

NATIONAL BOARD OF ACCREDITATION

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

Program Name : Paint Technology	Discipline : Engineering & Technology
Level : Under Graduate	Tier : 1
Application No : 11148	Date of Submission : 06-11-2025

PART A- Profile of the Institute

A1. Name of the Institute: HARCOURT BUTLER TECHNICAL UNIVERSITY	
Year of Establishment : 1921-1994	Location of the Institute: KANPUR
A2. Institute Address: 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
A3. Name and Address of the Affiliating University (if any):	
Name of the University :	City: Kanpur(Nagar)
State : Uttar Pradesh	Pin Code: 208002
A4. Type of the Institution: University	
A5. Ownership Status: 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
Biochemical Engineering	No	Biochemical Engineering	UG
Paint Technology	No	Paint Technology	UG
Oil Technology	No	Oil Technology	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/COMPE AUTHORITY AI DETAILS
1	Paint Technology	UG	1964 / --	10	Yes	2022	51	2022	F.No. Northern/44643637092/2 Dated 20-Mar-2

Sanctioned Intake for Last Five Years for the Paint Technology	
Academic Year	Sanctioned Intake
2025-26	51
2024-25	51
2023-24	51
2022-23	51
2021-22	30
2020-21	30

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. Arun Maithani
B. Nature of appointment:	Regular
C. Qualification:	Ph.D

B3. Program Details

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

Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	2025-26 (CAY)	2024-25 (CAYm1)	2023-24 (CAYm2)	2022-23 (CAYm3)	2021-22 (CAYm4)	2020-21 (CAYm5)	2019-20 (CAYm6)
N=Sanctioned intake of the program (as per AICTE /Competent authority)	51	51	51	51	51	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	51	51	51	51	51	30	30

N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	0	3	2	2	0	1	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	14	11	9	6	6	8	8
Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points.	65	65	62	59	57	39	38

CAY= Current Academic Year. CAYm1= Current Academic Year Minus 1 CAYm2= Current Academic Year Minus 2. LYG= Last Year Graduate. LYGm1= Last Year Graduate Minus 1. LYGm2= Last Year Graduate Minus 2.

B4. Enrolment Ratio in the First Year

Table No. B4.1: Student enrolment ratio in the 1st year.

Year of entry	N (From Table 4.1)	N1 (From Table 4.1)	N4 (From Table 4.1)	Enrollment Ratio [(N1/N)*100]
2025-26 (CAY)	51	51	14	127.45
2024-25 (CAYm1)	51	51	11	121.57
2023-24 (CAYm2)	51	51	9	117.65

Average $[(ER1 + ER2 + ER3) / 3] = 122.22 \approx 100$

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	(2021-22) LYG	(2020-21) LYGm1	(2019-20) LYGm2
A*=(No. of students admitted in the 1st year of that batch and those actually admitted in the 2nd year via lateral entry, plus the number of students admitted through multiple entry (if any) and separate division if applicable, minus the number of students who exited through multiple entry (if any).	57.00	42.00	38.00
B=No. of students who graduated from the program in the stipulated course duration	54.00	41.00	34.00
Success Rate (SR)= (B/A) * 100	94.74	97.62	89.47

Average SR of three batches $((SR_1 + SR_2 + SR_3)/3)$: 93.94

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

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

Academic Performance	CAYm1(2024-25)	CAYm2(2023-24)	CAYm3 (2022-23)
Mean of CGPA or mean percentage of all successful students(X)	7.19	6.98	6.77
Y=Total no. of successful students	62.00	62.00	51.00
Z=Total no. of students appeared in the examination	51.00	51.00	51.00
API $[X*(Y/Z)]$	8.74	8.49	6.77

Average API $[(AP1+AP2+AP3)/3]$: 8.00

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

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

Academic Performance	CAYm1 (2024-25)	CAYm2 (2023-24)	CAYm3 (2022-23)
X=(Mean of 2nd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 2nd year/10)	5.92	4.68	6.58
Y=Total no. of successful students	63.00	43.00	56.00
Z=Total no. of students appeared in the examination	64.00	53.00	56.00
API $[X * (Y/Z)]$	5.83	3.79	6.58

