NATIONAL BOARD OF ACCREDITATION

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

PART-A: Profile of the Institute

Name of the Program Applied for: B. Tech Mechanical Engineering

A1: Name of the Institute: - KMEA ENGINEERING COLLEGE

Year of Establishment: 2002 Location of the Institute: Kerala

A2: Institute Address: - KUZHIVELIPADY, EDATHALA P.O., ALUVA

City: Kochi State: Kerala

Pin Code: 683561 Website: kmeacollege.ac.in

E-mail: principal@kmeacollege.ac.in Phone No (with STD Code): 0484 2411003

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

Name of the University: APJ Abdul Kalam Technological University City: Thiruvananthapuram

State: Kerala Pin Code: 695016

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

Institute of National Importance	☐	Deemed University	☐
University	☐	Autonomous	☑
Non-Autonomous (Affiliated)	☐	Any other (Please specify) *	☐

Provide Details: UGC conferred autonomous status for a period of 5 years from the Academic year 2025-26 to 2029-30.

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: 6

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

S.N.	Discipline	Level of program (UG/PG)	Name of the program	Year of Start	Year of close*	Name of the Department
1	Computer Application	PG	Master of Computer Application	2024	–	Computer Science and Engineering
2	Engineering & Technology	UG	Artificial Intelligence and Data Science	2024	–	Computer Science and Engineering
3	Engineering & Technology	UG	Civil Engineering	2008	–	Civil Engineering
4	Engineering & Technology	PG	Communication Engineering	2011	–	Electronics and Communication Engineering
5	Engineering & Technology	PG	Computer Aided Structural Engineering	2012	–	Civil Engineering
6	Engineering & Technology	PG	Computer Science and Engineering	2011	–	Computer Science and Engineering
7	Engineering & Technology	UG	Computer Science and Engineering	2002	–	Computer Science and Engineering
8	Engineering & Technology	PG	Electrical & Electronics Engineering	2009	–	Electrical & Electronics Engineering
9	Engineering & Technology	UG	Electronics & Communication Engineering	2002	–	Electronics & Communication Engineering
10	Engineering & Technology	PG	Industrial Engineering and Management	2024	–	Mechanical Engineering
11	Engineering & Technology	UG	Mechanical Engineering	2010	–	Mechanical Engineering
12	Engineering & Technology	PG	Power Electronics	2013	–	Electrical and Electronics Engineering
13	Engineering & Technology	UG	Robotics and Automation	2023	–	Electronics and Communication Engineering
14	Engineering & Technology	UG	Safety and Fire Engineering	2023	–	Safety and Fire Engineering

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

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

Cluster ID.	Name of the Department	Name of the Program
1.	Electrical and Electronics Engineering	Electrical & Electronics Engineering
2.	Mechanical Engineering	Mechanical Engineering
3.	Computer Science and Engineering	Computer Science and Engineering
4.	Civil Engineering	Civil Engineering
5.	Electronics and Communication Engineering	Electronics & Communication Engineering

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.		

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. N.	Program Name	Year of start	Sanctioned Intake	Increase/ decrease in intake, if any	Year of increase/ decrease	AICTE Approval Details	Accredition Status*	No. of times program accredited
1.	Mechanical Engineering	2010	60	Yes	2023	36469993972/ 2023/EOA	Granted accreditation for 3 years for the period (2023-2026)	1

* 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:

A. Name of the HoD: Dr Leera Raju

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

❖Regular ✓
❖**Contract**
❖**Ad hoc**

C. Qualification: (Tick the applicable choice)

❖Ph.D. ✓
❖**ME/M. Tech**
❖**Any other***

***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**	**CAYm1**	**CAYm2**	**CAYm3**	**CAYm4 (LYG)**	**CAYm5 (LYGm1)**	**CAYm6 (LYGm2)**
N= Sanctioned intake of the program (as per AICTE /Competent authority)	60	60	60	90	90	90	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	58	60	52	43	64	90	56
N2= Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	0	9	12	2	1	13	14

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	3	0
Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points.	58	69	64	45	65	106	70

