

## NATIONAL BOARD OF ACCREDITATION

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

<b>Program Name</b> : Mechanical Engineering	<b>Discipline</b> : Engineering & Technology
<b>Level</b> : Under Graduate	<b>Tier</b> : 1
<b>Application No</b> : 10746	<b>Date of Submission</b> : 29-05-2025

### PART A- Profile of the Institute

<b>A1. Name of the Institute:</b> HARCOURT BUTLER TECHNICAL UNIVERSITY	
Year of Establishment : 1921-1994	Location of the Institute: KANPUR
<b>A2. Institute Address:</b> NAWABGANJ, KANPUR-208002	
City:KANPUR	State:Uttar Pradesh
Pin Code:208002	Website:www.hbtu.ac.in
Email:vc@hbtu.ac.in	Phone No(with STD Code):0512-253400125340022
<b>A3. Name and Address of the Affiliating University (if any):</b>	
Name of the University :	City: Kanpur(Nagar)
State : Uttar Pradesh	Pin Code: 208002
<b>A4. Type of the Institution:</b> University	
<b>A5. Ownership Status:</b> State Government	

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

- No. of UG programs: **12**
- No. of PG programs: **6**

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

Sr.No.	Discipline	Level of program	Name of the program	Year of Start	Year of Closed	Name of The Department
1	Engineering & Technology	UG	Biochemical Engineering	1964	--	Biochemical Engineering
2	Engineering & Technology	PG	Biochemical Engineering	1966	--	Biochemical Engineering
3	Engineering & Technology	PG	Chemical Engineering	1960	--	Chemical Engineering
4	Engineering & Technology	UG	Chemical Engineering	1954	--	Chemical Engineering
5	Engineering & Technology	PG	Chemical Technology	1966	--	Oil Technology
6	Engineering & Technology	UG	Civil Engineering	1966	--	Civil Engineering
7	Engineering & Technology	PG	Computer Aided Design	2000	--	Mechanical Engineering
8	Engineering & Technology	UG	Computer Science and Engineering	1984	--	Computer Science and Engineering
9	Engineering & Technology	UG	Electrical Engineering	1965	--	Electrical Engineering
10	Engineering & Technology	UG	Electronics Engineering	1990	--	Electronics Engineering
11	Engineering & Technology	UG	Food Technology	1964	--	Food Technology
12	Engineering & Technology	PG	Food Technology	1966	--	Food Technology
13	Engineering & Technology	UG	Leather Technology	1978	--	Leather Technology
14	Engineering & Technology	PG	Masters in Computer Applications	1987	--	Computer Science and Engineering
15	Engineering & Technology	UG	Mechanical Engineering	1964	--	Mechanical Engineering
16	Engineering & Technology	UG	Oil Technology	1921	--	Oil Technology

17	Engineering & Technology	UG	Paint Technology	1964	--	Paint Technology
18	Engineering & Technology	UG	Plastics Technology	1964	--	Plastic Technology

**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
Computer Science and Engineering	No	Computer Science and Engineering	UG
Food Technology	No	Food Technology	UG
Electronics Engineering	No	Electronics Engineering	UG
Plastic Technology	No	Plastics Technology	UG
Mechanical Engineering	No	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)

No Record
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## 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/COMPE AUTHORITY A DETAILS
1	Mechanical Engineering	UG	1964 / --	30	Yes	2003	60	2003	F.No. Northern/44643637092/20.3.2025

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 :	Prof. Anand Kumar
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)	60	60	60	60	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	60	58	49	55	65	60	60
N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	0	2	4	3	7	0	0
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	19	19	20	13	13	16	0
Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points.	79	79	73	71	85	76	60

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)	60	60	19	131.67
2023-24 (CAYm1)	60	58	19	128.33
2022-23 (CAYm2)	60	49	20	115.00

Average  $[(ER1 + ER2 + ER3) / 3] = 125.00 \cong 100$

#### 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).	85.00	76.00	60.00
B=No. of students who graduated from the program in the stipulated course duration	72.00	74.00	60.00
Success Rate (SR)= (B/A) * 100	84.71	97.37	100.00

