Jai Narain College of technology, Bhopal
Program Name – B.Tech. Mechanical Engineering

NATIONAL BOARD OF ACCREDITATION

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

PART-A: Profile of the Institute

Name of the Program Applied for:	B. Tech. - Mechanical Engineering (UG)
A1: Name of the Institute:	Jai Narain College of Technology
A2: Year of Establishment:	2003
Location of the Institute / Institute Address:	New Chouksey Nagar, Lambakheda, Bhopal, Madhya Pradesh 462038.
City:	Bhopal
State:	Madhya Pradesh
Pin Code:	462038
Website:	www.jnctbhopal.ac.in
E-mail:	principal@jnctbhopal.ac.in
Phone No (with STD Code):	0755- 6615608
A3: Name of the Affiliating University (If any):	Rajiv Gandhi Proudyogiki Vishwavidyalaya (RGPV)
University City:	Bhopal
University State:	Madhya Pradesh
University Pin Code:	462033

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

☐ Institute of National Importance	☐ University	☐ Autonomous
☐ Deemed University	✓☐ Non-Autonomous (Affiliated)	☐ Any other (Please specify)*
*Provide Details:		

A5: Ownership Status: (Tick the applicable choice)

☐ Central Government	☐ State Government	☐ Government Aided
✓☐ Self-financing	☐ Any Other (Please specify)*	
*Provide Details:		

Jai Narain College of technology, Bhopal
Program Name – B.Tech. Mechanical Engineering

A6: Details of all Programs being offered by the Institution:

No. of UG programs: 06 No. of PG programs: 02

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

S.N.	Level of program (UG/PG)	Name of the program	Year of Start	Year of close*	Name of the Department
1	UG	B. Tech. (Electronics & Communication Engineering)	2003	-	Electronics & Communication Engineering
2	UG	B. Tech. (Mechanical Engineering)	2003	-	Mechanical Engineering
3	UG	B. Tech. (Computer Science Engineering)	2003	-	Computer Science Engineering
4	UG	B. Tech. (Electrical & Electronics Engineering)	2005	-	Electrical & Electronics Engineering
5	UG	B. Tech. (Artificial Intelligence & Data Science)	2021	-	Artificial Intelligence & Data Science
6	UG	B. Tech. (Artificial Intelligence & Machine Learning)	2021	-	Artificial Intelligence & Machine Learning
7	PG	M. Tech. (Computer Science Engineering)	2012	-	Computer Science Engineering
8	PG	Master of Business Administration	2008	-	Master of Business Administration

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

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

Cluster ID.	Name of the Department	Name of the Program
1	Electronics and Communication Engineering	B. Tech.- Electronics and Communication Engineering (UG)
2	Mechanical Engineering	B. Tech. - Mechanical Engineering (UG)

Table No. A7.2: Allied Department(s) to the Department of the program considered for accreditation as above.

Cluster ID.	Name of the Department (in table no. A7.1)	Name of allied Departments/Cluster (for table no. A7.1)
1.	NA	NA
2.	NA	NA

Jai Narain College of technology, Bhopal
Program Name – B.Tech. Mechanical Engineering

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	Accreditation Status*	No. of times program accredited
2	B. Tech. (Mechanical Engineering)	2003	60	120	2012	F. No. Central/1-743561132/2012/EOA	Applying First Time	Nil
				180	2013	F .No. Central/1-473630443/2013/EOA/Corrigendum-1		
				90	2018	F. No. Central/1-3509696619/2018/EOA		
				30	2021	F. No. Central/1-9317660884/2021/EOA		

* 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. Rashmi Dwivedi
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.

CAY = Current Academic Year: 2025-26

CAYm1 = Current Academic Year Minus 1: 2024-25

CAYm2 = Current Academic Year Minus 2: 2023-24

Jai Narain College of technology, Bhopal
Program Name – B.Tech. Mechanical Engineering

CAYm3 = Current Academic Year Minus 3: 2022-23

LYG = Last Year Graduate: 2021-22

LYGm1 = Last Year Graduate Minus 1: 2020-21

LYGm2 = Last Year Graduate Minus 2: 2019-20

Item (Information is to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	CAY 2025-26	CAYm1 2024-25	CAYm2 2023-24	CAYm3 2022-23	CAYm4 (LYG) 2021-22	CAYm5 (LYGm1) 2020-21	CAYm6 (LYGm2) 2019-20
N = Sanctioned intake of the program (as per AICTE / Competent authority)	30	30	30	30	30	90	90
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	34	17	20	28	30	26	07
N2 = Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	0	2	2	14	2	3	4
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.	34	19	22	42	32	29	11