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**	**CAYm1**	**CAYm2**
N= Sanctioned intake of the program in the 1st year (as per AICTE/Competent authority)	60	60	60
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	58	60	52
N4= Total no. of students admitted in the 1st year via all supernumerary quotas	0	0	0
Enrolment Ratio (ER)= (N1+N4)/N	96.67	100	86.67
Average ER= (ER_1+ ER_2+ ER_3)/3	**94.45**		

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 (2021-22)**	**LYGm1 (2020-21)**	**LYGm2 (2019-20)**
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).	91	103	134

B=No. of students who graduated from the program in the stipulated course duration	16	48	31
Success Rate (SR)= (B/A)*100	17.58	46.10	23.13
Average SR of three batches ((SR_1+SR_2+ SR_3)/3)	29.10		

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.

Academic Performance	CAYm1 (2024-25)	CAYm2 (2023-24)	CAYm3 (2022-23)
(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)	7.54	6.26	6.67
Y= Total no. of successful students	13	2	8
Z = Total no. of students appeared in the examination	60	52	39
API = X* (Y/Z)	1.63	0.24	1.35
Average API = (API_1 + API_2 + API_3)/3	1.08		

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)
(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)	6.57	6.71	6.91
Y= Total no. of successful students	2	7	16
Z =Total no. of students appeared in the examination	14	10	17
API = X* (Y/Z)	0.94	4.69	6.50
Average API = (API_1 + API_2 + API_3)/3	4.04		

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)
(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)	6.96	6.97	6.95
Y= Total no. of successful students	5	16	48
Z= Total no. of students appeared in the examination	7	16	48
API = X* (Y/Z)	4.97	6.97	6.95
Average API = (API_1 + API_2 + API_3)/3	6.30		

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	91	103	134
X= No. of students placed	45	88	55
Y= No. of students admitted to higher studies	0	10	2
Z= No. of students taking up entrepreneurship	0	0	0
X + Y + Z =	45	98	57
Placement Index (P) = (((X + Y + Z)/FS) * 100)	32.97	58.25	27.61
Average placement index = (P_1 + P_2 + P_3)/3	39.61		

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

S.N.	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 Leera Raju	PhD	Indian Institute of Technology Madras	Manufacturing Engineering	29/07/ 2021	4.4	Associate Professor	Associate Professor	29/07/ 2021	Regular		Yes	
2	Dr Bijesh Paul	PhD	CUSAT	Mechanical Engineering	05/01/ 2017	8.11	Associate Professor	Professor	06/09/ 2021	Regular		Yes	
3	Dr Sajith T A	Ph.D	Universiti Teknologi MARA, Shah Alam, Malaysia	Nanotechnology	17/08/ 2020	5.4	Assistant Professor	Associate Professor	17/08/ 2022	Regular		Yes	
4	Premkrishnan P	M.E.	Anna University	Industrial Engineering	20/09/ 2011	14.2	Assistant Professor	Assistant Professor		Regular		Yes	
5	Pradeep P D	M.E.	Anna University	CAD/CAM	08/08/ 2016	9.4	Assistant Professor	Assistant Professor		Regular		Yes	

6	Suriya S	M. Tech	Calicut University	Production	27/07/2017	8.4	Assistant Professor	Assistant Professor		Regular		Yes	
7	Muhsin K M	M. Tech	CUSAT	Energy Management	19/03/2018	7.9	Assistant Professor	Assistant Professor		Regular		Yes	
8	Dr. ManikandanH	Ph.D	Birla Institute of Technology and Science	Manufacturing Technology	21/04/2025	0.7	Professor	Professor		Regular		Yes	
9	Rajeesh R Pillai	M.E.	Anna University	Engineering Design	08/01/2018	7.11	Assistant Professor	Assistant Professor		Regular		Yes	
10	Haris P A	MS	NIT Tiruchirappalli	Thermal Engineering	07/11/2016	9.1	Assistant Professor	Assistant Professor		Regular		Yes	
11	Ranjith Kumar T B	M.E.	Anna University	CAD/CAM	01/10/2024	1.2	Assistant Professor	Assistant Professor		Regular		Yes	
12	Dr Reghuraj	Ph.D	CUSAT	CAD/CAM	10/07/2025	0.5	Associate Professor	Associate Professor		Regular		Yes	
13	Sandeep K V	M. Tech	Calicut University	IC Engines And Turbomachinery	07/01/2013	12.5	Assistant Professor	Assistant Professor		Regular		No	01/07/2025
14	Dr Paulose Paulose	Ph.D	Griffith University Australia	Environmental Engineering	01/06/2023	0.11	Associate Professor	Associate Professor		Regular		No	10/05/2024
15	Haneesh K Shams	M. Tech	Kerala university	Industrial Engineering	19/03/2018	5.7	Assistant Professor	Assistant Professor		Regular		No	30/10/2023

