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**: 1
Application No: 10975	**Date of Submission**: 03-09-2025

PART A- Profile of the Institute

A1.Name of the Institute: IPS Academy, Institute of Engineering and Science, Indore, M.P.	
Year of Establishment : 1999	Location of the Institute: KNOWLEDGE VILLAGE RAJENDRA NAGAR A B ROAD INDORE
A2. Institute Address:INSTITUTE OF ENGINEERING AND SCIENCE, IPS ACADEMY, KNOWLEDGE VILLAGE, RAJENDRA NAGAR, A. B. ROAD, INDORE. (MP) PIN CODE- 452012	
City:Indore	State:Madhya Pradesh
Pin Code:452012	Website:www.ies.ipsacademy.org
Email:director.ies@ipsacademy.org	Phone No(with STD Code):0731-4014601
A3. Name and Address of the Affiliating University (if any):	
Name of the University :	City: Bhopal
State : Madhya Pradesh	Pin Code: 462033
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: **14**
- No. of PG programs: **7**

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	Agricultural Engineering	2022	2025	Agricultural Engineering
2	Engineering & Technology	UG	Artificial Intelligence and Machine Learning	2021	2022	Artificial Intelligence and Machine Learning
3	Engineering & Technology	UG	Chemical Engineering	2004	--	Chemical Engineering
4	Engineering & Technology	PG	Chemical Engineering	2011	--	Chemical Engineering
5	Engineering & Technology	UG	Civil Engineering	2004	--	Civil Engineering
6	Engineering & Technology	UG	Computer Science & Information Technology	2018	--	Computer Science and Information Technology
7	Engineering & Technology	UG	Computer Science and Engineering	1999	--	Computer Science and Engineering
8	Engineering & Technology	UG	Computer Science and Engineering (Artificial Intelligence & Machine Learning)	2021	--	Computer Science and Engineering (Artificial Intelligence and Machine Learning)
9	Engineering & Technology	UG	Computer Science and Engineering (Data Science)	2020	--	Computer Science and Engineering (Data Science)

10	Engineering & Technology	UG	Computer Science and Engineering (Internet of Things and Cyber Security including Blockchain Technology)	2022	--	Computer Science and Engineering (Internet of Things and Cyber Security including Blockchain Technology)
11	Engineering & Technology	UG	Computer Science and Engineering (Internet of Things)	2020	--	Computer Science and Engineering (Internet of Things)
12	Engineering & Technology	PG	Construction & Project Management	2013	--	Civil Engineering
13	Engineering & Technology	PG	Data Science	2007	--	Computer Science and Engineering (Data Science)
14	Engineering & Technology	PG	Digital Communications Engineering	2007	--	Electronics and Communication Engineering
15	Engineering & Technology	UG	Electrical & Electronics Engineering	2003	--	Electrical and Electronics Engineering
16	Engineering & Technology	UG	Electronics & Communication Engineering	1999	--	Electronics and Communication Engineering
17	Engineering & Technology	UG	Fire Technology and Safety	1999	--	Fire Technology and Safety
18	Engineering & Technology	PG	Industrial Safety Engineering	2010	--	Fire Technology and Safety
19	Engineering & Technology	UG	Mechanical Engineering	2013	--	Mechanical Engineering
20	Engineering & Technology	PG	Power Electronics	2013	--	Electrical and Electronics Engineering
21	Engineering & Technology	PG	Structural Engineering	2009	--	Civil Engineering

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
Fire Technology and Safety	No	Fire Technology and Safety	UG
Electrical and Electronics Engineering	No	Electrical & Electronics Engineering	UG
Mechanical Engineering	No	Mechanical Engineering	UG
Electronics and Communication Engineering	No	Electronics & Communication Engineering	UG
Chemical Engineering	No	Chemical 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	2013 / --	120	Yes	2023	30	2023	AICTE	Granted accreditation for 3 years for the period (specify period)	2019	2022	1	4