Average API $[(AP1 + AP2 + AP3)/3]$: 5.40

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

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

Academic Performance	CAYm1 (2024-25)	CAYm2 (2023-24)	CAYm3 (2022-23)
X=(Mean of 3rd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 3rd year/10)	6.44	7.01	6.67
Y=Total no. of successful students	41.00	54.00	41.00

Z=Total no. of students appeared in the examination	43.00	56.00	41.00
API [X*(Y/Z)]:	6.14	6.76	6.67

Average API [(AP1 + AP2 + AP3)/3] : 6.52

B9. Placement, Higher Studies, and Entrepreneurship

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

Item	LYG (2021-22)	LYGm1(2020-21)	LYGm2(2019-20)
FS*=Total no. of final year students	54.00	41.00	36.00
X=No. of students placed	53.00	40.00	35.00
Y=No. of students admitted to higher studies	0.00	0.00	0.00
Z= No. of students taking up entrepreneurship	0.00	0.00	0.00
Placement Index(P) = $((X + Y + Z)/FS) * 100$:	98.15	97.56	97.22

Average Placement Index = $(P_1 + P_2 + P_3)/3$: 97.64 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)	Curr Assoc (Y/N)
1	Prof. Arun Maithani	XXXXXXXX66C	Ph.D	UPTU, Lucknow	Paint Technology	21/06/1996	29.4	Lecturer	Professor	21/06/2014	Regular	Yes
2	Dr. S. V. A. R. Sastry	XXXXXXXX87N	Ph.D	JNTU Kakinada	Chemical Engineering	10/06/2022	3.4	Associate Professor	Associate Professor		Regular	Yes
3	Dr. Radha Sachan	XXXXXXXX69B	Ph.D	DTU Delhi	Chemical Engineering	14/06/2022	3.4	Assistant Professor	Assistant Professor		Regular	Yes
4	Dr. Durgesh Kumar Soni	XXXXXXXX12R	Ph.D	HBTU Kanpur	Paint Technology	20/09/2023	2.1	Assistant Professor	Assistant Professor		Regular	Yes
5	Dr. Pramod Kumar	XXXXXXXX57A	Ph.D	IIT Bombay	Electrodeposition of Paints – Chemical Engineering	31/08/2020	5.2	Professor	Professor		Contractual Fulltime	Yes
6	Mr. Ghanshyam	XXXXXXXX50L	M.Tech	Kanpur University	Paint Technology	04/08/2015	10.3	Assistant Professor	Assistant Professor		Contractual Fulltime	Yes
7	Mr. Sunil Mehrotra	XXXXXXXX06Q	M.Tech	Kanpur University	Paint Technology	03/08/2016	9.3	Assistant Professor	Assistant Professor		Contractual Fulltime	Yes
8	Mr. B. M. Singh	XXXXXXXX91K	M.Tech	Kanpur University	Paint Technology	01/09/2020	5.2	Assistant Professor	Assistant Professor		Contractual Fulltime	Yes
9	Mr. M. I. Khan	XXXXXXXX72P	M.Tech	Kanpur University	Paint Technology	01/09/2021	1.10	Assistant Professor	Assistant Professor		Contractual Fulltime	No
10	Dr. Vijay Kumar Verma	XXXXXXXX38L	Ph.D	IIT Roorkee	Chemical Engineering	01/08/2024	1.3	Assistant Professor	Assistant Professor		Contractual Fulltime	Yes

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(2025-26)	CAYm1 (2024-25)	CAYm2 (2023-24)
UG1.B	55	53	53
UG1.C	53	53	32
UG1.D	53	32	31
UG1: Paint Technology	161	138	116
DS=Total no. of students in all UG and PG programs in the Department	161	138	116
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= 161	S2= 138	S3= 116
DF=Total no. of faculty members in the Department	9	9	7
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= 9	F2= 9	F3= 7
FF=The faculty members in F who have a 100% teaching load in the first-year courses	0	0	0
Student Faculty Ratio (SFR)=S/(F-FF)	SFR1= 17.89	SFR2= 15.33	SFR3= 16.57
Average SFR for 3 years	SFR= 16.60		