Average SR of three batches  $((SR_1 + SR_2 + SR_3)/3)$ : 94.03

#### 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)	7.01	6.31	6.51
Y=Total no. of successful students	77.00	70.00	65.00
Z=Total no. of students appeared in the examination	79.00	73.00	71.00
API $[X*(Y/Z)]$	6.83	6.05	5.96

Average API  $[(AP1+AP2+AP3)/3]$  : 6.28

#### 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)	5.70	6.44	5.70
Y=Total no. of successful students	55.00	69.00	75.00
Z=Total no. of students appeared in the examination	77.00	70.00	80.00
API $[ X * (Y/Z) ]$	4.07	6.35	5.34

Average API  $[(AP1 + AP2 + AP3)/3]$  : 5.25

#### 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)	6.33	7.18	7.06
Y=Total no. of successful students	65.00	72.00	74.00
Z=Total no. of students appeared in the examination	69.00	75.00	76.00
API $[ X*(Y/Z) ]$ :	5.96	6.89	6.87

Average API  $[(AP1 + AP2 + AP3)/3]$  : 6.57

#### 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	72.00	74.00	60.00
X=No. of students placed	63.00	55.00	44.00
Y=No. of students admitted to higher studies	1.00	6.00	6.00
Z= No. of students taking up entrepreneurship	0.00	0.00	0.00
Placement Index(P) = $\frac{((X + Y + Z)/FS) * 100}{3}$ :	88.89	82.43	83.33

Average Placement Index = (P\_1 + P\_2 + P\_3)/3: 84.88 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)	Current Association (Y/N)
1	Prof. S.K. Singhal	XXXXXXXX47Q	Ph.D	Harcourt Butler Technical University, Kanpur	Design	28/12/1987	37.5	Lecturer	Professor	08/07/2008	Regular	Yes
2	Prof. Anand Kumar	XXXXXXXX99R	Ph.D	Harcourt Butler Technical University, Kanpur	Design, Materials	05/10/1999	25.7	Assistant Professor	Professor	01/03/2011	Regular	Yes
3	Prof. Vinay Pratap Singh	XXXXXXXX48R	Ph.D	Harcourt Butler Technical University, Kanpur	Design, Materials, Thermal Spray Coating, Tribology	03/02/2003	22.3	Lecturer	Professor	03/02/2018	Regular	Yes
4	Prof. Jitendra Bhaskar	XXXXXXXX80A	Ph.D	Harcourt Butler Technical University, Kanpur	Design, Additive Manufacturing, Smart Materials	24/01/2007	18.4	Assistant Professor	Professor	27/08/2021	Regular	Yes
5	Prof. S.K.S. Yadav	XXXXXXXX59L	Ph.D	Harcourt Butler Technical University, Kanpur	Manufacturing, Machining	19/01/2007	18.4	Lecturer	Professor	19/01/2022	Regular	Yes
6	Prof. Rajesh Kumar Verma	XXXXXXXX64R	Ph.D	Harcourt Butler Technical University, Kanpur	Production Engineering	24/06/2022	2.11	Professor	Professor	24/06/2022	Regular	Yes
7	Mr. R.K. Ambikesh	XXXXXXXX78D	M.Tech	Harcourt Butler Technical University, Kanpur	Renewable Energy, Automobile Engineering	28/02/2003	22.3	Lecturer	Associate Professor	29/02/2016	Regular	Yes
8	Dr. Nishant Kumar Singh	XXXXXXXX92P	Ph.D	Harcourt Butler Technical University, Kanpur	Manufacturing, Tribology, Biofuels	09/06/2022	2.11	Associate Professor	Associate Professor	09/06/2022	Regular	Yes
9	Dr. Yashvir Singh	XXXXXXXX74N	Ph.D	Harcourt Butler Technical University, Kanpur	Tribology, Manufacturing, Biofuels	27/09/2023	1.7	Associate Professor	Associate Professor	27/09/2023	Regular	Yes