Sanctioned Intake for Last Five Years for the Mechanical Engineering	
Academic Year	**Sanctioned Intake**
2024-25	30
2023-24	30
2022-23	60
2021-22	60
2020-21	120
2019-20	120

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. Jeyaraj Ponmozhi
B. Nature of appointment:	Regular
C. Qualification:	Ph.D

B3. Program Details

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

Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	2024-25 (CAY)	2023-24 (CAYm1)	2022-23 (CAYm2)	2021-22 (CAYm3)	2020-21 (CAYm4)	2019-20 (CAYm5)	2018-19 (CAYm6)
N=Sanctioned intake of the program (as per AICTE /Competent authority)	30	30	60	60	120	120	120
N1=Total no. of students admitted in the 1st year minus the no. of students, who migrated to other programs/ institutions plus no. of students, who migrated to this program	29	24	12	25	23	23	59
N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	0	6	6	3	2	5	6
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	5	2	0	0	1	5	5
Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points.	34	32	18	28	26	33	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.

Year of entry	N (From Table 4.1)	N1 (From Table 4.1)	N4 (From Table 4.1)	Enrollment Ratio [(N1/N)*100]
2024-25 (CAY)	30	29	5	113.33
2023-24 (CAYm1)	30	24	2	86.67
2022-23 (CAYm2)	60	12	0	20.00

Average [(ER1 + ER2 + ER3) / 3] = 73.33≡ 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	(2020-21) LYG	(2019-20) LYGm1	(2018-19) LYGm2
A*= (No. of students admitted in the 1st year of that batch and those actually admitted in the 2nd year via lateral entry, plus the number of students admitted through multiple entry (if any) and separate division if applicable, minus the number of students who exited through multiple entry (if any).	122.00	125.00	126.00
B=No. of students who graduated from the program in the stipulated course duration	21.00	29.00	60.00
Success Rate (SR)= (B/A) * 100	17.21	23.20	47.62

Average SR of three batches ((SR_1+ SR_2+ SR_3)/3): 29.34

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

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

Academic Performance	CAYm1(2023-24)	CAYm2(2022-23)	CAYm3 (2021-22)
Mean of CGPA or mean percentage of all successful students(X)	6.75	7.04	6.35
Y=Total no. of successful students	21.00	11.00	16.00
Z=Total no. of students appeared in the examination	24.00	11.00	18.00
API [X*(Y/Z)]	5.91	7.04	5.64

Average API[(AP1+AP2+AP3)/3] : 6.20

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

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

Academic Performance	CAYm1 (2023-24)	CAYm2 (2022-23)	CAYm3 (2021-22)
X=(Mean of 2nd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 2rd year/10)	7.08	6.65	7.19
Y=Total no. of successful students	15.00	19.00	22.00
Z=Total no. of students appeared in the examination	17.00	19.00	24.00
API [X * (Y/Z)]	6.25	6.65	6.59

Average API [(AP1 + AP2 + AP3)/3] : 6.50

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

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

Academic Performance	CAYm1 (2023-24)	CAYm2 (2022-23)	CAYm3 (2021-22)
X=(Mean of 3rd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 3rd year/10)	6.72	6.76	7.87
Y=Total no. of successful students	19.00	22.00	29.00
Z=Total no. of students appeared in the examination	19.00	22.00	29.00
API [X*(Y/Z)]:	6.72	6.76	7.87

Average API [(AP1 + AP2 + AP3)/3] : 7.12

B9. Placement, Higher Studies, and Entrepreneurship

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

Item	LYG (2020-21)	LYGm1(2019-20)	LYGm2(2018-19)
FS*=Total no. of final year students	122.00	125.00	126.00
X=No. of students placed	16.00	19.00	30.00
Y=No. of students admitted to higher studies	4.00	1.00	1.00
Z= No. of students taking up entrepreneurship	1.00	1.00	1.00
Placement Index(P) = (((X + Y + Z)/FS) * 100):	17.21	16.80	25.40