16	Erfan N	M. Tech	KTU	Computer Integrated Manufacturing	01/07/2025	0.5	Assistant Professor	Assistant Professor		Regular		Yes	
17	Alaka P	M. Tech	KTU	Health, Safety &Environment Management	20/11/2023	1.6	Assistant Professor	Assistant Professor		Regular		No	03/06/2025
18	Abdul Jaleel K T	M. Tech	CUSAT	Energy Management	04/08/2010	13.5	Assistant Professor	Assistant Professor		Regular		No	20/01/2024
19	Murshid N	M. Tech	VTUBELGAVI	NDUSTRIALAUTOMATIONANDROBOTICS	22/07/2024	0.9	Assistant Professor	Assistant Professor		Regular		No	30/04/2025
20	Steve James	M. Tech	SRMUNIVERSITY	ROBOTICSENGINEERING	02/06/2025	0.6	Assistant Professor	Assistant Professor		Regular		Yes	
21	Rashida Hameed	M.E.	ANNAUNIVERSITY	Applied Electronics	17/08/2009	16.4	Assistant Professor	Assistant Professor		Regular		Yes	
22	Manjusha T S	M.E.	KARPAGAMUNIVERSITY	Wireless Communication	20/08/2012	13.4	Assistant Professor	Assistant Professor		Regular		Yes	
23	Muhammad Musthafa P M	M. Tech	M G University	Industrial Engineering and Management	01/02/2024	1.10	Assistant Professor	Assistant Professor		Regular		Yes	

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

S.N.	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): ➢UG_1=1^{st} UG program

➢UG_n=n^{th} UG program

▪ **B=** No. of Students in UG 2^{nd} 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):

➢PG_1=1st PG program.

➢PG_m=m^{th} 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	CAYm1	CAYm2
UG_1. B // 2nd year students of UG_1 program	66	66	92
UG_1. C // 3nd year students of UG_1 program	66	92	91
UG_1. D // 4th year students of UG_1 program	92	91	99
UG_1 // Total no.of students(2nd, 3rd, 4th) in UG_1 program	UG_1.B+ UG_1.C+ UG_1.D = 224	UG_1.B+ UG_1.C+ UG_1.D = 249	UG_1.B+ UG_1.C+ UG_1.D= 282
UG_n. D // 4th 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	12	12	0
PG_1. B // 2^{nd} year students of PG_1 program	12	0	0
PG_1 // Total no.of students(1^{st}, 2^{nd}) in PG_1 program	PG_1.A+ PG_1.B = 24	PG_1.A+ PG_1.B =12	PG_1.A+ PG_1.B =0
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	248	261	282
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)	248	261	282
DF=Total no. of faculty members in the Department	17	15	13
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)	17	15	13
FF=The faculty members in F who have a 100% teaching load in the first-year courses	1	1	1
Student Faculty Ratio (SFR)=S/(F-FF)	SFR1= 15.5	SFR2=18.64	SFR3=23.5
Average SFR for 3 years	Average SFR=19.21		

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	**5**	**12**	**12.00**	**20.42**
CAYm1	**3**	**12**	**13.00**	**15.00**
CAYm2	**4**	**9**	**14.00**	**13.57**