10	Dr. Rishi Kant	XXXXXXXX45H	Ph.D	Harcourt Butler Technical University, Kanpur	MEMS, Mechatronics, Manufacturing	10/06/2022	2.11	Assistant Professor	Assistant Professor		Regular	Yes
11	Dr. Gaurav Saini	XXXXXXXX02K	Ph.D	Harcourt Butler Technical University, Kanpur	Turbomachines, CFD, Wind Energy	15/06/2022	2.11	Assistant Professor	Assistant Professor		Regular	Yes
12	Mr. Keshav Gupta	XXXXXXXX64G	M.Tech	Harcourt Butler Technical University, Kanpur	Manufacturing, Design	01/08/2024	0.9	Assistant Professor	Assistant Professor		Contractual Fulltime	Yes
13	Mr. Praveen Kumar Rai	XXXXXXXX99B	M.Tech	Harcourt Butler Technical University, Kanpur	Heat Transfer, Manufacturing	01/08/2024	0.9	Assistant Professor	Assistant Professor		Contractual Fulltime	Yes
14	Dr. Virendra Kumar	XXXXXXXX80L	Ph.D	Harcourt Butler Technical University, Kanpur	Thermal Engineering	10/06/2022	2.7	Assistant Professor	Assistant Professor		Regular	No
15	Prof. Rajive Gupta	XXXXXXXX06C	Ph.D	Harcourt Butler Technical University, Kanpur	Manufacturing Process	15/05/1986	39	Lecturer	Professor	16/05/2005	Regular	Yes
16	Prof. Onkar Singh	XXXXXXXX66Q	Ph.D	Harcourt Butler Technical University, Kanpur	Thermal Engineering	20/08/1999	25.9	Assistant Professor	Professor	18/01/2007	Regular	Yes
17	Dr. Rohit Kumar	XXXXXXXX31H	Ph.D	Harcourt Butler Technical University, Kanpur	Thermal Engineering	01/05/2025	0	Assistant Professor	Assistant Professor		Regular	Yes
18	Ms. Nisha Singh	XXXXXXXX05C	M.Tech	Harcourt Butler Technical University, Kanpur	Design, CFD, Optimization	13/01/2025	0.4	Assistant Professor	Assistant Professor		Contractual Fulltime	Yes
19	Dr. Avadhesh Yadav	XXXXXXXX58M	Ph.D	Harcourt Butler Technical University, Kanpur	Thermal Engineering	15/06/2022	0.9	Associate Professor	Associate Professor	15/06/2022	Regular	No
20	Dr. Anurag Mishra	XXXXXXXX19K	Ph.D	Harcourt Butler Technical University, Kanpur	Manufacturing	07/08/2023	0.4	Assistant Professor	Assistant Professor		Contractual Fulltime	No
21	Mr. Mayank Shekhar	XXXXXXXX78E	Ph.D	Harcourt Butler Technical University, Kanpur	Manufacturing	19/11/2022	0.8	Assistant Professor	Assistant Professor		Contractual Fulltime	No
22	Dr. Sunny Singhania	XXXXXXXX04P	Ph.D	Harcourt Butler Technical University, Kanpur	Manufacturing	06/10/2023	0.1	Assistant Professor	Assistant Professor		Regular	No

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

**C2. Student-Faculty Ratio (SFR)**

No. of UG(Engineering) programs in Department including allied departments/ clusters (UGn):

UG1=1st UG program

UGn=nth UG program

**B**= No. of Students in UG 2nd year (ST)

**C**= No. of Students in UG 3rd year (ST)

**D**= No. of Students in UG 4th year (ST)

No. of PG (Engineering) programs in Department including allied departments/ clusters (PGm):

PG1=1st PG program.

PGm=mth PG program

**A**= No. of Students in PG 1st year

**B**= No. of Students in PG 2nd year

Student Faculty Ratio (**SFR**) = S/F

S= No. of students of all programs in the Department including all students of allied departments/clusters.

**No. of students (ST)**=Sanctioned Intake (SA)+ Actual admitted students via lateral entry including leftover seats (L) if any (limited to 10 % of SA)

Students who admitted under supernumerary quotas (SNQ, EWS, etc) will not be considered in calculating SFR value. Those students are exempted.