Average Placement Index = (P_1 + P_2 + P_3)/3: 19.80 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. Amit Chandak	XXXXXXX01J	Ph.D	SGVU, Jaipur	Industrial Engg. & Mgmt.	02/09/2013	12	Assistant Professor	Associate Professor	01/07/2023	Regular	Yes		No
2	Dr. Jeyaraj Ponmozhi	XXXXXXX66F	Ph.D	FENP PORTUGAL	Mechanical Engineering	08/08/2017	8	Assistant Professor	Professor	01/07/2023	Regular	Yes		Yes
3	Mr. Mahendra Kumar Gupta	XXXXXXX19E	B.E.	Jiwaji University, Gwalior	Mechanical Engineering	01/07/2021	4.2	Professor	Professor	01/07/2021	Regular	Yes		No
4	Mr. Vikrant Kulthe	XXXXXXX70E	M.E.	RGPV Bhopal	Comp. Integrated Mfg.	19/08/2003	22	Assistant Professor	Associate Professor	15/06/2009	Regular	Yes		No
5	Mr. Ashwini Joshi	XXXXXXX66E	M.E.	DAVV INDORE	Design & Thermal Engg.	18/10/2008	16.10	Assistant Professor	Associate Professor	01/07/2013	Regular	Yes		No
6	Mr. Rizwan Sheikh	XXXXXXX03B	M.E.	RGPV Bhopal	Industrial Engg. & Mgmt.	20/10/2009	15.10	Assistant Professor	Associate Professor	01/11/2014	Regular	Yes		No
7	Dr. Satish Raghuwanshi	XXXXXXX69H	Ph.D	SPSU, Udaypur	Design & Thermal Engg.	24/05/2010	15.3	Assistant Professor	Assistant Professor		Regular	Yes		No
8	Mr. Rahul Samre	XXXXXXX44H	M.E.	RGPV Bhopal	Advance Production Systems	17/07/2013	12.1	Assistant Professor	Assistant Professor		Regular	Yes		No
9	Mr. Rahul Sharma	XXXXXXX52F	M.Tech	RGPV Bhopal	Thermal Engineering	13/09/2013	11.11	Assistant Professor	Assistant Professor		Regular	Yes		No
10	Mr. Pradeep Singh Hada	XXXXXXX58H	M.E.	DAVV INDORE	Design & Thermal Engg.	22/08/2014	11	Assistant Professor	Assistant Professor		Regular	Yes		No
11	Mr. Mayank Gurjar	XXXXXXX24B	M.E.	RGPV Bhopal	Comp. Integrated Mfg.	07/09/2015	9.11	Assistant Professor	Assistant Professor		Regular	Yes		No