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 = $2.5 * [(10X + 4Y) / RF]$
2025-26(CAY)	6	3	8.00	22.50
2024-25(CAYm1)	6	3	6.00	30.00
2023-24(CAYm2)	3	4	5.00	23.00

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
2025-26	1.00	1.00	1.00	1.00	5.00	2.00
2024-25	1.00	1.00	1.00	1.00	4.00	2.00
2023-24	1.00	1.00	1.00	1.00	3.00	1.00
Average	RF1=1.00	AF1=1.00	RF2=1.00	AF2=1.00	RF2=4.00	AF2=1.67

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	Dr. Pramod Kumar	Visiting Professor	HBTU Kanpur	B.Tech., M.Tech.	480.00

(CAYm2)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Dr. Pramod Kumar	Visiting Professor	HBTU Kanpur	B.Tech., M.Tech.	480.00

(CAYm3)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Dr. Pramod Kumar	Visiting Professor	HBTU Kanpur	B.Tech., M.Tech.	480.00

C6. Academic Research

Table No. C6.1: Faculty publication details.

S.No.	Item	2024-25 (CAYm1)	2023-24 (CAYm2)	2022-23 (CAYm3)
1	No. of peer reviewed journal papers published	8	14	5
2	No. of peer reviewed conference papers published	6	3	3
3	No. of books/book chapters published	12	10	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. SVAR Sastry	DR. Radha Sachan, Dr. Durgesh Kumar Soni	Paint Technology	Development of Advanced Paint System for Aggressive Industrial Environments	Tata Bluescope	3 years	1353700.00
						Amount received (Rs.):1353700.00

(CAYm2)

(CAYm3)

Total Amount (Lacs) Received for the Past 3 Years: 1353700.00

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
Dr. Durgesh Kumar Soni		Paint Technology	Knot Fence wire for the work of "Provision of Safety fencing"	A. R. Thermosets Pvt. Ltd., Kanpur	3 months	0.12
Dr. Durgesh Kumar Soni		Paint Technology	Weldmesh Panel, Fence Post, Anchor Rod Support Strip and Washer Nut	A. R. Thermosets Pvt. Ltd., Kanpur	3 months	0.53
						Amount received (Rs.):0.65

(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. Durgesh Kumar Soni	Dr. Radha Sachan	Paint Technology	Corrosion Protection technology for Okhla Barrage Gates made of MS Plate conforming to Grade A 250 (IS 2062)	Executive Engineer Central Store Divison 3 Kalagarh, Pauri Garhwal	1 month	0.29
Dr. Durgesh Kumar Soni		Paint Technology	W-beam crash barrier fencing in RE-AWR Section and welded mesh panels fencing in RE-BAI Section	A. R. Thermosets Pvt. Ltd., Kanpur	3 month	0.05
Dr. Durgesh Kumar Soni		Paint Technology	Khadi Prakautik Paints	Suryanshi Enterprises, Lucknow	1 month	0.06
Dr. Durgesh Kumar Soni		Paint Technology	Weather Coat Roof Guard	M/s Pushpendra Kumar Dwivedi and M/S Berger Paints IndiaLtd.	1 month	0.02
Dr. Durgesh Kumar Soni		Paint Technology	Khadi Prakrutik Paint and Emulsion Paint	Solar Energy Development Coopertaive Society Ltd. Lucknow	1 month	0.28
						Amount received (Rs.):0.70

(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. Arun Maithani		Paint Technology	Zn Anode 304, EP9HB Phenolic CTG Light Grey and Epilux 5 Coal Tar Epoxy	EIL & Sopan O&M Company Pvt. ltd. Pune 411021	3 months	0.27
Prof. Arun Maithani		Paint Technology	Grey nozzle Rubber Compound	S. S. International, Kukra Deo, mandjna, Kanpur	2 months	0.09
						Amount received (Rs.):0.36

Total amount (Lacs) received for the past 3 years: 1.71

Note*:

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

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

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

(CAYm1)

(CAYm2)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
Dr. Radha Sachan	To attend 17th International Conference on Polymer Scince and Technology(SPSI-MACRO 2023)	10-13.12.2023	0.31	0.25	Paper presented as Oral Presentation
Dr. Radha Sachan	To attend PAINT INDIA 2024	22-24.02.2024	0.17	0.15	Interaction with Industrialist for training and placement activities
			Amount received (Rs.): 0.48		