**F**=Total no. of regular or contractual faculty members (Full Time) in the Department, including allied departments/clusters (excluding first year faculty (The faculty members who have a 100% teaching load in the first-year courses)).

No. of UG Programs in the Department1 No. of PG Programs in the Department1

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

Description	CAY(2024-25)	CAYm1 (2023-24)	CAYm2 (2022-23)
UG1.B	62	63	62
UG1.C	62	62	65
UG1.D	62	65	60
<b>UG1: Mechanical Engineering</b>	<b>186</b>	<b>190</b>	<b>187</b>
PG1.A	18	18	18
PG1.B	18	18	18
<b>PG1: Computer Aided Design</b>	<b>36</b>	<b>36</b>	<b>36</b>
DS=Total no. of students in all UG and PG programs in the Department	222	226	223
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)	<b>S1= 222</b>	<b>S2= 226</b>	<b>S3= 223</b>
DF=Total no. of faculty members in the Department	15	13	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)	<b>F1= 15</b>	<b>F2= 13</b>	<b>F3= 13</b>
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)	<b>SFR1= 15.86</b>	<b>SFR2= 18.83</b>	<b>SFR3= 18.58</b>
Average SFR for 3 years	<b>SFR= 17.76</b>		

### 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 = $2.5 * [(10X + 4Y) / RF]$
2024-25(CAY)	12	3	11.00	30.00
2023-24(CAYm1)	12	1	11.00	28.18
2022-23(CAYm2)	12	1	11.00	28.18

### C4. Faculty Cadre Proportion

- Faculty Cadre Proportion is 1(RF1): 2(RF2): 6(RF3)
- RF1= No. of Professors required =  $1/9 * \text{No. of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (S) as per C2 of this documents.}$
- RF2= No. of Associate Professors required =  $2/9 * \text{No. of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (S) as per section C2 of this documents.}$
- RF3= No. of Assistant Professors required =  $6/9 * \text{No. of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (S) as per section C2 of this documents.}$
- Faculty cadre and qualification and experience should be as per AICTE/UGC norms.

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

Year	Professors		Associate Professors		Assistant Professors	
	Required RF1	Available AF1	Required RF2	Available AF1	Required RF3	Available AF3

2024-25	1.00	8.00	2.00	2.00	7.00	3.00
2023-24	1.00	8.00	2.00	1.00	7.00	4.00
2022-23	1.00	8.00	2.00	1.00	7.00	4.00
Average	RF1=1.00	AF1=8.00	RF2=2.00	AF2=1.33	RF2=7.00	AF2=3.67

#### C5. Visiting/Adjunct Faculty/Professor of Practice

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

(CAYm1)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Vyankatesh Ashtekar	Adjunct faculty [PMRF]	IITKanpur	Robotics	50.00

(CAYm2)

(CAYm3)

#### 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	60	52	35
2	No. of peer reviewed conference papers published	26	20	14
3	No. of books/book chapters published	27	32	12

#### 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
Pof. Rajesh kumar Verma	Dr. Nishant K. Singh and Dr. Virendra Kumar(MMMUT)	Mechanical Engg.	"Cost-effective Green Route for the Development of Carbon Nanofillers and Polymer Nanocomposites for Biomedical Applications: An Experimental Approach based on Waste to Wealth "	Council of Science and Technology, Lucknow , U.P.	3years	1880000.00
Pof. Rajesh kumar Verma	-	Mechanical Engg.	Design and Development of cost-effective Extruder for 3D printing filament	CST UP Engineering Student's Project Grant Scheme- Council of Science and Technology, Lucknow , U.P.	1 Year	20000.00
Pof. Rajesh kumar Verma	-	Mechanical Engg.	Development of modified bio nano composite polymer material for Biomedical applications	CST UP Engineering Student's Project Grant Scheme- Council of Science and Technology, Lucknow , U.P.	1 Year	20000.00
Dr. Virendra Kumar (MMMUT)	Pof. Rajesh kumar Verma and Dr. Nishant K. Singh	Mechanical Engg.	Development of low-cost structural composites via recycling discarded Photovoltaic (PV) panels: An integrated approach to tackle environmental and socio-economic issues	Council of Science and Technology, Lucknow , U.P.	3Years	1536000.00
Prof. Sanjay Mishra(MMMUT)	Pof. Rajesh kumar Verma	MMMUT	An integrated approach for the sustainable electro thermal machining of aerospace composites	AICTE, Govt. of India.	2Years	2196000.00
Prof. Rajesh Kumar Yadav (MMMUT)	Pof. Rajesh kumar Verma	MMMUT	A Novel Integrated Photocatalytic Approach for the Development of Solar Light-Driven Hydrogen Production and CO2 Conversion into Solar fine chemicals	DST NEW DELHI	3 Years	2110000.00
						Amount received (Rs.):7762000.00