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 Faculty(RF1)	Available Faculty(AF1)	Required Faculty(RF2)	Available Faculty(AF2)	Required Faculty(RF3)	Available Faculty(AF3)
CAY	**1.00**	**2**	**2.00**	**3.00**	**8.00**	**12.00**
CAYm1	**1.00**	**1.00**	**2.00**	**2.00**	**8.00**	**12.00**
CAYm2	**1.00**	**1.00**	**3.00**	**3.00**	**9.00**	**9.00**
Average Numbers	RF1= 1.00	AF1= 1.33	RF2= 2.33	AF2= 2.67	RF3= 8.33	AF3= 11.00

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.N.	Name of the Person	Designation & Organization	Name of the Course	No. of hours handled
CAYm1				
1	**Sunil Paul**	**Chief Executive Officer & Srishti Robotics Technologies PVT LTD**	**Project Phase 1 and Project Phase 2**	**72.00**
2	**Sreenath P**	**Chief Executive Officer & EMI Products India, PVT LTD**	**Advanced Manufacturing Engineering**	**12.00**
3	**Jinesh Vinayachandran**	**Technical Trainer (Corporate)& Devise Electronics Pune**	**Automobile Engineering**	**12.00**
Total no. of hours:				**96**
CAYm2				
1	**Sunil Paul**	**Chief Executive Officer & Srishti Robotics Technologies PVT LTD**	**Project Phase 1 and Project Phase 2**	**72.00**
2	**Jinesh Vinayachandran**	**Technical Trainer (Corporate)& Devise Electronics Pune**	**Automobile Engineering**	**12.00**
Total no. of hours:				**84.00**
CAYm3				
1	**Sunil Paul**	**Chief Executive Officer & Srishti Robotics Technologies PVT LTD**	**Project Phase 1 and Project Phase 2**	**72.00**
Total no. of hours:				**72.00**

C6: Academic Research

Table No. C6.1: Faculty publication details.

S.N.	Item	CAYm1	CAYm2	CAYm3
1	No. of peer reviewed journal papers published	9	6	4
2	No. of peer reviewed conference papers published	5	3	3
3	No. of books/book chapters published	2	2	1

C7: Sponsored Research Project

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

S.N.	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							
1							
..							
Amount received (Rs.)							0.00
CAYm2							
1							
...							
Amount received (Rs.)							
CAYm3							
1							
..							
Amount received (Rs.)							
Total Amount (Lacs) Received for the Past 3 Years							

C8: Consultancy Work

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

S.N.	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							
1	**Dr Manikandan H**	**Premkrishnan P Dr Leera Raju**	**Chass Engineering**	**Technical Assistance Project for Component Manufacturing Drawings and Production Optimization**	**Chass Engineering**	**2 Years**	**0.30**
..							
Amount received (Rs.)							
CAYm2							
1							
...							
Amount received (Rs.)							
CAYm3							
1							
..							
Amount received (Rs.)							
Total amount (Lacs) received for the past 3 years							

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.N.	Faculty name	Project title/ Support for Activity	Duration	Amount (Lacs)	Amount Utilized (Lacs)	Outcomes of the project
CAYm1						
1						
..						
Amount received (Rs.)						
CAYm2						
1						
..						
Amount received (Rs.)						
CAYm3						
1						
..						
Amount received (Rs.)						
Total amount (Lacs) received for the past 3 years						

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.N.	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 Manpower support		
					Name of the technical staff	Designation	Qualification
1.	Mechanical Engineering Workshop	4	1. Bench Vise 2. Drilling Machine 3. Power Hacksaw Grinder 4. Open hearth forge 5. Hand Shearing Machine	12	Nidhun Narayanan, Abdul Rassack K M	Laboratory Instructor	ITI - Carpentry
2	Fluid Mechanics & Machinery Laboratory	4	1. Closed circuit notch test rig 2. Closed circuit orifice meter test rig 3. Closed circuit 4. Venturi meter apparatus 5. Closed circuit pipe friction test rig 6. Closed circuit 7. Orifice and mouthpiece 8. Metacentric height apparatus 9. Closed circuit Francis turbine test rig 10. Closed circuit Pelton	18	Abdul Rassack K M	Laboratory Instructor	Diploma in Mechanical Engineering