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 2025-26	CAYm1 2024-25	CAYm2 2023-24
N = Sanctioned intake of the program in the 1st year (as per AICTE/Competent authority)	30	30	30
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	19	22	42
N4 = Total no. of students admitted in the 1st year via all supernumerary quotas	0	0	0
Enrolment Ratio (ER) = (N1 + N4) / N	ER_1 = 63	ER_2 = 73	ER_3 = 140
Average ER = (ER_1 + ER_2 + ER_3) / 3	[(63+73+140)/3]=276/3=92		

Jai Narain College of technology, Bhopal
Program Name – B.Tech. Mechanical Engineering

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	CAYm4 (LYG) 2021-22	CAYm5 (LYGm1) 2020-21	CAYm6 (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)).	30+2=32	26+3=29	7+4=11
B = No. of students who graduated from the program in the stipulated course duration	13	14	9
Success Rate (SR) = (B / A) * 100	SR_1 = 40.625	SR_2 = 48.27	SR_3 = 81.82
Average SR of three batches ((SR_1 + SR_2 + SR_3) / 3)	56.91		

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
X = (Mean of first-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 first-year / 10)	5.05	5.72	6.12
Y = Total no. of successful students	14	9	9
Z = Total no. of students appeared in the examination	17	19	19
API = X * (Y / Z)	API_1 = 4.16	API_2 = 2.71	API_3 = 2.90
Average API = (API_1 + API_2 + API_3) / 3	3.26		

Jai Narain College of technology, Bhopal
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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 second-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 second-year / 10)	5.67	5.72	6.51
Y = Total no. of successful students	10	16	19
Z = Total no. of students appeared in the examination	13	25	21
API = X * (Y / Z)	API_1 = 4.37	API_2 = 3.66	API_3 = 5.89
Average API = (API_1 + API_2 + API_3) / 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	CAYm2	CAYm3
X = (Mean of third-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 third-year / 10)	6.80	6.89	7.22
Y = Total no. of successful students	14	15	19
Z = Total no. of students appeared in the examination	15	17	23
API = X * (Y / Z)	API_1 = 6.35	API_2 = 6.08	API_3 = 5.96
Average API = (API_1 + API_2 + API_3) / 3	6.13		

B9: Placement, Higher Studies, and Entrepreneurship

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

Item	LYG	LYGm1	LYGm2
FS* = Total no. of final year students	12	14	9
X = No. of students placed	7	9	4
Y = No. of students admitted to higher studies	2	2	1
Z = No. of students taking up entrepreneurship	2	1	1
X + Y + Z =	11	12	6
Placement Index (P) = (((X + Y + Z) / FS) * 100)	P_1 = 91.67	P_2 = 85.71	P_3 = 66.67
Average placement index = (P_1 + P_2 + P_3) / 3	81.35		

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 for the Department and Allied Departments)

C1: Faculty details of Department and Allied Departments (for the past 3 years including CAY)

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

Jai Narain College of technology, Bhopal
Program Name – B.Tech. Mechanical Engineering