## (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.Anand Kumar	Dr. Vinay Pratap Singh	Mechanical Engg.	Design and development of utility products using recycled waste rubber	Council of Science and Technology, Lucknow , U.P.	3years	1194000.00
						Amount received (Rs.):1194000.00

(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
Prof. Onkar Singh	Mr. R.K. Ambikesh	Mechanical Engineering	Development of low capacity and cost effective solar air conditioner	UPCST, Lucknow	3	778000.00
						Amount received (Rs.):778000.00

**Total Amount (Lacs) Received for the Past 3 Years: 9734000.00**

**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
Prof Jitendra Bhaskar	-	Mechanical Engineering Department	Technical opinion & documentation (Prior Art analysis of Combine Harvester) for patent infringement suit (CS (COMM) 655 of 2023)	M/s Wadhawa Law Offices, Gurgram, Haryana	-	9.50
Prof Jitendra Bhaskar	"Dr V P Singh Miss. Shivani Kostha "	Mechanical Engineering Department	Safety Audit of Toy Train in Kanpur Zoo. (under progress)	"Zoo Kanpur 2023 "	-	0.83
						Amount received (Rs.):10.33

(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
Prof J. Bhaskar	Dr A.K.Rathore	Mechanical Engineering Department	Gutkha Multilayer Pouch	M/s Kay Flavours Pvt. Ltd. Lucknow	1	2.16
Prof J. Bhaskar	-	Mechanical Engineering Department	Technical Inspection of Belt driven and gear driven Electric Potter wheel	Oriental Collection, 26, MIG, Indira Nagar, Kanpur-Directorate, Kuteer & Grameen Udyog UP, Lucknow	1	0.05
Prof J. Bhaskar	-	Mechanical Engineering Department	Electric Chalk	Synergic Systems, Plot No- 20, Gali No-3, Rajendra Nagar, Mohan Nagar, Ghaziabad (UP) 201007.	1	0.05
						Amount received (Rs.):2.26

**(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
Prof J. Bhaskar	-	Mechanical Engineering Department	Vibration Testing	M/s Digital Communication & Control Pvt Ltd, Kolkata	1	0.35
Prof J. Bhaskar	-	Mechanical Engineering Department	Vibration Testing	M/s Pearl Electronics & Power System, Roorkee	1	0.12
Prof J. Bhaskar	-	Mechanical Engineering Department	Vibration Testing	M/s Epsilon, Hyderabad	1	0.35
Prof J. Bhaskar	Dr A.K.Rathore	Mechanical Engineering Department	Third party audit - oxygen pipe lines CHC-Women Hospital, Medical College, CHC Rampur, CHC Jarouda	M/s Balaji Enterprizes Saharanpur	1	2.28
Prof J. Bhaskar	Dr A.K.Rathore	Mechanical Engineering Department	Audit of Oxygen Pipelnes - Glocal Medical College and Super speciality hospital, Saharanpur	M/s Hospital Equipments, Roorkee, Haridwar.	1	0.35
Prof J. Bhaskar	Dr A.K.Rathore	Mechanical Engineering Department	Audit of Oxygen Pipelnes CHC-Fatehpur, TB Sanitorium, CHC Nanouta,CHC Gangoh,CHC Devbond,CHC Nakkud,CHC Sarsawa,SBD Distt Hospital,CHC,ankhandi,CHC Nagal	M/s Hospital Equipments, Roorkee, Haridwar	1	3.25
						Amount received (Rs.):6.70