12	Mr. Sharad Kumar Shukla	XXXXXXX25M	M.E.	RGPV Bhopal	Design & Thermal Engg.	11/08/2014	11	Assistant Professor	Assistant Professor		Regular	Yes		No
13	Mr. Anand Thorat	XXXXXXX02M	M.E.	RGPV Bhopal	Production & Machine Design	11/08/2014	11	Assistant Professor	Assistant Professor		Regular	Yes		No
14	Mr. Jayant Khede	XXXXXXX00B	M.Tech	VNIT	Computer Aided Design & Computer Aided Mfg.	04/09/2015	10	Assistant Professor	Assistant Professor		Regular	Yes		No
15	Mr. Kapil Patodi	XXXXXXX26Q	M.E.	DAVV INDORE	Design & Thermal Engg.	10/09/2015	9.11	Assistant Professor	Assistant Professor		Regular	Yes		No
16	Mr. Manoj Raut	XXXXXXX87N	M.E.	RGPV Bhopal	Production Engg. & Engg Design	15/09/2015	9.11	Assistant Professor	Assistant Professor		Regular	Yes		No
17	Mr. Rahul Chadhokar	XXXXXXX90J	M.E.	RGPV Bhopal	Tribology & Maintenance Engg.	23/08/2016	9	Assistant Professor	Assistant Professor		Regular	Yes		No
18	Mr. Piyush Laad	XXXXXXX11K	M.E.	DAVV INDORE	Design & Thermal Engg.	29/08/2016	9	Assistant Professor	Assistant Professor		Regular	Yes		No
19	Mr. Shubham Kanungo	XXXXXXX80M	M.E.	DAVV INDORE	Design & Thermal Engg.	27/08/2018	7	Assistant Professor	Assistant Professor		Regular	Yes		No
20	Ms. Sonali Yadav	XXXXXXX74A	M.E.	RGPV Bhopal	Industrial Engg. & Mgmt.	29/08/2016	9	Assistant Professor	Assistant Professor		Regular	Yes		No
21	Mr. Rupendra Singh Tanwar	XXXXXXX99F	M.E.	RGPV Bhopal	Design of Mechanical Systems	13/08/2014	11	Assistant Professor	Assistant Professor		Regular	Yes		No
22	Mr. Rajendra Sharma	XXXXXXX12L	M.E.	DAVV INDORE	Design & Thermal Engg.	31/08/2015	10	Assistant Professor	Assistant Professor		Regular	Yes		No
23	Dr. Ramesh J Lalwani	XXXXXXX91E	Ph.D	IIT Kharagpur	Mechanical Engineering	30/06/2016	8	Professor	Professor	30/06/2016	Regular	No	29/06/2024	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 Department0
Table No.C2.1: Student-faculty ratio.

Description	CAY(2024-25)	CAYm1 (2023-24)	CAYm2 (2022-23)
UG1.B	33	66	63
UG1.C	66	63	122
UG1.D	63	122	125
UG1: Mechanical Engineering	**162**	**251**	**310**
DS=Total no. of students in all UG and PG programs in the Department	162	251	310
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=** 162	**S2=** 251	**S3=** 310
DF=Total no. of faculty members in the Department	21	22	22
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=** 21	**F2=** 22	**F3=** 22
FF=The faculty members in F who have a 100% teaching load in the first-year courses	11	9	6
Student Faculty Ratio (SFR)=S/(F-FF)	**SFR1= 16.20**	**SFR2= 19.31**	**SFR3= 19.38**
Average SFR for 3 years	**SFR= 18.30**		

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)]
2024-25(CAY)	2	19	8.00	30.00
2023-24(CAYm1)	3	19	12.00	22.08
2022-23(CAYm2)	3	19	15.00	17.67

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
2024-25	1.00	1.00	1.00	1.00	5.00	19.00
2023-24	1.00	2.00	2.00	1.00	8.00	19.00
2022-23	1.00	1.00	3.00	1.00	10.00	20.00

Average	RF1=1.00	AF1=1.33	RF2=2.00	AF2=1.00	RF2=7.67	AF2=19.33

C5. Visiting/Adjunct Faculty/Professor of Practice

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

(CAYm1)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Mr Mahendra Kumar Gupta	Professor of Practice	IPS Academy, Institute of Engineering & Science	Manufacturing Practice	14.00
2	Mr Mahendra Kumar Gupta	Professor of Practice	IPS Academy, Institute of Engineering & Science	Manufacturing Technology	14.00
3	Mr Mahendra Kumar Gupta	Professor of Practice	IPS Academy, Institute of Engineering & Science	IC Engine	14.00
4	Mr Mahendra Kumar Gupta	Professor of Practice	IPS Academy, Institute of Engineering & Science	Automobile Engineering	14.00