S.N.	Name of the Faculty	Highest degree	University	Area of Specialization	Date of Joining	Exp. (yrs) in current inst.	Designation at Joining	Present Designation	Date Designated as Prof./Assoc. Prof.	Nature of Association (Reg/Cont/Adhoc)	If contractual: Full/Part/Hourly	Currently Associated (Y/N)	Date of Leaving (if No)
1	Dr. Netra Pal Singh	PhD (Mechanical)	JMI	Thermal Engineering	01/10/2021	4	Professor	Professor	01/10/2021	Regular	—	Y	—
2	Dr. Pawan K. Upadhyay	PhD (Mechanical)	BU	Thermal Engineering	15/07/2023	2.3	Associate Professor	Associate Professor	15/07/2023	Regular	—	Y	—
3	Dr. Mohit Pandya	PhD (Mechanical)	Manipal	Thermal Engineering	03/04/2008	17.6	Assistant Professor	Assistant Professor	—	Regular	—	Y	—
4	Mansingh Jadav	M.Tech. (Mechanical)	MANIT	Hydro Electric	15/03/2021	4.7	Assistant Professor	Assistant Professor	—	Regular	—	Y	—
5	Ravi Verma	M.Tech. (Mechanical)	RGPV	Thermal Engineering	02/11/2022	2.11	Assistant Professor	Assistant Professor	—	Regular	—	Y	—
6	Prabha Shankar Tiwari	M.Tech. (Mechanical)	RGPV	Thermal Engineering	02/03/2022	3.7	Assistant Professor	Assistant Professor	—	Regular	—	Y	—
7	Ravi Chourasia	M.Tech. (Mechanical)	RGPV	Industrial Engineering & Management	01/09/2022	3.1	Assistant Professor	Assistant Professor	—	Regular	—	Y	—
8	Nilesh Kumar Singh	M.Tech. (Mechanical)	RGPV	Thermal Engineering	01/07/2021	4.3	Assistant Professor	Assistant Professor	—	Regular	—	Y	—
9	Vinay Malviya	M.Tech. (Mechanical)	RGPV	Thermal Engineering	11/07/2023	2.3	Assistant Professor	Assistant Professor	—	Regular	—	Y	—
10	Anup Kumar	M.Tech. (Mechanical)	RGPV	Thermal Engineering	05/04/2021	4.6	Assistant Professor	Assistant Professor	—	Regular	—	Y	—

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

Jai Narain College of technology, Bhopal
Program Name – B.Tech. Mechanical Engineering

S.N.	Name of the Faculty	Highest degree	University	Area of Specialization	Date of Joining	Exp. (yrs) in current inst.	Designation at Joining	Present Designation	Date Designated as Prof./ Assoc. Prof.	Nature of Association (Reg/Cont/Adhoc)	If contractual: Full/Part/Hourly	Currently Associated (Y/N)	Date of Leaving (if No)
1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

C2: Student-Faculty Ratio (SFR)

No. of UG (Engineering) programs in Department including allied departments/clusters (UG): 01
No. of PG (Engineering) programs in Department including allied departments/clusters (PGm): 00
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). Supernumerary quota students (SNQ, EWS, etc.) are exempted.
• F = Total no. of regular or contractual faculty members (Full Time) in the Department, including allied departments/clusters (excluding first year faculty having 100% teaching load in first-year courses).

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

Jai Narain College of technology, Bhopal
Program Name – B.Tech. Mechanical Engineering

Year / Parameter	CAY	CAYm1	CAYm2
UG1.B // 2nd year students of UG1 program	32	33	32
UG1.C // 3rd year students of UG1 program	33	32	33
UG1.D // 4th year students of UG1 program	32	33	94
UG1 // Total no. of students (2nd, 3rd, 4th) in UG1 = UG1.B + UG1.C + UG1.D	97	98	159
UGn.B // 2nd year students of UGn program	0	0	0
UGn.C // 3rd year students of UGn program	0	0	0
UGn.D // 4th year students of UGn program	0	0	0
UGn // Total no. of students (2nd, 3rd, 4th) in UGn = UGn.B + UGn.C + UGn.D	0	0	0
PG1.A // 1st year students of PG1 program	0	0	0
PG1.B // 2nd year students of PG1 program	0	0	0
PG1 // Total no. of students (1st, 2nd) in PG1 = PG1.A + PG1.B	0	0	0
PGm.A // 1st year students of PGm program	0	0	0
PGm.B // 2nd year students of PGm program	0	0	0
PGm // Total no. of students (1st, 2nd) in PGm = PGm.A + PGm.B	0	0	0
DS = Total no. of students in all UG and PG programs in the Department	0	0	0
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 = 97	S2 = 98	S3 = 159
DF = Total no. of faculty members in the Department	10	10	10
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 = 10	F2 = 10	F3 = 10
FF = Faculty members in F who have a 100% teaching load in the first-year courses	FF1 = 3	FF2 = 3	FF3 = 3

Student Faculty Ratio (SFR) = S / (F - FF)	SFR1 = S1/(F1-FF1) = 97/(10-3) = 13.86	SFR2 = S2/(F2-FF2) = 98/(10-3) = 14	SFR3 = S3/(F3-FF3) = 159/(10-3) = 22.71
Average SFR for 3 years = (SFR1 + SFR2 + SFR3) / 3	(13.86 + 14 + 22.71)/3 = 16.86		

C3: Faculty Qualification

Faculty qualification index (FQI) = 2.5 * [(10X + 4Y) / RF], where X = No. of faculty with Ph.D. or equivalent; Y = No. of faculty with M.Tech./ME or equivalent; RF = No. of required faculty to adhere to 20:1 SFR (RF = S / 20).

