NATIONAL BOARD OF ACCREDITATION

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

Program Name : Mechanical Engineering	**Discipline**: Engineering & Technology
Level : Under Graduate	**Tier**: 2
Application No: 11470	**Date of Submission**: 12-01-2026

PART A- Profile of the Institute

A1.Name of the Institute: Toc H Institute of Science and Technology	
Year of Establishment : 2002	Location of the Institute: Kerala
A2. Institute Address:Arakunnam, Ernakulam Pin-682 313 Kerala	
City:Ernakulam	State:Kerala
Pin Code:682313	Website:www.tistcochin.edu.in
Email:principal@tistcochin.edu.in	Phone No(with STD Code):0484-2748388
A3. Name and Address of the Affiliating University (if any):	
Name of the University : Dr APJ Abdul Kalam Technological University	City: Thiruvananthapuram
State : Kerala	Pin Code: 695016
A4. Type of the Institution: Self-Supported Institute	
A5. Ownership Status: Self financing	

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

- No. of UG programs: **9**
- No. of PG programs: **6**

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	Engineering & Technology	UG	Civil Engineering	2006	--	Civil Engineering
2	Engineering & Technology	UG	Computer Science and Engineering	2002	--	Computer Science and Engineering
3	Engineering & Technology	PG	Construction Engineering & Management	2013	--	Civil Engineering
4	Engineering & Technology	PG	Data Science	2020	--	Computer Science and Engineering
5	Engineering & Technology	UG	Electrical and Computer Engineering	2020	--	Electrical and Computer Engineering
6	Engineering & Technology	UG	Electrical and Electronics Engineering	2004	--	Electrical and Electronics Engineering
7	Engineering & Technology	UG	Electronics & Communication Engineering	2002	--	Electronics and Communication Engineering
8	Engineering & Technology	UG	Information Technology	2002	--	Information Technology

9	Engineering & Technology	UG	Mechanical Engineering	2006	--	Mechanical Engineering
10	Engineering & Technology	PG	Power Electronics	2012	2024	Electrical and Electronics Engineering
11	Engineering & Technology	UG	Robotics and Automation	2019	--	Robotics and Automation
12	Engineering & Technology	UG	Safety & Fire Engineering	2011	--	Safety and Fire Engineering
13	Engineering & Technology	PG	Thermal Engineering	2013	2024	Mechanical Engineering
14	Engineering & Technology	PG	Wireless Technology	2011	2024	Electronics and Communication Engineering
15	Management	PG	Masters in Business Administration	2008	--	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
Mechanical Engineering	No	Mechanical Engineering	UG
Safety and Fire Engineering	No	Safety & Fire Engineering	UG
Computer Science and Engineering	Yes	Computer Science and Engineering	UG
Electronics and Communication Engineering	Yes	Electronics & Communication Engineering	UG
Civil Engineering	No	Civil 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	Mechanical Engineering	UG	2006 / --	60	Yes	2020	60	2020	F.No. SouthWest/1-7003815890/2020/ EOA. Dated: 15/06/2020	Granted accreditation for 3 years for the period (specify period)	2023	2026	3	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 :	Dr. Rajesh Kocheril
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)	2025-26 (CAY)	2024-25 (CAYm1)	2023-24 (CAYm2)	2022-23 (CAYm3)	2021-22 (CAYm4)	2020-21 (CAYm5)	2019-20 (CAYm6)
N=Sanctioned intake of the program (as per AICTE /Competent authority)	60	60	60	60	60	60	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	59	42	27	33	29	46	43
N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	0	6	5	4	6	3	3
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.	59	48	32	37	35	49	46

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]
2025-26 (CAY)	60	59	0	98.33
2024-25 (CAYm1)	60	42	0	70.00
2023-24 (CAYm2)	60	27	0	45.00

Average [(ER1 + ER2 + ER3) / 3] = 71.11≡ 14.00

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	(2021-22) LYG	(2020-21) LYGm1	(2019-20) 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).	66.00	63.00	123.00
B=No. of students who graduated from the program in the stipulated course duration	16.00	23.00	15.00
Success Rate (SR)= (B/A) * 100	24.24	36.51	12.20

Average SR of three batches ((SR_1+ SR_2+ SR_3)/3): 24.32

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(2024-25)	CAYm2(2023-24)	CAYm3 (2022-23)
X=(Mean of 1st 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 1st year/10)	4.96	3.75	5.34
Y=Total no. of successful students	42.00	27.00	33.00
Z=Total no. of students appeared in the examination	42.00	27.00	33.00
API [X*(Y/Z)]	4.96	3.75	5.34