(CAYm2)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Mr Mahendra Kumar Gupta	Professor of Practice	IPS Academy, Institute of Engineering & Science	Manufacturing Practice	14.00
2	Mr Mahendra Kumar Gupta	Professor of Practice	IPS Academy, Institute of Engineering & Science	Manufacturing Technology	14.00
3	Mr Mahendra Kumar Gupta	Professor of Practice	IPS Academy, Institute of Engineering & Science	IC Engine	14.00
4	Mr Mahendra Kumar Gupta	Professor of Practice	IPS Academy, Institute of Engineering & Science	Automobile Engineering	14.00

(CAYm3)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Mr Mahendra Kumar Gupta	Professor of Practice	IPS Academy, Institute of Engineering & Science	Manufacturing Practice	14.00
2	Mr Mahendra Kumar Gupta	Professor of Practice	IPS Academy, Institute of Engineering & Science	Manufacturing Technology	14.00
3	Mr Mahendra Kumar Gupta	Professor of Practice	IPS Academy, Institute of Engineering & Science	IC Engine	14.00
4	Mr Mahendra Kumar Gupta	Professor of Practice	IPS Academy, Institute of Engineering & Science	Automobile Engineering	14.00

C6. Academic Research

Table No. C6.1: Faculty publication details.

S.No.	Item	2023-24 (CAYm1)	2022-23 (CAYm2)	2021-22 (CAYm3)
1	No. of peer reviewed journal papers published	14	5	3
2	No. of peer reviewed conference papers published	13	6	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. J. Ponmozhi		Mechanical Engineering	Integrated microfluidic devices: Fabrication techniques, sensing devices for Engineering & Biomedical applications	SERB,DST	One Week	500000.00
						Amount received (Rs.):500000.00

(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
Dr. J. Ponmozhi		Mechanical Engineering	Early diagnosis of Oral cancer biomarkers of saliva in Oral cancer - A non-invasive diagnosis of Oral cancer in a Microfluidic platform	Accelerate Vigyan – SERB funded	One Week	500000.00
Mr. Rahul Sharma	Mr. Piyush Laad	Mechanical Engineering	Recent Advances in Heating Ventilation and Air Conditioning and Refrigeration (HVAC&R) System and Their Application	SERB DST	One Week	150000.00
						Amount received (Rs.):650000.00

(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. J. Ponmozhi	Dr. Shanmugam Dhinakaran Indian Institute of Technology, Indore	Mechanical Engineering	Drug diffusion studies in skin on Chip Devices: Numerical Simulations and Experiments (Project funded by SERB Core Research Grant 2021	SERB, New Delhi	3 Years	1716000.00
Dr. J. Ponmozhi	Visiting faculty from Sri Lanka was awarded fellowship	Dr. P. V. Kalani department of Oral Medicine and Periodontology Peradeniya, Sri Lanka	Can Perio –Pathogenic bacteria and candida spp act as biomarkers of saliva in oral cancer? A non-invasive diagnosis of oral cancer in a microfluidics platform	ISRF, DST	6 months	330000.00
Dr. Amit Chandak		Mechanical Engineering	Technology Based Entrepreneurship Development Program	National Science & Technology Entrepreneurship Development Board (NSTEDB),DST	Two Weeks	320000.00
						Amount received (Rs.):2366000.00

Total Amount (Lacs) Received for the Past 3 Years: 3516000.00

Note*:

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

C8. Consultancy Work

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

(CAYm1)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Nil						
						Amount received (Rs.):0

(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
Nil						
						Amount received (Rs.):0

(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
Nil						
						Amount received (Rs.):0

Total amount (Lacs) received for the past 3 years: 0

Note*:

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

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

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

(CAYm1)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
Mr. Rahul Sharma	Design & development of aBAJA Vehicle	one year	611996.00	611996.00	Overall Winner Prize Money Rs 75000
Mr. Rahul Sharma	Design & development of eBAJA Vehicle	one year	927869.00	927869.00	Preparation of working models/prototypes. The competition involves designing, building, and testing an all terrain vehicle
Mr. Rahul Sharma	Design & development of mBAJA Vehicle	one year	940192.00	940192.00	The event includes preparation of working models/prototypes. Best Debutant Award (Rs. 25000/-)
			Amount received (Rs.): 2480057.00		

