Progress
2.	Dr.D.Pradeep Kannan, Prof / EIE Mr.S. Nallathambi, Assistant Professor / Mech.Engg. Dr. P. Sabarinath, Associate Professor / Mech. Engg.	Design and Development of various agro waste enriched fuel blocks for domestic and industrial applications/ Quality Circle - ARD, K.L.N. College of Engineering	1 Year	0.22	0.07	In Progress
3.	Dr. C. Anbumeenakshi Associate Professor/Mech.Engg.	Waste Collection from water bodies / Innovative Promotion Cell, K.L.N. College of Engineering	1 Year	0.12	0.12	Completed
Amount received (Rs.)					0.19	

S. No.	Faculty name	Project title/ Support for Activity	Duration	Amount (Lacs)	Amount Utilized (Lacs)	Outcomes of the project
CAYm2 2022 – 23						
1.	Dr.P.Udhayakumar Prof & Head / Mech. Engg.	Development of 3D Printed Customized Hand Fracture Splints for improved healing process / Innovation Promotion Cell, K.L.N. College of Engineering	6 months	0.03	0.03	Completed
2.	Dr.C.Anbumeenakshi Associate Prof / Mech. Engg.	Overhead Water Tank Cleaning Machine / Innovation Promotion Cell, K.L.N. College of Engineering	6 months	0.03	0.03	Completed
Amount received (Rs.)					0.06	
CAYm3 2021 – 2022						
Total amount (Lacs) received for the past 3 years						
					0.25	

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.

S. No.	Name of the Laboratory	No. of students per setup (Batch Size)	Name of the major equipment	Weekly Utilization Status (all the courses for which the lab is utilized)		Technical man power support		
				Odd Semester	Even Semester	Name of the technical staff	Designation	Qualification
1.	Industrial Practices Workshop	1 student per exercise (30)	Carpentry Carpentry vice (fitted to work bench), Standard wood working tools, Circular Saw, Planer, Hand Drilling Machine, Jigsaw	20GE1L2 Industrial Practices Workshop (All Branches / I Sem.)	-	Mr.D.Murali	Lab Instructor	I.T.I, DME
			Machining Centre Lathe, Angle Grinder, Drilling Machine					
			Plumbing Assorted components for plumbing consisting of metallic pipes, plastic pipes, flexible pipes, couplings, unions, elbows, plugs and other fittings.					
			Welding Arc welding transformer with cables and holders, Welding booth with exhaust facility, Welding accessories like welding shield, chipping hammer, wire brush, etc. Oxygen and acetylene gas cylinders, blow pipe and other welding outfit.					
			Sheet Metal Standard Working tools					
						Mr.M.Palanichamy	Lab Assistant	Carpentry & Cabinet Making
						Mr.T.Karthikeyan	Lab Assistant	Carpentry & Cabinet Making
						Mr.T. Rajagopal	Lab Assistant	Carpentry & Cabinet Making

S. No.	Name of the Laboratory	No. of students per setup (Batch Size)	Name of the major equipment	Weekly Utilization Status (all the courses for which the lab is utilized)		Technical man power support		
				Odd Semester	Even Semester	Name of the technical staff	Designation	Qualification
2.	Strength of Materials Laboratory	4 students per experiment (30)	<ol style="list-style-type: none"> 1. Universal Testing machine with double shear attachment 2. Torsion Testing Machine 3. Impact Testing Machine 4. Brinell Hardness Testing Machine 5. Rockwell Hardness Testing Machine 6. Spring Testing Machine for tensile and compressive loads 7. Muffle Furnace 8. Rosette strain guage 9. Metallurgical Microscope 10. Disc Polishing Machine 	20ME3L1 Strength of Materials Laboratory (III Sem/ Mech)	-	Mr. M. Suresh	Lab Instructor	DME
3.	Fluid Mechanics and Machinery Laboratory	4 students per experiment (30)	<ol style="list-style-type: none"> 1. Orifice meter 2. Venturi meter 3. Rota meter 4. Centrifugal pump 5. Submergible pump 6. Reciprocating pump 7. Gear pump 8. Pelton wheel turbine 9. Francis turbine 10. Kaplan turbine 11. Pipe friction apparatus 	20ME3L2 Fluid Mechanics and Machinery Laboratory (III Sem/ Mech)	-	Mr.K.Muthu rajavel	Lab Instructor	ITI (Moulder)