Average API[(AP1+AP2+AP3)/3] : 4.68

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 (2024-25)	CAYm2 (2023-24)	CAYm3 (2022-23)
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 2rd year/10)	3.40	4.96	6.08
Y=Total no. of successful students	27.00	37.00	35.00
Z=Total no. of students appeared in the examination	32.00	37.00	35.00
API [X * (Y/Z)]	2.87	4.96	6.08

Average API [(AP1 + AP2 + AP3)/3] : 4.64

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 (2024-25)	CAYm2 (2023-24)	CAYm3 (2022-23)
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)	5.18	4.83	5.85
Y=Total no. of successful students	36.00	35.00	45.00
Z=Total no. of students appeared in the examination	37.00	35.00	46.00
API [X*(Y/Z)]:	5.04	4.83	5.72

Average API [(AP1 + AP2 + AP3)/3] : 5.20

B9. Placement, Higher Studies, and Entrepreneurship

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

Item	LYG (2021-22)	LYGm1(2020-21)	LYGm2(2019-20)
FS*=Total no. of final year students	66.00	63.00	123.00
X=No. of students placed	16.00	23.00	21.00
Y=No. of students admitted to higher studies	3.00	3.00	5.00
Z= No. of students taking up entrepreneurship	0.00	1.00	0.00
Placement Index(P) = (((X + Y + Z)/FS) * 100):	28.79	42.86	21.14

Average Placement Index = (P_1 + P_2 + P_3)/3: 30.93 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	Dr. Rajesh Kocheril	XXXXXXX68M	Ph.D	CUSAT	Thermal Engineeing	16/06/2009	16.6	Assistant Professor	Associate Professor	01/06/2021	Regular	Yes		Yes
2	Shajan K Thomas	XXXXXXX69E	M.Tech	Anna University	Engineering Design	17/07/2006	19.5	Assistant Professor	Assistant Professor		Regular	Yes		No
3	Aby S	XXXXXXX23N	M.Tech	IIT Madras	Thermal Engineering	30/10/2006	19.2	Assistant Professor	Assistant Professor		Regular	Yes		No
4	Sai Govind VS	XXXXXXX71P	M.E.	Anna University	Engineering Design	19/06/2009	16.6	Assistant Professor	Assistant Professor		Regular	Yes		No
5	Anoof M S	XXXXXXX28G	M.E.	Anna University	Engineering Design	04/06/2010	15.7	Assistant Professor	Assistant Professor		Regular	Yes		No
6	Dr. Ritwik A	XXXXXXX03P	Ph.D	CUSAT	Bio Materials	01/06/2012	13.7	Assistant Professor	Associate Professor	01/05/2025	Regular	Yes		No
7	Nidheesh P	XXXXXXX90P	M.Tech	IIT Madras	CFD	29/07/2013	12.5	Assistant Professor	Assistant Professor		Regular	Yes		No
8	Suraj Kumar B	XXXXXXX95B	M.Tech	CUSAT	Thermal Engineering	03/08/2015	10.5	Assistant Professor	Assistant Professor		Regular	Yes		No
9	Radhakrishnan P	XXXXXXX40J	M.Tech	Amrita Vishwa Vidyapeetham	Engineering Design	12/07/2017	8.5	Assistant Professor	Assistant Professor		Regular	Yes		No
10	Dr. Lovin K John	XXXXXXX55L	Ph.D	Amrita Vishwa Vidyapeetham	Additive Manufacturing	09/11/2021	4.1	Assistant Professor	Assistant Professor		Regular	Yes		No
11	Dr. K Vinoth Babu	XXXXXXX02A	Ph.D	Kalasalingam University	Composites	30/08/2022	3.4	Assistant Professor	Associate Professor	01/05/2025	Regular	Yes		No
12	Rohith S P	XXXXXXX06M	M.Tech	KTU	Engineering Design	28/07/2025	0.5	Assistant Professor	Assistant Professor		Contractual Fulltime	Yes		No
13	Ajithkumar K T	XXXXXXX82N	M.Tech	NIT Calicut	Energy Management	01/08/2025	0.5	Assistant Professor	Assistant Professor		Contractual Fulltime	Yes		No
14	Vineeth Devassy	XXXXXXX89K	M.Tech	MG University	Production and Industrial Engineering	30/08/2025	0.4	Assistant Professor	Assistant Professor		Contractual Fulltime	Yes		No