			wheel turbine test rig 11. Closed circuit Kaplan turbine test rig 12. Closed circuit centrifugal pump test rig 13. Open channel flow apparatus 14. Closed circuit reciprocating pump test rig				
3	Machine Tool Laboratory	4	1. Center lathe 2. Radial drilling machine 3. Slotting Machine 4. Shaper 5. Surface Grinder 6. Universal Milling machine 7. Power Hacksaw 8. CNC Turning Machine	18	Hariprasad. V.M	Laboratory Instructor	Diploma in Mechanical Engineering
4	Mechanical Measurements Laboratory	4	1. Profile projector 2. Tool makers microscope 3. Metallurgical microscope 4. Surface Roughness Tester 5. Autocollimator 6. Slip Gauge 7. Metallurgical microscope 8. Digital	18	Shaji Karim	Laboratory Instructor	Diploma in Mechanical Engineering

			stroboscope 9. Dial Gauges 10. Vernier caliper 11. Vernier height gauge 12. Vernier depth gauge 13. Depth micrometer 14. Outside micrometer 15. Inside micrometer 16. Screw thread micrometer				
5	**Heat Engine Laboratory**	**4**	**1. Four Stroke Four Cylinder Petrol Engine Test Rig with Hydraulic Dynamometer 2. Variable Compression Ratio Four Stroke Single Cylinder Petrol Engine Test Rig with Eddy Current Dynamometer 3. Computer Based Four Stroke Single Cylinder Diesel Engine Test Rig with Eddy Current Dynamometer 4. Computer Based Four Stroke Three-Cylinder Petrol Engine Test Rig with Eddy Current Dynamometer 5. Four Stroke Single Cylinder Diesel Engine**	**18**	**Shaji Karim**	**Laboratory Instructor**	**Diploma in Mechanical Engineering**

			6. Two Stroke Single Cylinder Petrol Engine Cut Model 7. Flash and Fire Point Apparatus 8. Redwood Viscometer 9. Steam Engine Miniature Model 10. Junker's Calorimeter 11. Four Stroke Single Cylinder Diesel Engine Cut Model 12. Four Stroke Single Cylinder Petrol Engine 13. Centrifugal Blower Test Rig 14. Two Stage Reciprocating Compressor Test Rig				
6	Mechanical Systems Laboratory	4	1. Emissivity Apparatus Heat Pipe 2.Demonstration Apparatus 3. Parallel and Counter Flow Heat Exchanger 4. Natural 5. Convection Apparatus 6. Lagged Pipe Apparatus 7. Air Conditioning Test Rig 8.Refrigeration Test Rig 9. Stefan	18	Abdul Rassack K M	Laboratory Instructor	Diploma in Mechanical Engineering

			10.Boltzmann Apparatus 11. Critical Heat Flux Apparatus 12. Thermal Conductivity of Insulating Material 13. Thermal Conductivity of Composite Wall 14. Forced Convection Apparatus				
7	**CAD Laboratory**	**1**	**Computers Software Installed: • Solid works - 2015 • Ansys Auto cad**	**30**	**Shabeer. T. P**	**Laboratory Instructor**	**B. Tech in Mechanical Engineering**
8	**Mechanical Engineering Laboratory**	**4**	**1. Whirling of shaft apparatus 2. Gyroscope apparatus 3. Universal governor apparatus 4. Free vibration analysis apparatus 5. Forced vibration analysis apparatus. 6. 3 D printer 7. Liquid penetrant Test**	**18**	**Shabeer. T. P**	**Laboratory Instructor**	**B. Tech in Mechanical Engineering**