S. No.	Name of the Laboratory	No. of students per setup (Batch Size)	Name of the major equipment	Weekly Utilization Status (all the courses for which the lab is utilized)		Technical man power support		
				Odd Semester	Even Semester	Name of the technical staff	Designation	Qualification
4.	Metrology Laboratory	4 students per experiment (30)	1. Micrometer 2. Vernier Caliper 3. Vernier Height Gauge 4. Vernier depth Gauge 5. Slip Gauge Set 6. Gear Tooth Vernier 7. Sine Bar 8. Floating Carriage Micrometer 9. Profile Projector 10. Tool Makers Microscope 11. Mechanical /Electrical/Pneumatic Comparator 12. Autocollimator 13. Temperature Measuring Setup 14. Force Measuring Setup 15. Torque Measuring Setup 16. Co-ordinate Measuring Machine 17. Surface finish measuring equipment 18. Bore gauge 19. Telescope gauge	-	20ME404 Metrology and Measurement Practices (IV Sem Mech)	Mr. M. Suresh	Lab Instructor	DME
5.	Steam Laboratory	4 students per experiment (30)	1. Air-conditioning test rig 2. Single/Two stage reciprocating Air-compressor 3. Mini Power Plant		20ME4L2 Thermal Engineering Laboratory (IV Sem Mech)	Mr.K.Muthu rajavel	Lab Instructor	ITI (Moulder)

S. No.	Name of the Laboratory	No. of students per setup (Batch Size)	Name of the major equipment	Weekly Utilization Status (all the courses for which the lab is utilized)		Technical man power support		
				Odd Semester	Even Semester	Name of the technical staff	Designation	Qualification
6.	Machine Shop	4 students per Exercise (30)	<ol style="list-style-type: none"> 1. Centre Lathes 2. Shaper 3. Radial Drilling Machine 4. Horizontal Milling Machine 5. Vertical Milling Machine 6. Surface Grinding Machine 7. Cylindrical Grinding Machine 8. Centerless Grinding Machine 9. Gear Hobbing Machine 10. Gear Shaping Machine 11. Lathe Tool Dynamometer 12. Milling Tool Dynamometer 13. CNC Lathe 14. CNC Milling machine 		20ME4L1 Manufacturing Technology Laboratory (IV Sem Mech)	Mr.R.Elamurugu	Lab Instructor	I.T.I (Fitter)
7.	Dynamics Laboratory	4 students per experiment (30)	<ol style="list-style-type: none"> 1. Cam follower set up 2. Motorized gyroscope 3. Governor apparatus - Watt, Porter, Proell and Hartnell governors. 4. Whirling of shaft apparatus 5. Dynamic balancing machine 6. Spring mass vibration system 7. Torsional vibration of single rotor system setup. 8. Gear Models 9. Kinematic Models 10. Turn Table Apparatus. 11. Transverse vibration setup of Cantilever beam 	20ME5L1 Dynamics Laboratory (V Sem Mech)		Mr.D.Murali	Lab Instructor	I.T.I. DME