15	Prasanth M A	XXXXXXX29E	M.Tech	KTU	Machine Design	01/11/2021	3.1	Assistant Professor	Assistant Professor		Regular	No	19/12/2024	No
16	Rahul Ravi	XXXXXXX98D	M.Tech	Kerala University	Propulsion Engineering	15/11/2021	2.8	Assistant Professor	Assistant Professor		Regular	No	22/07/2024	No
17	Naveen Prakash K V	XXXXXXX35G	M.Tech	KTU	Machine Design	03/11/2021	2	Assistant Professor	Assistant Professor		Regular	No	31/10/2023	No
18	Emlin V	XXXXXXX99E	M.Tech	CUSAT	Thermal Engineering	25/08/2022	1	Assistant Professor	Assistant Professor		Regular	No	13/09/2023	No
19	Alen John	XXXXXXX70F	M.Tech	Kerala University	Machine Design	30/08/2022	1	Assistant Professor	Assistant Professor		Contractual Fulltime	No	14/08/2023	No
20	Divesh Prakash	XXXXXXX61H	M.Tech	NIT Trichy	Industrial Safety Engineering	01/08/2022	3.1	Assistant Professor	Assistant Professor		Regular	No	15/09/2025	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 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)).

No. of UG Programs in the Department1 No. of PG Programs in the Department1
Table No.C2.1: Student-faculty ratio.

Description	**CAY(2025-26)**	**CAYm1 (2024-25)**	**CAYm2 (2023-24)**
UG1.B	66	65	64
UG1.C	64	64	66
UG1.D	64	66	62
UG1: Mechanical Engineering	**194**	**195**	**192**
PG1.A	0	0	12
PG1.B	0	12	12
PG1: Thermal Engineering	**0**	**12**	**24**
DS=Total no. of students in all UG and PG programs in the Department	194	207	216

Description	CAY(2025-26)	CAYm1 (2024-25)	CAYm2 (2023-24)
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)	**S1=** 194	**S2=** 207	**S3=** 216
DF=Total no. of faculty members in the Department	14	12	14
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)	**F1=** 14	**F2=** 12	**F3=** 14
FF=The faculty members in F who have a 100% teaching load in the first-year courses	0	0	0
Student Faculty Ratio (SFR)=S/(F-FF)	**SFR1= 13.86**	**SFR2= 17.25**	**SFR3= 15.43**
Average SFR for 3 years	**SFR= 15.51**		

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	FQ = 2.5 x [(10X + 4Y) / RF)]
2025-26(CAY)	4	10	9.00	22.22
2024-25(CAYm1)	2	10	10.00	15.00
2023-24(CAYm2)	2	12	10.00	17.00

C4. Faculty Cadre Proportion

- Faculty Cadre Proportion is 1(RF1): 2(RF2): 6(RF3)
- RF1= No. of Professors required = 1/9 * 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 * 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 * 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
2025-26	1.00	0.00	2.00	3.00	6.00	8.00
2024-25	1.00	0.00	2.00	1.00	6.00	11.00
2023-24	1.00	0.00	2.00	1.00	7.00	13.00
Average	RF1=1.00	AF1=0.00	RF2=2.00	AF2=1.67	RF2=6.33	AF2=10.67

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)

(CAYm2)

(CAYm3)

C6. Academic Research

Table No. C6.1: Faculty publication details.

S.No.	Item	2024-25 (CAYm1)	2023-24 (CAYm2)	2022-23 (CAYm3)
1	No. of peer reviewed journal papers published	4	5	3
2	No. of peer reviewed conference papers published	0	1	0
3	No. of books/book chapters published	0	0	0

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
Dr. Rajesh Kocheril	Mr. Shajan K Thomas	Mechanical Eng.	Design & Fabrication of electric buggy (EZ CRUIZE	Graceland Foundation	2 Years	1.30
Mr. Prasanth M A		Mechanical Eng	Waste oil derived greases: A comparative tribological investigation	KSCSTE	6 months	0.41
						Amount received (Rs.):1.71

(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
Mr. Shajan K Thomas		Mechanical Eng	Design and fabrication of a manure shredder	Dairy farm Perumbavoor	6 months	0.10
						Amount received (Rs.):0.10

(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
Dr. Ritwik A		Mechanical Eng	Design and fabrication of portable magnetic refrigerator	ISHRAE	1 Year	0.50
Dr. Rajesh Kocheril	Asst.prof.Aby S	Mechanical Eng	RPS	AICTE	3 Years	10.70
						Amount received (Rs.):11.20

Total Amount (Lacs) Received for the Past 3 Years: 13.01

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)

(CAYm2)

(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
Dr. Rajesh Kocheril		Mechanical Engineering	One District One idea cluster management program	K DISC	2 Years	4.57
						Amount received (Rs.):4.57

Total amount (Lacs) received for the past 3 years: 4.57

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)