Table No. C3.1: Faculty qualification.

Year	X (Ph.D.)	Y (M.Tech./ME)	RF = S / 20	FQI = 2.5 * [(10X + 4Y) / RF]
CAY 2025-26	3	7	97/20 = 4.85	2.5*[(10*3)+(4*7)/4.85] = 29.90
CAYm1 2024-25	2	8	98/20 = 4.90	2.5*[(10*2)+(4*8)/4.90] = 26.53
CAYm2 2023-24	2	8	159/20 = 7.95	2.5*[(10*2)+(4*8)/7.95] = 16.35

C4: Faculty Cadre Proportion

Faculty Cadre Proportion is 1 (RF1) : 2 (RF2) : 6 (RF3), where RF1 = 1/9 * RF, RF2 = 2/9 * RF, RF3 = 6/9 * RF.

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

Jai Narain College of technology, Bhopal
Program Name – B.Tech. Mechanical Engineering

Year	Professors Required (RF1)	Professors Available (AF1)	Associate Prof. Required (RF2)	Associate Prof. Available (AF2)	Assistant Prof. Required (RF3)	Assistant Prof. Available (AF3)
CAY 2025-26	1/9*13.86 = 1.54	1	2/9*13.86 = 3.08	1	6/9*13.86 = 9.24	8
CAYm1 2024-25	1/9*14 = 1.56	1	2/9*14 = 3.11	1	6/9*14 = 9.33	8
CAYm2 2023-24	1/9*22.71 = 2.52	1	2/9*22.71 = 5.05	1	6/9*22.71 = 15.14	8
Average Numbers	RF1= (1.54+1.56+2.52)/3 = 1.87	AF1= (1+1+1)/3 = 1	RF2= (3.08+3.11+5.05)/3 = 3.75	AF2= (1+1+1)/3 = 1	RF3= (9.24+9.33+15.14)/ 3 = 11.24	AF3= (8+8+8)/3 = 8

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.

Jai Narain College of technology, Bhopal
Program Name – B.Tech. Mechanical Engineering

S.N.	Name of the Person	Designation & Organization	Name of the Course	No. of hours handled
CAYm1 2024-25				
1	Keshav Prasad Patel	Visiting Professor, Sai Design & Software Solution, Bhopal	Software Lab (ME-406)	10
			FEM/ CFD Lab (ME-505)	10
			CAD Lab (ME-605)	10
			CAD/CAM/CIM Lab (ME-704)	15
			Simulation & Modelling Lab (ME-804)	15
			Total No. of Hours	**60**
CAYm2 2023-24				
1	Keshav Prasad Patel	Visiting Professor, Sai Design & Software Solution, Bhopal	Software Lab (ME-406)	10
			FEM/ CFD Lab (ME-505)	10
			CAD Lab (ME-605)	10
			CAD/CAM/CIM Lab (ME-704)	15
			Simulation & Modelling Lab (ME-804)	15
			Total No. of Hours	**60**
CAYm3 2022-23				
1	Keshav Prasad Patel	Visiting Professor, Sai Design & Software Solution, Bhopal	Software Lab (ME-406)	10
			FEM/ CFD Lab (ME-505)	10
			CAD Lab (ME-605)	10
			CAD/CAM/CIM Lab (ME-704)	15
			Simulation & Modelling Lab (ME-804)	15
			Total No. of Hours	**60**

C6: Academic Research

Table No. C6.1: Faculty publication details.