**Total amount (Lacs) received for the past 3 years: 19.29**

**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
Prof. S.K.S Yadav	Natural gas pipes leakage detection	1 year	0.20	0.20	leakage detection
Prof. S.K.S Yadav	Agricultural drone	1 year	0.30	0.30	Agricultural purpose
			Amount received (Rs.): 0.50		

**(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
Prof J. Bhaskar	Smokless chulha	One year	0.15	0.15	Design registration
Prof J. Bhaskar	Rapid freeze and heat system	One year	0.15	0.15	B.Tech Project
			Amount received (Rs.): 0.30		

(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
Prof. J Bhaskar	Design	3	180000.00	180000.00	Publication and Patent Design
Dr. Nishant Kumar Singh	Manufacturing	3	180000.00	180000.00	Publication
Dr. Gaurav Saini	Thermal	3	180000.00	180000.00	Publication
Prof. J. Bhaskar	Design	3	180000.00	180000.00	Publication
Dr. Nishant Kumar Singh	Manufacturing	3	180000.00	180000.00	Publication
			Amount received (Rs.): 900000.00		

Total amount (Lacs) received for the past 3 years : 900000.80

## 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	Applied Mechanics & Materials Testing Lab	30	UTM, Rockwell, Vicker, Torsion, Creep, Charpy/Izod Impact Test, Simultaneous machines, Screw Jack	8 Hrs	Kamlesh Kur	Technical Ass	Diploma
2	Machine Drawing Lab	30	Drawing Boards (No.40)	8 Hrs	Sanjay Kuma	Instructor	Diploma
3	Mfg. Sc. & Engg. Lab. I	30	1.Lathe Machine, 2. CNC 3. EDM 4. ECM	4 Hrs	Sanjay Kuma	Instructor	Diploma
4	Mfg. Sc. & Engg. Lab. II	30	1.Lathe Machine, 2. CNC 3. EDM 4. ECM	4 Hrs	Sanjay Kuma	Instructor	Diploma
5	Heat Transfer Lab	30	Heat Pump, Natural- Convection Forced- Convection, Emissivity Measurement, Compressor, Cooling Air	8 Hrs	Kamlesh Kur	Technical Ass	Diploma
6	Energy Conversion Lab	30	Different type of Boiler Model, Turbine Model Diesel Engine Petrol Engine	8 Hrs	Sanjay Kuma	Instructor	Diploma
7	Dynamics of Machine Lab	30	1.Governor, 2.Gyroscope, 3.Whirling of Shaft Apparatus 4.Cam Follower 5.Slider mechanism	4 Hrs	Kamlesh Kur	Technical Ass	Diploma
8	Computer Aided Design Lab	30	Computer systems (No.15)- i7 / 8GB / 1TB Computer systems (No. 10) i7 / 4GB / 1TB / 1GB AND	8 Hrs	Kamlesh Kur	Technical Ass	Diploma
9	Hydraulic Machines Lab.	30	1.Pelton Turbine, 2. Francis Turbine, 3. Kaplan 4. Centrifugal Pump Test Rig 5. Desiccation	4 Hrs	Kamlesh Kur	Technical Ass	Diploma
10	Measurement & Metrology Lab.	30	1.Autocollimator, 2.Surface Roughness Measuring Instrument 3.Test Miter 4.Micrometer	4 Hrs	Sanjay Kuma	Instructor	Diploma
11	Automobile Engineering Lab.	30	1.Cut section model of mechanical brake, hydraulic brake 2. Worm and gear mechanism 3. Cut section	4 Hrs	Sanjay Kuma	Instructor	Diploma