(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
Mr.Shajan K Thomas	Aero Lab Equipment and Materials	1 Year	0.30	27408.00	Used for the completion of various aero models
			Amount received (Rs.): 0.30		

(CAYm3)

Total amount (Lacs) received for the past 3 years : 0.30

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	Basic Mechanical Workshop	1	TIG Welding Machine (97815),Industrial muffle furnace (Electrical) (44413),Air compressor (30792),Gas	9 Hours	Mr.R Ananthakrishnan,Mr	Lab instructor,Technical A	B.Tech Mechanica,ITI-Fitt
2	Fluid Mechanics Laboratory	3	Free and Forced Vortex Apparatus (48000),Closed Circuit Notch Tank Test Rig(Rectangular and Triangular	18 Hours	Mr.Pushparajan M,Mr.Phil	Technical Asst.Gr.II,	ITI-Fitter,ITI
3	Hydraulic Machines Lab	3	Wind Tunnel Apparatus (191700),Closed Circuit Francis Turbine Test Rig (142500),Closed Circuit	18 Hours	Mr.Pushparajan, Mr.Philip	Technical Asst.Gr.II,Techı	ITI-Fitter,ITI
4	Machine Shop	2	High speed high precision Centre lathe (HMT NH-26) - 1No (1420429),Horizontal Milling machine - 1No	12 Hours	Mr.Sajayan M, Mr.Reji Pa	Technical Asst.Gr.II, Techı	ITI-Machinist,ITI-Turner
5	Metrology Lab	3	Profile projector(205986),Metallurgical microscope (112332),Inside micrometer (98662),Autocollimator	6 Hours	Mr.Sajayan M,Mr.Reji Pau	Technical Asst.Gr.II, Techı	ITI-Machinist,ITI-Turner
6	Thermal Engineering Laboratory	4	Computerized variable compression ratio diesel engine . computerized variable compression up gradation into	12 Hours	Mr.Shyne Mathew,Mr.Ama	Lab Instructor,Lab Instruc	B.Tech Automobile,ITI-Tur
7	Heat & Mass Transfer Laboratory	3	Combined parallel flow ,counter flow & crossed flow heat exchanger. (59254),Shell and Tube Heat	6 Hours	Mr.Shyne Mathew,Mr.Ama	Lab Instructor,Lab Instruc	B.Tech Automobile,ITI-Tur
8	CAD Lab1	1	Computers - 31 Nos,Auto-CAD - 31 license (Freeware),Unigraphics(UG NX 6.0) - 30 license,Ansys	18 Hours	Mr.Shyne Mathew,Mr.Abic	Lab Instructor,Lab Instruc	B.Tech Automobile
9	CAM and Robotics Lab	3	Six Axis Articulated Stand Alone Robot (ABBIRB1410) (1889475),LMW smart turn CNC Lathe with Siemens	12 Hours	Mr.Reji Paul	Technical Asst.Gr.III	ITI-Turner
10	Mechanical Engineering Lab	3	Vibration apparatus(88400),Universal Governor apparatus (35000),Whirling of shaft apparatus	6 Hours	Mr.Shyne Mathew	Lab Instructor	B.Tech Automobile

D2. Safety Measures in Laboratories

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

Sr. No	Laboratory Name	Safety Measures

1	Instruction common to all Laboratories	1. All students are instructed to wear shoes and lab coat while doing experiments. 2. All students are instructed to wear Personal Protective Equipment while operating machine. 3. Handle the tools and equipment with extreme care and return the tools to their proper places. 4. First aid boxes are provided in the lab for emergencies. 5. Fire extinguishers are provided in the lab for emergencies. 6. To seek approval from staff before using any machines/equipment. 7. Keep out the ID cards, or any other loosely worn items from your body 8. In case of any emergency, use emergency stop button
2	Basic Mechanical Workshop	1. Weld only in a fire safe area; remove fire catching material nearby if any. 2. Choose the proper cutter for the job. Cutters are designed for a specific type, hardness, and size of material. 3. Check the grinding wheel for any kind of crack or damage before using. 4. Ensure proper housekeeping after the use of machinery.
3	Fluid mechanics and Hydraulics Laboratory	1. Students are to be careful for wet floor in the lab. 2. Ensure enough water in tanks before doing the experiment. 3. Water level inside the water related equipment must not rise beyond the safe level. 4. Operate the machines under the supervision of concerned lab staff
4	Machine Shop	1. No machine shall be left unattended while it is running. 2. Cleaning, oiling or adjusting any machine shall not be done while the machine is running. 3. Use PPEs wherever necessary 4. Use Aisle marking for movements 5. Proper Housekeeping and cleaning before and after the experiment
5	Thermal Engineering Laboratory	1. Before operating engine, make sure that there is no fuel or gas leakage. 2. Handle fuels with extreme caution. 3. Make sure that there is no fuel or oil spill on the floor. 4. Operate the machines under the supervision of concerned lab staff
6	CAD Lab-I	1. All students are instructed to turn OFF the equipment before leaving the lab. 2. All students are instructed to keep the work station clean. 3. Use of unauthorized sites are not permitted in CAD lab.
7	Heat and Mass Transfer Laboratory	1. All students are instructed not to touch on hot surface. 2. Always monitor the pressure gauge of steam boiler to ensure that pressure does not exceed the allowed limit.
8	Mechanical Engineering Lab	1. Always keep apparatus free from dust. 2. Do not run the machine below low voltage (Less than 180V) 3. Ensure proper housekeeping after the use of machinery. 4. Ensure the shaft is fixed tightly in the whirling of shaft apparatus before it is switched on 5. Keep away from the rotating parts before it is switched on 6. Do not keep the tools (screw drivers, spanners, Allen keys etc.) on the machines or equipment's after use