Jai Narain College of technology, Bhopal
Program Name – B.Tech. Mechanical Engineering

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

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 Dept. where sanctioned	Project title*	Funding agency	Duration	Amount (Lacs)
CAYm1:2024-25							
1							
Amount received (Rs.):							
CAYm2: 2023-24							
1							
Amount received (Rs.):							
CAYm3: 2022-23							
1							
Amount received (Rs.):							
Total Amount (Lacs) for Past 3 Yrs:							

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 Dept. where sanctioned	Project title*	Funding agency	Duration	Amount (Lacs)
CAYm1: 2024-25							
1	Dr. P K Upadhyay	—-	Mechanical Engineering	Failure Analysis of Hydraulic Cylinders Used in Construction Equipment	Jayant Jaggery Product PVT.Ltd	12 Months	275000
2	Prof. Mansingh Jadav	—-	Mechanical Engineering	Thermal Performance Evaluation of Industrial Heat Exchanger	Ananjay Construction and Contracts	12 Months	425000
						Amount received (Rs.):	7,00,000
CAYm2: 2023-24							
1	Prof. Ravi Chourasia	Prof.Nilesh Kumar Singh	Mechanical Engineering	Design Validation of Rooftop Solar PV System	Ananjay Construction and Contract	12 Months	275000
						Amount received (Rs.):	275000
CAYm3: 2022-23							
1	NIL	NIL	NIL	NIL	NIL	NIL	NIL
						Amount received (Rs.):	NIL
						Total Amount (Lacs) for Past 3 Yrs:	975000

Jai Narain College of technology, Bhopal
Program Name – B.Tech. Mechanical Engineering

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) Past 3 Yrs:						

Jai Narain College of technology, Bhopal
Program Name – B.Tech. Mechanical Engineering

PART-D: Laboratory Infrastructure in the Department

(Data to be filled in for the Department)

Jai Narain College of technology, Bhopal
Program Name – B.Tech. Mechanical Engineering

D1: Adequate and Well-Equipped 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 (courses utilized)	Technical Manpower: Name of staff	Technical Manpower: Designation	Technical Manpower: Qualification
	Odd Sem		Even Sem							
1	1)ME-306 Thermal Lab 2)ME-508 Minor Project-I 3)ME-706 Major Project-I	4/4/8 Hrs/ Week	1)ME-601 TEGD 2)ME-801 RAC	2/2 Hrs/Week	**30**	Annexure I	16/42 (38%)	Dayaram Ahirwar	Lab Technication	Diploma
2	1)ME-505 FEM/CFD 2)ME-705 MATLAB 3)ME-704 CAD/CAM/CIM	4/6/6 Hrs/ Week	1)ME-406 Software Lab 2)ME-605 CAD Lab 3)ME-804 Simulation Lab	4/6/6 Hrs/ Week	**30**	Annexure I	16/42 (38%)	Anand Kumar Yadav	Lab Technication	ITI
3	1)ME-303 Material Technology 2)ME-304 SOM 3)ME-502 Mechanical Vibration	2/2/2Hrs/Week	1)ME-403TOM 2)ME-602 MCD 3)ME-608 Minor Project-II 4)ME-805 Major Project-II	2/2/4/8Hrs/ Week	**30**	Annexure I	8/42 (19%)	Dayaram Ahirwar	Lab Technication	Diploma
4	ME-701 HMT	2Hrs/ Week	1)ME-402I&C 2)ME-404 FM	2/2 Hrs/ Week	**30**	Annexure I	4/42 (9.5%)	Dayaram Ahirwar	Lab Technication	Diploma
5	1)ME-501I C Engine 2)BT-203 BME	2/2Hrs / Week	2)BT-203 BME	2Hrs/ Week	**30**	Annexure I	4/42 (9.50	Dayaram Ahirwar	Lab Technication	Diploma
6	1)BT-105 E.G	2Hrs/ Week	1)BT-105 E.G	2Hrs/ Week	**30**	Annexure I	2/42 (5%)	Dayaram Ahirwar	Lab Technication	Diploma
7	1)ME-305 MP 2)BT-106 Manufacturing Practices	2/2Hrs / Week	1)ME-405 Manufacturing Technology 2)BT-106 Manufacturing Practices	2/2 Hrs/ Week	**30**	Annexure I	4/42 (9.5%)	1)Masood Ali 2)Daulat Singh Sisodiya 3)Anand Kumar Yadav	Lab Technication	ITI
8	ME-506 Python	4Hrs/ Week	ME-606 RDBMS	6Hrs/ Week	**30**	Annexure I	6/42 (14.2 %)	1)Ravi Sahu	Lab Technication	MCA