(CAYm3)

Total amount (Lacs) received for the past 3 years : 0.48

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	UG Laboratory	30	Digital Pigment Muller	Utilized in PE L	Dr. P. A. Naq	Research Ass	PhD
2	PG Laboratory	15	High Energy Grinding Machine	Utilized in TFM	Dr. P. A. Naq	Resaerch Ass	PhD
3	Testing & Evaluation Laboratory	30	Pendulum Hardness Tester	Utilized in CAE	Dr. P. A. Naq	Resaerch Ass	PhD

D2. Safety Measures in Laboratories

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

Sr. No	Laboratory Name	Safety Measures
1	Safety Measures in UG Laboratory (B.Tech. Students)	The UG Laboratory is primarily used for foundational experiments involving chemical analysis (acid value, iodine value, hydroxyl value, epoxy value) as well as basic pigment and resin manufacturing. Chemical Handling and Storage Chemicals such as acids, bases, solvents, and reagents are stored in properly labeled containers with hazard identification. Separate storage is maintained for acids, alkalis, flammable solvents, and oxidizing agents. Material Safety Data Sheets (MSDS) for commonly used chemicals are available and displayed for easy reference. Personal Protective Equipment (PPE) Mandatory use of lab coats, safety goggles, gloves, and closed footwear during laboratory sessions. Students are instructed on the correct selection and use of PPE depending on the experiment. Ventilation and Fume Control Adequate ventilation and exhaust systems are provided to remove solvent vapors and fumes generated during chemical reactions and heating. Experiments involving volatile solvents are conducted under exhaust hoods wherever required. Fire and Electrical Safety Fire extinguishers suitable for chemical and electrical fires are installed at easily accessible locations. Electrical heating mantles, hot plates, and stirrers are checked periodically for insulation and proper earthing. Operational Safety and Supervision Experiments are conducted strictly under the supervision of faculty members and laboratory staff. Students are briefed on safety instructions at the beginning of each practical course, including safe handling of glassware and chemicals. Spill management procedures are explained, and absorbent materials are kept readily available.
2	Safety Measures in PG Laboratory (M.Tech. Students)	The PG Laboratory houses advanced paint manufacturing and processing equipment such as bead mills, pigment mullers, high-energy grinding machines, mixers, and baking ovens. Given the higher risk associated with mechanical and thermal operations, enhanced safety measures are implemented. Machine Safety and Guarding Rotating and high-energy equipment are fitted with safety guards and protective covers. Emergency stop switches are clearly marked and easily accessible on major machines. Operating instructions and safety precautions are displayed near each equipment. Training and Authorized Use Only trained M.Tech. students and research scholars are permitted to operate heavy machinery. Hands-on safety training is provided before allowing independent operation of equipment. Operation of machines is carried out under the guidance of faculty or experienced technical staff. Thermal and Fire Safety Baking ovens and heating equipment are placed with sufficient clearance to prevent heat accumulation. Temperature controllers and cut-off systems are used to avoid overheating. Fire extinguishers suitable for flammable liquids and electrical fires are strategically located in the laboratory. Ventilation and Solvent Safety Proper exhaust and ventilation systems are installed to remove solvent vapors generated during paint manufacturing and dispersion processes. Flammable solvents are stored in designated areas away from heat sources. Open flames are strictly prohibited in areas where solvents are used. Noise and Mechanical Hazard Control Students are advised to maintain safe distances during high-speed grinding and milling operations.