### D2. Safety Measures in Laboratories

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

Sr. No	Laboratory Name	Safety Measures

1	Applied Mechanics & Materials Testing Lab	Safety protocols posters pasted on Walls in Bold Fonts Fire extinguishers First-aid kits Proper ventilation
2	Machine Drawing Lab.	Safety protocols posters pasted on Walls in Bold Fonts Fire extinguishers First-aid kits Proper ventilation
3	Mfg. Sc. & Engg. Lab. I	Safety protocols posters pasted on Walls in Bold Fonts Fire extinguishers First-aid kits Proper ventilation
4	Mfg. Sc. & Engg. Lab. II	Safety protocols posters pasted on Walls in Bold Fonts Fire extinguishers First-aid kits Proper ventilation
5	Heat Transfer Lab.	Safety protocols posters pasted on Walls in Bold Fonts Fire extinguishers First-aid kits Proper ventilation
6	Energy Conversion Lab.	Safety protocols posters pasted on Walls in Bold Fonts Fire extinguishers First-aid kits Proper ventilation
7	Dynamics of Machine Lab.	Safety protocols posters pasted on Walls in Bold Fonts Fire extinguishers First-aid kits Proper ventilation
8	Computer Aided Design Lab.	Safety protocols posters pasted on Walls in Bold Fonts Fire extinguishers First-aid kits Proper ventilation
9	Hydraulic Machines Lab.	Safety protocols posters pasted on Walls in Bold Fonts Fire extinguishers First-aid kits Proper ventilation
10	Measurement & Metrology Lab.	Safety protocols posters pasted on Walls in Bold Fonts Fire extinguishers First-aid kits Proper ventilation
11	Automobile Engineering Lab.	Safety protocols posters pasted on Walls in Bold Fonts Fire extinguishers First-aid kits Proper ventilation

### D3. Project Laboratory/Research Laboratory

S.No.	Name of the Laboratory
1	Advanced Material Research Laboratory (UPCST)
2	Advance Manufacturing Lab (DST)
3	RERP Lab (World Bank Teqip / University Fund)
4	Metal Matrix Composite Lab (TEQIP-II)
5	Robotics and AI Lab (University Fund)

## 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)	645	32	9	9	28
2023-24(CAYm1)	645	32	10	14	34
2024-25(CAY)	645	32	14	25	51

## 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	1279.52	1267.74	641.38	64138	500	163.04	2618.02	2001.57
Library	50	28.14	146	76.79	100.92	70.19	20	4.31
Laboratory equipment	300	213.03	500	104.79	500	163.04	200	27.80
Teaching and non-teaching staff	5408.06	4579.02	5163	2654.37	4982	4135.14	3534.46	2911.87
Outreach Programs	0	0	0	0	0	0	0	0
R&D	100	22.95	102.40	48.09	116.38	54.70	121	30.91
Training, Placement and	75	32.12	90	70.97	90	25.66	30	8.41
SDGs	0	0	0	0	0	0	0	0
Entrepreneurship	0	0	0	0	0	0	0	0
Others, specify	550	532.21	300	246.64	250	236.42	207	171.17
<b>Total</b>	<b>7762.58</b>	<b>6675.21</b>	<b>6942.78</b>	<b>67339.65</b>	<b>6539.30</b>	<b>4848.19</b>	<b>6730.48</b>	<b>5156.04</b>

## 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	2500000	2143069	1000000	256837	1000000	69640	700000	0
Software	1500000	761543	700000	13002	500000	0	500000	12727
SDGs	50000	21231.1	20000	85341.1	10000	8665.7	10000	312.7
Support for faculty development	1000000	19895	600000	0	600000	63299	400000	90506
R & D	1000000	159529	400000	30415	400000	0	300000	0
Industrial Training, Industry expert,	500000	72423	200000	89883	300000	161630	200000	0
Miscellaneous Expenses*	450000	191079.9	180000	768069.9	90000	77991.3	90000	2814.3
<b>Total</b>	<b>7000000</b>	<b>3368770.0</b>	<b>3100000</b>	<b>1243548.0</b>	<b>2900000</b>	<b>381226.0</b>	<b>2200000</b>	<b>106360.0</b>