D2: `Safety Measures in Laboratories

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

S.N.	Name of the Laboratory	Safety measures
1.	**Basic Mechanical Workshop**	•Specific Safety Rules in the form of Do's and Don'ts are Displayed in the Laboratory. • First Aid Box • Fire Extinguishers. • Hand Gloves • Safety Shoes • Welding Goggles
2	**Fluid Mechanics & Machines Laboratory**	•Specific Safety Rules in the form of Do's and Don'ts are Displayed in the Laboratory • First Aid Box • Fire Extinguisher • Safety markings
3	**Machine Tool Laboratory**	• Specific Safety Rules in the form of Do's and Don'ts are Displayed in the Laboratory • First Aid Box • Fire Extinguisher • Safety markings
4	**Mechanical Measurements Laboratory**	• Specific Safety Rules in the form of Do's and Don'ts are Displayed in the Laboratory • First Aid Box • Fire Extinguisher • Safety markings
5	**Heat Engine Laboratory**	**Specific Safety Rules in the form of Do's and Don'ts are Displayed in the Laboratory** • First Aid Box • Fire Extinguisher • Safety markings
6	**Mechanical Systems Laboratory**	• Specific Safety Rules in the form of Do's and Don'ts are Displayed in the Laboratory • First Aid Box • Fire Extinguishers • Safety markings

7	**CAD Laboratory**	• Specific Safety Rules in the form of Do's and Don'ts are Displayed in the Laboratory • First Aid Box • Fire Extinguisher
8	**Mechanical Engineering Laboratory**	• Specific Safety Rules in the form of Do's and Don'ts are Displayed in the Laboratory • First Aid Box • Fire Extinguisher • Safety markings

D3: Project Laboratory/Research Laboratory

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

S.N.	Name of the Laboratory
1.	**KEC- EMI Centre of excellence in Additive Manufacturing**
2.	**Materials Research Laboratory**

PART E: Fist 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	480	24	19	36	93
CAYm1	390	20	15	36	96
CAYm2	360	18	13	27	88

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	Actual expenses in CFY (till …)	Budgeted in CFYm1	Actual Expenses in CFYm1	Budgeted in CFYm2	Actual Expenses in CFYm2	Budgeted in CFYm3	Actual Expenses in CFYm3
Infrastructure Built-Up	8440000	1674318	8520000	8964668	15500000	12737638	1930500	2394813
Library	1838000	132062	910000	816463	1500000	931933	2572500	1415076
Laboratory equipment	6214000	1375218	228000	157247	5263000	4924895	1440000	3881504
Teaching and non-teaching staff salary	55000000	38447814	54000000	53519813	50650000	50182658	50650000	49203095
Outreach Programs	200000	35785	100000	14327	100000	59553	100000	31600
R&D	500000	0	523000	122870	137500	31586	100000	0
Training, Placement and Industry linkage	300000	153636	2317000	315884	800000	1382732	600000	568494
SDGs	18000000	16875688	3120000	818413	500000	53345	1900000	51628
Entrepreneurship	500000	64719	50000	45000	900000	858044	700000	621467
Others*, pl. specify	14000000	11034383	8684000	13791171	1029500	7998364	18191000	10582195
Total amount	**10499200 0**	**69793623**	**78452000**	**78565856**	**76380000**	**79160748**	**78184000**	**68749872**

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**	**Actual expenses in CFY (till …)**	**Budgeted in CFY*m*1**	**Actual Expenses in CFY*m*1**	**Budgeted in CFY*m*2**	**Actual Expenses in CFY*m*2**	**Budgeted in CFY*m*3**	**Actual Expenses in CFY*m*3**
Laboratory equipment	1055000	54144	370000	0	125000	440305	1575000	188700
Software	0	0	400000	0	200000	0	0	0
SDGs	850000	52500	230000	149150	100000	68950	200000	190924
Support for faculty development	85000	2701	25000	0	80000	0	5000	0
R & D	475000	0	580000	0	70000	3086	50000	0
Industrial Training, Industry expert, Internship	250000	0	55000	0	50000	0	50000	0
Miscellaneous expenses *	345000	0	420000	45445	160000	69210	7000	72257
Total amount	**3060000**	**109345**	**2080000**	**194595**	**785000**	**581551**	**1887000**	**451881**