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

Jai Narain College of technology, Bhopal
Program Name – B.Tech. 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	A)Thermal Lab B)I.C.Engine Lab C)R&AC Lab	**Fire Safety:** 1)Avoid spilling liquids near equipment, **2)**Familiarize yourself with the nearest fire exits in your labs, **3)**Treat fire alarms seriously promptly during a fire alarm, **4)**Follow faculty and staff instructions, **5)** Use stairs, not elevators' during a fire. **Electrical Safety:** **1)** Power off equipment when not in use, **2)** Ensure hands are dry before handling electrical devices, **3)** Keep food and beverages away from devices, **4)**Do Not Bypass Safety Devices, **5)** Keep pathways clear of electrical wire and cables **Equipment Safety:** **1)** Keep food and beverages away from devices, **2)**Maintain Safe Distance, **3)**Work Under Supervision, **4)**Maintain Clean Work Area , **5)**Handle Steam and Gases Carefully
2	A)Software Lab B)FEM/CFD Lab C)CAD Lab D)CAD/CAM/CIM lAB E)MATLAB F)Simulation&Modeling Lab	
3	A)Material Technology B)Strength of Material C)TOM D)Mechanical Vibration E)MCD	
4	A)Instrumentation & Control B)HMT C)FM	
5	A)BME B)IC Engine	
6	A)Engineering Graphics	
7	A)Manufacturing Practices B)Manufacturing Technology C)Manufacturing Process	
8	A)Python Lab B)RDBMS Lab	

D3: Project Laboratory / Research Laboratory

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

Jai Narain College of technology, Bhopal
Program Name – B.Tech. Mechanical Engineering

S.N.	Name of the Laboratory / Centre of Excellence
1.	CoE in 3D Printing machine
2.	CoE in Robotics
3.	CoE in Drone

PART E: First Year Faculty and Financial Resources

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 in Basic Science & Humanities/ Mgmt (NS1)	No. of faculty in Engineering Science Courses (NS2)	Percentage = ((NS1*0.8) + (NS2*0.2)) / RF4
CAY 2025-26	420	= 420/20 = 21	18	10	= {(18*0.8)+(10*0.2)}/21 = 78.09 %
CAYm1 2024-25	420	= 420/20 = 21	16	11	={(16*0.8)+(11*0.2)}/21 = 71.42 %
CAYm2 2023-24	420	= 420/20 = 21	16	12	= {(16*0.8)+(12*0.2)}/21 = 72.38 %

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

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

Jai Narain College of technology, Bhopal
Program Name – B.Tech. Mechanical Engineering

Items	Budgeted in CFY 2025-2026	Actual expenses in CFY (till...)	Budgeted in CFYm1 2024-2025	Actual Expenses in CFYm1	Budgeted in CFYm2 2023 - 2024	Actual Expenses in CFYm2	Budgeted in CFYm3 2022 - 2023	Actual Expenses in CFYm3
Infrastructure Built-Up	3250000	1102724	2800000	2485629	22000000	17045900	1950000	1355936
Library	300000	70295	200000	132347	300000	293250	750000	651907
Laboratory equipment	5500000	3510130	200000	66090	1500000	1179340	4260000	3539135
Teaching and non-teaching staff salary	75000000	48329203	70000000	65903459	62500000	60546522	55000000	52319093
Outreach Programs	300000	12000	250000	298984	200000	119197	150000	209291
R&D	2500000	258890	2000000	1770426	1700000	1522130	1000000	142000
Training, Placement and Industry linkage	250000	59850	160000	67890	115000	61436	75000	55650
SDGs	175000	91020	150000	120500	150000	106050	125000	97500
Entrepreneurship	225000	72300	150000	99245	125000	84450	100000	72000
Others*, pl. specify	60000000	46947683	55000000	53949720	50000000	50404301	60000000	54555840
Total amount	147500000	100454095	130910000	124894290	138590000	131371576	123410000	112998352

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

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

Jai Narain College of technology, Bhopal
Program Name – B.Tech. Mechanical Engineering

Items	Budgeted in CFY 2025-2026	Actual expenses in CFY (till 15 Dec 2025)	Budgeted in CFYm1 2024-2025	Actual Expenses in CFYm1	Budgeted in CFYm2 2023 - 2024	Actual Expenses in CFYm2	Budgeted in CFYm3 2022 - 2023	Actual Expenses in CFYm3
Laboratory equipment	500000	0	300000	0	300000	0	800000	633000
Software	200000	21745	175000	10630	150000	86000	100000	32632
SDGs	25000	18400	20000	22010	20000	21456	15000	19250
Support for faculty development	50000	13300	50000	17200	100000	15300	50000	12500
R & D	650000	16500	600000	578120	700000	537436	150000	16400
Industrial Training, Industry expert, Internship	50000	11251	45000	18740	25000	19100	25000	17447
Miscellaneous expenses *	250000	25937	200000	26746	175000	28001	150000	37599
Total amount	1725000	107133	1390000	673446	1470000	707293	1290000	768828