(CAYm2)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
Mr. Rahul Sharma	Design & development of e-BAJA Vehicle	2022-23	1070800.00	1077800.00	The event includes preparation of working models/prototypes. 1st Runnerup in Technology & Innovation Category (Rs. 15000/-)
			Amount received (Rs.): 1070800.00		

(CAYm3)

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

Total amount (Lacs) received for the past 3 years : 3550857.00

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 Engg.	30	I C Engine (Two stroke four stroke) Model , Cochran boiler , Lancashire Boiler , Babcock and Wilcox boiler ,	28	Prakash Take	Lab Assistant	ITI
2	Engg. Mechanics	30	Bell crank lever , Parallel force apparatus , Truss apparatus , Fly wheel	28	Paritesh Nim	Lab Assistant	Diploma
3	Techshop (Workshop)	30	Lathe, Milling M/C, ARC Welding Machine, Fitting shop instrument ,carpentry shop instruments MIG Welding	28	Sanjeev Dwivedi / Ompra	Lab Assistant	ITI /Diploma
4	Thermal Engineering & Gas Dynamics	30	Joules' Exp, separating and throttling Calorimeter, reciprocating compressor, Reciprocating air	8	Prakesh Take	Lab Assistant	ITI
5	Software Lab.	30	30 No. of PC, Ansys 60 licensed , Solidworks 60 license, AutoCAD, Primavera , Abacus	8	Paritesh Nim	Lab Assistant	B.Tech
6	Theory of Machine	30	Motorized Gyroscope ,cam profile analysis ,epicyclic gear train , coriolis components app., Governor,	8	Suraj Kalsekar	Lab Assistant	ITI
7	Instrumentation & Control	30	LVDT ,Strain Gauge , Load Cell , Slip gauge, Micrometer	8	Paritesh Nim	Lab Assistant	B.Tech
8	Internal Combustion engines	30	Two stroke single cylinder petrol engine ,Four stroke single cylinder petrol engine ,Four stroke single cylinder	8	Omprakesh Solanki	Lab Assistant	Diploma
9	Mechanical Vibration & Noise Engineering	30	Universal Vibration Apparatus ,Whirling of shaft , Compound Pendulum	8	Paritesh Nim	Lab Assistant	B Tech
10	Automobile Engg	30	Differential gear mechanism model ,Clutches model ,Brake system model Gear box model Steering	8	Omprakesh Solanki	Lab Assistant	Diploma
11	Refrigeration & Air Conditioning	30	Windows Air-condition Test Rig , Air Condition Test Rig , Vapour Compression Refrigeration Test Rig , Vapour	8	Suraj Kalsekar	Lab Assistant	ITI
12	Materials Technology	30	Double disc polishing machine, Electrical Muffle furnace, Erichson Cupping testing machine, Jominy	8	Suraj Kalsekar	Lab Assistant	ITI
13	Advance manufacturing lab	30	CNC lathe , 3-D Printer	8	Sanjeev Dwivedi / Ompra	Lab Assistant	ITI /Diploma