S. No.	Name of the Laboratory	No. of students per setup (Batch Size)	Name of the major equipment	Weekly Utilization Status (all the courses for which the lab is utilized)		Technical man power support		
				Odd Semester	Even Semester	Name of the technical staff	Designation	Qualification
8.	CAD Laboratory	1 student per Computer system (30)	Hardware <ol style="list-style-type: none"> 1. Desktop Computer (Wipro) Core i3 - 2120 CPU@3.3Ghz , 3MB L2 cache 500 GB HDD, 4GBDDR3 RAM, 32 BIT 30 Nos 2. HP Business Desktop Model i3 - 2C - 7100 - 7th Gen Processor 3. 500 GB HDD, 4GBDDR3 RAM, 64 BIT 30 Nos 4. HP 3330 MI Desktop Intel Core i3 3rd Generation Processor (64 Bit) - 1 No 5. HP Server ML – 110 – 1 No. 6. HP - 202N Laser Network simplex Printer – 2 Nos. 7. UPS 6KVA - 2 Nos. 8. 5KV A – 1 No. 9. Canon LIDE 120 Scanner – 2 Nos. 10. Sony LCD Projector - 1 No. 11. Laptop HP 550 Compaq commercial – 1No Software <ul style="list-style-type: none"> • CREO 3.0 – 50 License, • Ansys 12.0 – 55 License 	20ME5L2 CAD/CAM Laboratory (V Sem Mech)	20ME6L1 Computer Aided Simulation and Analysis Laboratory (VI Sem Mech)	Mr.B. Soundrapandi	Foreman Instructor	ITI (DME)

S. No.	Name of the Laboratory	No. of students per setup (Batch Size)	Name of the major equipment	Weekly Utilization Status (all the courses for which the lab is utilized)		Technical man power support		
				Odd Semester	Even Semester	Name of the technical staff	Designation	Qualification
9.	CAM Laboratory	4 students per experiment (30)	1. CNC Turning Centre 2. CNC Bench Milling Machine 3. SGS 'T' Turn 135 CNC Lathe. 4. Wire-cut Electro Discharge Machine	20ME5L2 CAD/CAM Laboratory (V Sem Mech)		Mr.B. Soundrapandi	Foreman Instructor	ITI (DME)
10.	I.C. Engines Laboratory	4 students per experiment (30)	1. Two stroke Petrol Engine – cut section model. 2. Four stroke Petrol Engine – cut section model. 3. Four stroke Diesel Engine – cut section model. 4. Four stroke Diesel Engine with Mechanical loading 5. Twin cylinder Four stroke Diesel Engine with Hydraulic Dynamometer 6. Single Cylinder Four Stroke Diesel Engine with Electrical Dynamometer 7. Single Cylinder Four stroke petrol engine with electrical dynamometer 8. Multi-cylinder Petrol Engine 9. Single Cylinder Petrol Engine		20ME4L2 Thermal Engineering Laboratory (IV Sem Mech)	Mr.K. Muthurajavel	Lab Instructor	I.T,I (Moulder)

S. No.	Name of the Laboratory	No. of students per setup (Batch Size)	Name of the major equipment	Weekly Utilization Status (all the courses for which the lab is utilized)		Technical man power support		
				Odd Semester	Even Semester	Name of the technical staff	Designation	Qualification
11.	Heat and Mass Transfer Laboratory	4 students per experiment (30)	<ol style="list-style-type: none"> 1. Guarded plate apparatus 2. Lagged pipe apparatus 3. Composite wall apparatus 4. Thermal conductivity of insulating powder apparatus 5. Pin-fin apparatus. 6. Natural convection vertical cylinder apparatus 7. Forced convection inside tube apparatus 8. Parallel flow heat exchanger apparatus. 9. Counter flow heat exchanger apparatus. 10. Cross flow heat exchanger apparatus. 11. Stefan-Boltzmann apparatus 12. Emissivity measurement apparatus 	20ME5L3 Heat and Mass Transfer Lab (V Sem Mech)	-	Mr.K.Muthu rajavel	Lab Instructor	I.T,I (Moulder)
12.	Mechatronics Laboratory	4 students per experiment (30)	<ol style="list-style-type: none"> 1. Electro Pneumatic Trainer Kit – 1No. 2. Hydraulic Trainer Kit (HTS 100)–1 No. 3. PLC Trainer kit (ABB Analog & Digital) 1 No. 4. Fluidsim 4.5p Software Full Version - 10 users 	20ME7L1 Mechatronics Laboratory (VII Sem Mech)	-	Mr.R.Elamurugu	Lab Instructor	I.T.I (Fitter)