D3. Project Laboratory/Research Laboratory

For strengthening the project activities in different technology frontiers, a project laboratory with 500 square feet area is setup near basic mechanical workshop. The students can utilize these facilities for fabrication work.

The students can also utilize the basic mechanical workshop, machine shop and other labs in connection with their projects and dissertations. Lab instructors provide adequate knowledge to the student for the fabrication works of the project. Facilities exist for manufacture of components, parts and repair jobs.

The basic mechanical workshop comprises of the following fully equipped shops:

- Fitting Shop.
- Carpentry Shop.
- Welding Shop.
- Sheet Metal Shop.
- Foundry.

In addition to normal facilities, department of mechanical engineering have set up several labs for advance research. These include:

Table: 7.5.1:L List of Project Laboratory/research laboratory /centre of excellence

S.No	Name of the Laboratory
1	Research & Development Lab
2	Advanced Engine Lab
3	Student Project Lab
4	Daikin Lab

The photographs of laboratories in the department are shown below:

RESEARCH AND DEVELOPMENT LABORATORY

ADVANCED ENGINE LABORATORY

DAIKIN LABORATORY

PROJECT LAB


PROJECT DISPLAY
GPS Map Camera
Arakkunnam, Kerala, India
VCRQ+V56, Arakunnam Tist Rd, Arakkunnam, Kerala 682313, India
Lat 9.891366°
Long 76.438733°
20/04/24 10:33 AM GMT +05:30
Google

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
2023-24(CAYm2)	450	22	15	0	55
2024-25(CAYm1)	480	24	16	0	53
2025-26(CAY)	570	28	16	0	46

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 2025-2026	Actual Expenses in 2025-2026 till	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
Infrastructure Built-Up	3800000	2884185	2600000	2375445	800000	625786	1250000	1107788
Library	3500000	2779682	3500000	3351460	3100000	2917670	2700000	2629599
Laboratory equipment	12761600	7964860	11035000	10374865	3362000	3273271	6900500	8364798
Teaching and non-teaching staff salary	122000000	91667044	114000000	113900726	110500000	110296330	110000000	108777371
Outreach Programs	42000	3105	50500	32664	33000	26250	39000	6605

R&D	1117000	797006	387000	345664	300000	248216	700000	638317
Training, Placement and Industry linkage	5725000	4205924	4368000	4004126	3628000	3245828	3445000	2957092
SDGs	143500	102900	182000	174698	334000	325105	278000	70000
Entrepreneurship	200000	0.00	150000	112000	0.00	0.00	0.00	0.00
Others, specify	63797000	49314181	59710500	57481134	61964300	60490540	59428500	56832291
Total	**213086100**	**159718887.00**	**195983000**	**192152782**	**184021300.00**	**181448996.00**	**184741000.00**	**181383861.00**

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 2025-2026**	**Actual Expenses in 2025-2026 till**	**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**
Laboratory equipment	165000	30981	1112000	1100641	140000	111279	360000	231660
Software	0	0	0	0	0	0	0	0
SDGs	5000	0	5000	5000	0	0	0	0
Support for faculty development	15000	1480	3000	3000	10000	8920	10000	2000
R & D	10000	0	0	0	20000	0	100000	94131
Industrial Training, Industry expert, Internship	428000	327117	437000	431873	315000	306153	385000	270122
Miscellaneous Expenses*	317000	235251	250000	246021	230000	211140	550000	541271
Total	**940000**	**594829**	**1807000**	**1786535**	**715000**	**637492**	**1405000**	**1139184**