JAI NARAIN COLLEGE OF TECHNOLOGY

DEPARTMENT OF MECHANICAL ENGINEERING

Table No.7.1.1: List of Laboratories and Important Equipments

S.N	Name of the Laboratory	Name of the Major Equipment
1	Engineering Graphics Lab (BT-105)	Model of Plane & Solid
2	Manufacturing Practices Lab (BT-106)	Welding Shop, Foundry Shop, Black Smithy Shop, Carpentry Shop, Fitting Shop, Machining Shop
3	Basic Mechanical Engineering Lab (BT-203)	Model of Locomotive Boiler, Model of Lancashire Boiler, Model of Babcock & Wilcox boiler ,Model of Simple vertical boiler, Model of Cochran boiler, Model of Steam Engine, Model of Two-stroke petrol engine, Model of Two-stroke diesel engine, Model of Four-stroke petrol engine, Model of Four-stroke diesel engine,
4	Material Technology Lab (ME-303)	UTM , Chemical Analysis
5	Strength of Material Lab (ME-304)	Torsion testing machine, Rockwell & Brinell Hardness test machine, Universal testing machine ,Impact testing machine
6	Manufacturing Process Lab (ME-305)	Welding Machine, Forging Machine, Hydraulic Machine, Pattern Making
7	Thermal Engg Lab (ME-306)	Air Compressor, Boilers, Thermocouples
8	Instrumentation & Control LAb (ME-402)	Pressure Gauge, Manometer, Orifice meter, Venturi meter
9	Theory of Machine Lab (ME-403)	Model of Claw clutch, Model of Conical clutch, Model of Band brake ,Model of Band and block brake, Model of Cam and follower ,Model of Epicyclic Gear Train, Model of Four-bar link mechanism,
10	Fluid Mechanics Lab (ME-404)	Closed circuit combined calibration for Venturimetre & Orificemetre, Closed circuit combined coefficient of discharge, velocity, and contraction of orifice and coefficient of discharge, Centrifugal Pump Test Rig, Pelton wheel turbine test rig ,Hydraulic ram test rig
11	Manufacturing Technology Lab (ME-405)	CNC Machine
12	Software Lab (ME-406) FEM/ CFD Lab (ME-505) Python Lab (ME-506) CAD Lab (ME-605) RDBMS Lab (ME-606) CAD/CAM/CIM Lab (ME-704) MATLAB & R Programming Lab (ME-705) Simulation & Modeling Lab (ME-804)	INTEL CORE I5 & I7, 3.2 GHZ PROCESSOR, 16 MB CACHE MEMORY, CPU MODEL : LENOVO THINKCENTRE, 8GB RAM, 256 GB SSD, SLOTS:2 PCI, PORTS :2 SERIAL, 2GB GRAPHIC CARD NVIDIA ,10/100 MBPS ETHERNET LAN PORT, MOUSE, KEYBOARD, 30 TFT COLOR HCL,

13	Internal Combustion Engine Lab (ME-501)	Four-stroke single-cylinder Diesel Engine test rig, Four-stroke 4-cylinder petrol Engine with rope brake dynamometer test rig ,Single-stage single-cylinder Reciprocating air compressor
14	Mechanical Vibration Lab (ME-502)	Universal Vibration Machine Apparatus and attachment
15	Thermal Engineering & Gas Dynamics LAB (ME-601)	High-Pressure Boilers, Steam Turbines, Air Compressors, Heat Exchanger,
16	Machine Component Design Lab (ME-602)	Centrifugal Clutch, Disc Brake, Roller Bearings, Couplings
17	Heat and Mass Transfer Lab (ME-701)	Thermal conductivity of metal bar App, Heat transfer through natural convection App, Heat transfer through Forced convection Apparatus, Heat transfer from pin-fin Apparatus, Emissivity Measurement Apparatus
18	Refrigeration & Air Conditioning Lab (ME-801)	Vapour Absorption Refrigeration Test Rig, Vapour Compression Refrigeration Test Rig, Cooling Tower Test Rig ,Ice Plant Test Rig