S. No.	Name of the Laboratory	No. of students per setup (Batch Size)	Name of the major equipment	Weekly Utilization Status (all the courses for which the lab is utilized)		Technical man power support		
				Odd Semester	Even Semester	Name of the technical staff	Designation	Qualification
			5. Fluidsim 4.5h Software Full Version - 10 users 6. LabVIEW – Software 8.5 Version NI - 50 Users 7. NI- Compact DAQ Instrumentation bundle – 1No. 8. NI – USB 6008 DAQ card – 2 Nos. 9. Programmable Logic Controller with Relay board -1 No. 10. AC Servo motor Controller (open loop) - 1 No. 11. Micro Processor 8085 - 5 Nos. 12. Process Control Trainer Kit- 1 No. 13. Stepper motor interfacing with 8051 controller – 3 Nos. 14. Displacement Measurement Trainer Kit – 1No. 15. Photo Sensors Trainer Kit – 2 Nos. 16. HP Computers – Intel Core Duo - 9 Nos. 17. Lenovo Pentium IV Computers with TFT Monitors –5 Nos. 18. IBM computer Intel					

S. No.	Name of the Laboratory	No. of students per setup (Batch Size)	Name of the major equipment	Weekly Utilization Status (all the courses for which the lab is utilized)		Technical man power support		
				Odd Semester	Even Semester	Name of the technical staff	Designation	Qualification
			Pentium D – 1 No. 19. Smart Camera based Image processing system with hardware and software – 1 No. 20. Traffic Light Interface Controller module with 8051 microcontroller – 1 No. 21. Speed Control of DC motor trainer kit- 1 No. 22. UPS Cyber 5KVA – 1 No. 23. HP Laser Printer (HP 1020 Plus) – 1 No. 24. 2kg Stepper motors – 5 Nos. 25. 7kg Stepper motors – 3 Nos. 26. 10 kg Stepper motors - 2 Nos. 27. Digital Multimeter - 2 Nos. 28. Multi Output Power Supply (6 V/6A) - 5Nos. 29. Net gear 8 port switch – 1 No.					

D2: Safety Measures in Laboratories

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

S. No.	Laboratory Name	Safety Measures
1.	Industrial Practices Workshop	<p>SHEET METAL SHOP</p> <ul style="list-style-type: none"> • Sheet cutter is use with handle of care. • When using rolls and bending machines, care should be taken to prevent fingers etc. being caught in the mechanism. • Bending machine should be left in the closed position when not in use. • Lever shears should always be fitted with a locking arm to prevent the lever from being accidentally operated when not in use. • Hammer head must be kept tightly wedged in place. • Always wear gloves: a simple cut can become a serious infection. <p>WELDING</p> <ul style="list-style-type: none"> • Shop staff approval is required before using any welding equipment. • Welder, assistants, and anyone else in the welding area shall wear glasses or shields of recommended shades during welding operations. • The welder is responsible for erecting a screen around the welding area to protect other personnel in the shop from eye injury. • Exposure of the naked skin to the heat and light radiation from an electric arc should be avoided. The radiations from the arc include infrared and ultra-violet light. • Goggles do not give adequate protection from the arc. A hand - held shield that covers the head, face, neck, wrist and hands should be use where both hands are needed a head shield should be used, together with gauntlets to protect the hand and wrists. • Protective clothing should give cover from the throat to the knees. • Goggles or a face shield must be use when using a chipping hammer to remove slag spatter • Welding turn leads must be securely connected by bolting or clamping to prevent contact resistance • Special care with fume extraction must be taken when using shielding gases in a confined space. Argon and nitrogen tend to puddle and displace the oxygen. • Power tools must not be left on electric - arc - welding bench. Damage may be caused if the welding earth return should become open- circuit. • Work in progress or newly finished work, left unattended, should be clearly marked "hot ". • Do not arc weld in wet area. • Be alert to possible fire hazards. Move the object to be welded to a safe location, or,remove all flammable material from the work area. • Never weld in the safe area where degreasing or other cleaning operation are performed <p>GAS WELDING</p> <ul style="list-style-type: none"> • When turning on a cylinder, the vale should be opened very slowly, whilst doing this, no one should stand in front of the gauges. • Care must be taken to ensure that there are no gas leaks. • Heat sources must never be allowed near the cylinder.