D2. Safety Measures in Laboratories

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

Sr. No	Laboratory Name	Safety Measures
1	Tech-Shop Lab/Work Shop Practice	-Basic Safety Rule Display in Board -Before using any electrical equipment, inspect it to make ensure that cord is not damaged in any way and electrical earthing is provided. Sufficient space is available for easy and free movement in the Lab. Fire Extinguisher & First Aid Kit are available
2	Basic Mechanical Engg.	-Basic Safety Rule Display in Board -Before using any equipment ensure that it is properly assembled First Aid Kit available
3	Engineering Mechanics	-Basic Safety Rule Display in Board -Before using any equipment ensure that it is properly assembled First Aid Kit available
4	Thermodynamics	-Basic Safety Rule Display in Board -Before using any electrical equipment, inspect it to make ensure that cord is not damaged in any way and electrical earthing is provided. Fire Extinguisher & First Aid Kit are available
5	Software Lab	-Basic Safety Rule Display in Board - Before using any computer, inspect it to make ensure that cord is not damaged in any way and earthing is done properly.
6	Theory of Machine	-Basic Safety Rule Display in Board -Before using any electrical equipment, inspect it to make ensure that cord is not damaged in any way and rotating part is properly assembled and electrical earthing is provided
7	Instrumentation & Control	-Basic Safety Rule Display in Board -Before using any electrical equipment, inspect it to make ensure that cord is not damaged in any way. Fire Extinguisher & First Aid Kit are available
8	Mechanical Vibration & Noise Engineering	-Basic Safety Rule Display in Board -Before using any electrical equipment, inspect it to make ensure that cord is not damaged in any way and electrical earthing is provided. Fire Extinguisher & First Aid Kit are available
9	Automobile Engineering	-Basic Safety Rule Display in Board -Before using any equipment ensure that it is properly assembled First Aid Kit available
10	Refrigeration & Air Conditioning	-Basic Safety Rule Display in Board -Before using any electrical equipment, inspect it to make ensure that cord is not damaged in any way and electrical earthing is provided. Fire Extinguisher & First Aid Kit are available
11	Materials Technology	-Basic Safety Rule Display in Board -Before using any electrical equipment, inspect it to make ensure that cord is not damaged in any way and electrical earthing is provided. Fire Extinguisher & First Aid Kit are available

12	Research Lab / Microfluidic lab	-Take care not to breathe over wafers and wafer work areas. If gloved hands are dirty then do not handle wafers or quartz boats with gloved hands. Always use tweezers to handle wafers.
13	Advance manufacturing lab	-Basic Safety Rule Display in Board -Before using any electrical equipment, inspect it to make ensure that cord is not damaged in any way and earthing is done properly. Fire Extinguisher & First Aid Kit are available

D3. Project Laboratory/Research Laboratory

Department having state of art Research Laboratories.

The Purpose and Vision for establishing the Microfluidics Research Laboratory.

The lab was established to advance interdisciplinary research, education, innovation, responsibility to solve the real-life problem with the help of its translational applications. Microfluidics deals with fluid flow and transport phenomena at the microscale, has been used as a transformative technology with various applications from healthcare, energy, environment, and defense. At present the lab is focused on solving health care problems (diagnosing early cancer stages by non-invasive methods).

1. **Research oriented needs for academics:**Microfluidics is at the intersection of fluid mechanics, material science, biotechnology, microbiology, electronics, computer science. So a dedicated lab helps to develop high impact interdisciplinary research. This will help the UG, PG and PhD students for developing various skills aligning with industry.

2. **National and societal relevance from the institute level:** Right now, we are working on Oral cancer diagnosis, Skin-on-chip model for testing drugs, Bacterial vaginosis pathogens and finding effective lactobacilli spores for treatment. In future we will be wotking for diagnosing other types of cancer and commercializing the device. These works directly aligns with Atmanirbhar Bharat, Make in India, and HealthTech initiatives.

3. **Collaborative and translational impact:** Microfluidics research laboratory will work as an interdisciplinary hub, by developing collaborations with mechanical engineering, electronics, and biosciences. It will develop joint projects, attract competitive funding from DST, DBT, ICMR, and DRDO, and offer prototyping services for startups in diagnostics and biomedical engineering.

4. **Outcomes:** Our Lab will produce high-quality publications, patents, and prototypes that address real societal challenges. In addition, it will serve as a training ground for students, to have an international impact.