S. No.	Laboratory Name	Safety Measures
		<ul style="list-style-type: none"> • Oil or grease must not be allowed to come in to connect with the cylinder valves or fittings, especially on oxygen cylinder. • Hoses must be kept in good condition. wheeled traffic must not be allowed to pass over them. They should be kept from sharp edges and hot metal. • Cylinder valves must close when not use and hoses drained of any remaining gas. • Appropriate goggles, fitted with the correct filter glass, must be worn. • Suitable clothing and gloves should be worn where practicable • Dress from cutting operation should be caught in a metal receptacle. • Material being cut should adequately supported. • Care should be taken to insure that off -cut pieces cannot fall and cause injury and damaged. • Cylinders must be using an upright position and secured to prevent them falling or being knocked over. • Check the ventilation system before starting to weld and periodically their after to ensure adequate performance welding fumes should not be allowed to get into the rest of shop working area. • Never use wrenches or tools except those provided by gas cylinder supplier to open valve. • Never use hammer to open or close valves. <p>CARPENTRY SHOP</p> <ul style="list-style-type: none"> • Disconnect Power before Blade Changes • Use Sharp Blades and Bits • Always Check for Nails, Screws, and Other Metal • Always Work Against the Cutter • Never Reach Over a Blade to Remove Cut-Offs <p>PLUMBING SHOP</p> <ul style="list-style-type: none"> • Always wear appropriate protective gear, including safety glasses, gloves, respiratory masks, and protective clothing, to shield against physical injuries. • Proper Ventilation • Handle Hazardous Materials with Care • Maintain Tools and Equipment • Clean Up Spills Promptly
2.	Strength of Materials Laboratory	<ul style="list-style-type: none"> • Handle broken samples with caution to avoid injury. • Take extra care when performing bending beam experiments, as strain gauges are delicate. • During impact testing, secure the pendulum and avoid standing in front of the machine. • Tensile Testing - During the tensile test pieces can fly out during fracture. Use safety eye shield when grinding specimens. • Do not remove specimens from abrasive cut-off machine until the wheel has stopped. • Hand protection should be utilized when inserting glass tubing into stoppers or when placing rubber tubing on glass hose connections.

S. No.	Laboratory Name	Safety Measures
3.	Fluid Mechanics and Machinery Laboratory	<ul style="list-style-type: none"> • Guards on machinery must be in place during operation. • Exercise care when working with or near hydraulically- or pneumatically driven equipment. • Sudden or unexpected motion can inflict serious injury. • Clean your lab bench and equipment, and lock the door before you leave the laboratory. • Clean up water spills immediately to prevent slip hazards.
4.	Metrology Laboratory	<ul style="list-style-type: none"> • Know thoroughly about the controls before that the Measuring Instruments. • Use always proper tools and devices in Good condition. • Always wear shoe and apron in the Labs. • Do not let your attention diverted while operating the Instruments. • Observe self-discipline. • Parallax error should not be there. • While inspecting or measuring in the Lab temperature between 18 – 20°C. • Please check with Master piece before starting of any Instrument (It should be Calibrated). • Use proper Jigs and Fixtures for perfect clamping. • Switch off the cell phones inside the Lab. • Proper Lighting should be there. • Taking the readings carefully without parallax error. • Clean the Instruments after using and carefully Hand it over to Lab Technicians.
5.	Steam Laboratory	<ul style="list-style-type: none"> • Handle high-pressure equipment carefully. • Handle with care; avoid touching heated components. Use heat-resistant gloves when necessary • Ensure proper ventilation to prevent overheating during experiments. Avoid direct contact with heated surfaces. • Always check for any leaks in the fluid system before starting the experiment. Monitor temperature and pressure closely to avoid dangerous conditions. • Allow components to cool before handling them after the experiment. Ensure all electrical connections are secure before powering on equipment.
6.	Machine Shop	<ul style="list-style-type: none"> • Ensure that the guards are in position and in good working condition before operating. • Know the location of emergency stop switch. • Do not wear loose clothing or jewellery that can be caught in the rotating parts. • Confine long hair. • The keys and adjusting wrenches must be removed from the machine before operating it. • Stop the machine before measuring, cleaning or making any adjustments. • Do not handle metal turnings by hand as they can cause injury. Use brush or rake to remove turnings. • Keep hands away from the cutting head and all moving parts. • Cutting tools and blades must be clean and sharp, so that they can be used without force. • Avoid awkward operations and hand positions. A sudden slip could cause the hand to move into the cutting tool or blade. • Keep work area clean. Floors must be level and have a non-slip surface. • Machines must not be left unattended. Switch off the machine

S. No.	Laboratory Name	Safety Measures
		<ul style="list-style-type: none"> • before leaving. • Rotating parts of machines must not be stopped with hands after switching off. • Compressed air must not be used to clean machines, as this can force small particles to fly off and can cause injury.
7.	Dynamics Laboratory	<ul style="list-style-type: none"> • Exercise caution around rotating devices and moving belts. • Do not tamper measuring instruments. • Do not open the casing of the equipment. • Switch off the power supply to the experimental setup on completion of the experiment.
8.	CAD Laboratory	<ul style="list-style-type: none"> • Computing lab should be maintained clean, organized, and properly lighted. • Keep your workspace clean and free of clutter. Dust can affect computers adversely. Ensure that the machines are cleaned on a regular basis. • Everyone must understand and follow safety procedures • Follow the basic safety guidelines to prevent cuts, burns, electrical shock, and damage to eyesight • Sharp edges inside the computer case should be covered with tape. • Do not spill water or any other liquid on the machine. It can cause short circuit fire as well as damage the machine. • Do not touch areas in printers that are hot or that use high voltage. Remember that some components retain a high voltage even after the printer is turned off. • Do not open a power supply or a CRT monitor. They contain high voltages.
9.	CAM Laboratory	<ul style="list-style-type: none"> • Review all CNC set up and operating procedures provided. • Review all CNC programming instructions provided. • Prepare and review your program carefully. • Edit your program for safety, format, correctness and clarity. It is highly recommended that all programs be verified before the actual trial on the machine. • Verification can be by a dry run on the machine, or through a graphic display of the tool path on the controller's screen. • Turn off the machine once you are done using it.
10.	I.C. Engines Laboratory	<ul style="list-style-type: none"> • Be aware of pinch points and possible entanglement • Articles in motion may dislodge and become airborne • Be aware of hot surfaces • Use Adequate Ventilation and / or Rated Fume Hood • Care with electrical connections, particularly with grounding • Inspect system integrity before operating any pressure / vacuum equipment. Gas cylinders must be secured at all times. • Clean any spills immediately
11.	Heat and Mass Transfer Laboratory	<ul style="list-style-type: none"> • Don't put hands in any rotating equipment like fan, pump shaft etc. • If any equipment malfunctions, turn off electric mains immediately. • In performing the experiments, proceed carefully to minimize any water spills, especially on the electric circuits and wire. • Keep the heat exchanger from being over-pressurized. • Ensure a seamless start-up and shutdown. • Stick to the standard operating procedure. • Avoid skin burns by staying away from hot surfaces.