A dedicated project laboratory and also having facilities in other laboratory for Project

Sr. No	Name of the Facilities	Utilization	Relevance to PO	Relevance to PSO
1	Project Laboratory :- Computers with software (Solid works, Ansys , Primavera , Abacus and Autocad) ,desks, board and chairs	2nd year, 3rd year and 4th year students and Faculty members utilize for projects, (Baja, Go kart and research activities).	2,3,4.5,8,10	1,2
2.	Microfluidic Lab	Microscope, Syringe pump, Laminar air flow,biosafety cabinet,Co2 Incubator, Bacteriological,Incubator, Deep Freezer,Refrigerator	2,3,4,5,6	1,2

Table No. 7.5.1 : List of project laboratory / research laboratory / Centre of Excellence

PART E: First Year faculty and financial Resources

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

E1. First Year Student-Faculty Ratio (FYSFR)

Table No. E1.1: FYSFR details.

Year	Sanctioned intake of all UG programs (S4)	No. of required faculty (RF4= S4/20)	No. of faculty members in Basic Science Courses & Humanities and Social Sciences including Management courses (NS1)	No. of faculty members in Engineering Science Courses (NS2)	Percentage= No. of faculty members ((NS1*0.8) + (NS2*0.2))/(No. of required faculty (RF4)); Percentage= ((NS1*0.8) +(NS2*0.2))/RF
2022-23(CAYm2)	1200	60	32	27	52
2023-24(CAYm1)	1080	54	34	27	60
2024-25(CAY)	1350	68	39	28	54

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

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

Items	Budgeted in 2024-2025	Actual Expenses in 2024-2025 till	Budgeted in 2023-2024	Actual Expenses in 2023-2024 till	Budgeted in 2022-2023	Actual Expenses in 2022-2023 till	Budgeted in 2021-2022	Actual Expenses in 2021-2022 till
Infrastructure Built-Up	13500000	12165791	30000000	29247341	3000000	2849542	4000000	3722103
Library	4000000	3827562	3600000	2942647	3000000	2671152	2500000	2428320
Laboratory equipment	15000000	11293138	17500000	14597042	17000000	16582225	3000000	2888247
Teaching and non-teaching staff salary	310000000	306841161.9	210000000	198729602.6	217000000	216013546	197000000	196375951
Outreach Programs	850000	445936	800000	276974	700000	643959	100000	9483
R&D	15000000	11943535	14500000	11377521	13000000	12293948	9500000	8868850
Training, Placement and Industry linkage	13000000	12546196	11000000	9983475	10000000	8962633	9000000	7672202
SDGs	5500000	4882136	5000000	4750248	4500000	3948526	4000000	3459489
Entrepreneurship	1500000	1212111	1400000	1278748	1300000	1174590	500000	153000
Others, specify	148000000	146195460.96	123000000	119016351.81	162000000	149976963.6	65000000	54990405
Total	**526350000**	**511353027.86**	**416800000**	**392199950.41**	**431500000**	**415117084.6**	**294600000**	**280568050**

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

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

Items	Budgeted in 2024-2025	Actual Expenses in 2024-2025 till	Budgeted in 2023-2024	Actual Expenses in 2023-2024 till	Budgeted in 2022-2023	Actual Expenses in 2022-2023 till	Budgeted in 2021-2022	Actual Expenses in 2021-2022 till
Laboratory equipment	200000	163241	2200000	2019042	1500000	1440035	0	0
Software	0	0	0	0	0	0	0	0
SDGs	400000	383268	600000	582533	370000	337008	350000	341257

Support for faculty development	400000	366811	350000	335788	350000	334688	320000	304250
R & D	2900000	2719428	3100000	3077557	1700000	1583800	220000	210000
Industrial Training, Industry expert, Internship	50000	30000	50000	7176	50000	16000	50000	8000
Miscellaneous Expenses*	200000	178831	50000	25000	30000	8319	20000	6000
Total	**4150000**	**3841579**	**6350000**	**6047096**	**4000000**	**3719850**	**960000**	**869507**