S. No.	Laboratory Name	Safety Measures
12.	Mechatronics Laboratory	<ul style="list-style-type: none"> • Inspect electrical cords and wiring for damage before use. • Disconnect all equipment from power sources when not in use. • Always power down the electrical equipment, disconnect the power cord, and wait for a few seconds before touching exposed wires. • Work on electrical devices should be done only after the power has been shut off in such a manner that it cannot be turned on accidentally. • If the power cannot be turned off, use only one hand when working on it. This will prevent a circuit from going through your heart, which could be potentially fatal. • Internal energy storage devices such as capacitors must be discharged. • All electrical wiring and construction must conform to standard safety practice. • Wear insulating gloves made of leather or heavy cotton or rubber while working with high voltage. • Use only tools and equipment with non-conducting handles when working with electrical devices. • Never change wiring with circuit plugged into power source. • Never plug leads into power source unless they are connected to an established circuit. • Avoid contacting circuits with wet hands or wet materials. • Check circuits for proper grounding with respect to the power source. • Do not use highly flammable liquids near electrical equipment.

D3: Project Laboratory/Research Laboratory

Table No. D3.1: List of project laboratory/research laboratory /Centre of Excellence.

S. No.	Name of the Laboratory
1.	Project Laboratory
2.	Research and Development Laboratory
3.	ISHRAE Showcase Laboratory

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))/RF4
CAY 2024-25	630	$630/20 = 31.5$	31	6	$(31 \times 0.8) + (6 \times 0.2) / 32 = 26 / 32 = 81$
CAYm1 2023-24	630	$630/20 = 31.5$	30	6	$(30 \times 0.8) + (6 \times 0.2) / 32 = 25 / 32 = 79$
CAYm2 2022-23	540	$540/20 = 27$	28	6	$(28 \times 0.8) + (6 \times 0.2) / 27 = 24 / 27 = 87$

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 CFY 2024-25	Actual expenses in CFY 2024-25 Till 28.02.25	Budgeted in CFYm1 2023-24	Actual Expenses in CFYm1 2023-24	Budgeted in CFYm2 2022-23	Actual Expenses in CFYm2 2022-23	Budgeted in CFYm3 2021-22	Actual Expenses in CFYm3 2021-22
Infrastructure Built-Up	500000	234242	500000	445366	500000	5124057	120000	432390
Library	1100000	0	1100000	1068759	1000000	973422	615000	847680
Laboratory equipment	12872000	12081434	13754000	10402064	12338169	14463545	4975000	2010568
Teaching and non-teaching staff salary	163000000	90457367	151500000	112865318	129514000	104042255	81418000	73206939
Outreach Programs	110000	37811	205000	96299	150000	201788	175000	99995
R&D	200000	328964	200000	217805	600000	485982	130000	182500
Training, Placement and Industry linkage	375000	1745449	375000	237984	375000	293563	310000	335824
SDGs	0	150405	0	0	0	0	0	0
Entrepreneurship	65000	26250	25000	63750	12500	66000	14000	25000
Others*,pl. specify	10600000	10343586	9600000	12534414	8410000	9668063	6630000	5785114
Total amount	188822000	115405508	177259000	137931759	152899669	135318675	94387000	82926010

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 CFY 2024-25 (in Lakhs)	Actual expenses in CFY 2024-25 Till 28.02.25 (in Lakhs)	Budgeted in CFYm1 2023-24 (in Lakhs)	Actual Expenses in CFYm1 2023-24 (in Lakhs)	Budgeted in CFYm2 2022-23 (in Lakhs)	Actual Expenses in CFYm2 2022-23 (in Lakhs)	Budgeted in CFYm3 2021-22 (in Lakhs)	Actual Expenses in CFYm3 2021-22 (in Lakhs)
Laboratory equipment	0.6	0.54	1.28	1.15	2.0	1.76	0.5	0.362
Software	-	-	1.4	1.25	-	-	-	-
SDGs	0.4	0.3	-	-	-	-	-	-
Support for faculty development	0.2	0.18	0.15	0.1	0.25	0.17	0.2	0.18
R & D	0.4	0.1	1	1.09	0.15	0.12	-	-
Industrial Training, Industry expert, Internship	0.12	0.1	0.12	0.13	0.15	0.16	0.1	0.1
Miscellaneous expenses *	0.2	0.15	0.3	0.21	0.45	0.31	2.2	2.04
Total Amount	1.92	1.37	4.25	3.93	3	2.52	3	2.682