3	<div data-bbox="220 264 753 376" style="border: 1px solid black; padding: 5px;"> <p>Safety Measures in Testing and Evaluation Laboratory</p> </div>	<p>The Testing and Evaluation Laboratory contains instruments for mechanical, physical, and performance testing of painted films, such as adhesion testers, impact testers, abrasion testers, gloss meters, hardness testers, corrosion testing setups, and film thickness gauges. Instrument-Specific Safety Standard operating procedures (SOPs) are displayed for each testing instrument. Instruments are used strictly as per recommended operating conditions to prevent mechanical failure and personal injury. Sharp tools, cutting devices, and impact testing equipment are handled with caution and under supervision. Electrical Safety All electronic instruments are properly earthed and protected against voltage fluctuations. Power supply connections are checked periodically to avoid short circuits or electrical hazards. Chemical and Environmental Safety Corrosion and chemical resistance testing setups are operated with proper ventilation. Test chemicals and solutions are handled with gloves and eye protection. Waste solutions are disposed of as per approved chemical disposal practices. General Safety Practices The laboratory is kept uncluttered, with clear walkways to avoid tripping hazards. Sample preparation areas are segregated from sensitive testing instruments.</p>
---	---	---

D3. Project Laboratory/Research Laboratory

The Department of Paint Technology at HBTU Kanpur is advancing its long-term vision of research-driven growth through the development of a Centre of Technical Excellence dedicated to coatings science and surface engineering. As stated in the department's objectives, HBTU aims "to become a Centre of research and innovation" and provide state-of-the-art facilities for testing, training and consultancy.

Recent department communications highlight the establishment of a state-of-the-art Centre of Technical Excellence, aimed at supporting sustainable coatings, innovation in printing inks, and industry-aligned training. The Centre will enhance advanced instrumentation, provide industry-oriented certification modules, strengthen consultancy and testing services, and boost R&D in emerging areas like eco-friendly coatings, smart surfaces and nanotechnology.

This Centre of Technical Excellence is expected to provide:

- Advanced laboratories and instrumentation tailored for paints, pigments, resins and printing inks specialised training modules and continuing-education programmes for industry professionals and students;
- Consultancy and test-services to paint and coatings manufacturers, thereby bridging academia and industry;
- Enhanced research capacity for sustainable coatings, smart surfaces and next-generation materials consistent with the department's vision.

With this initiative, Paint Technology department at HBTU is transitioning from conventional academics to a national-level technical hub, reinforcing strong industry-academia collaboration and shaping future-ready technologists for the global coatings sector. The instruments available in PACT Centre of Technical Excellence is as follows:

PACT Centre of Technical Excellence		
Sr. No.	Material Description	Qty.
1	Ford-4, Ford Cup #4	2
2	ISO-4, ISO Cup #4	1
3	DIN-4, DIN Cup #4	1
4	CNDB-2, ZAHN Cup #2	1
5	CNDB-4, ZAHN Cup #4	1
6	QBB- 100, Density Cup 100 ml	1
7	PPH Set, Pencil Hardness Test Kit -500 Sharpener + Pencils	1
8	SZQ-F60-03, Wet Film Applicator Frame Type (50µm, 100µm, 150µm, 200µm)	1
9	SZQ-4S-04, Wet Film Applicator 4-sided type (30µm, 60µm, 90µm, 120µm)	1
10	SZQ-C-02, Wet Film Applicator Cube Type (38µm, 78µm)	1
11	LPQ-1 Levelling Applicator (100-200-300-500-1000µm)	1
12	LG-1 Sagging Applicator (50-275µm)	1
13	XB2-6, Wire-Wound Bar Applicator	1
14	XB2-12, Wire-Wound Bar Applicator	1
15	QFH, Cross Hatch Cutter Kit	1
16	Hot Air Oven Universal Electric Oven (14"x14"x14") Temp RT to 250°C PID controller	1
17	YG-268, Glossmeter (3 angle glossmeter 20°, 60°, 85°)	1
18	EC-910, Coating Thickness Gauge 10mm	1
19	3601, Wet Film Thickness Gauge Comb Type	1
20	Bar Coater	3
21	Chequer Board	1
22	Cross-Cut Testing Kit	1
23	Dean & Stark Apparatus	1
24	Flexibility & Adhesion Tester	1
25	Abel's Flash Point Apparatus	1
26	Hegmann Gauge	1
27	Melting Point Apparatus	1
28	Muffle Furnace Digital	1
29	WPL Cup	1
30	Fractional Dist. Apparatus	1
31	Heating Mantle	1
32	Electronic Digital Weighing Balance, High-Precision Digital Balance, 200/0.001g Make: Wensler, PGB211M, model internal cal. LCD display, glass shield, adaptor	1

PART E: First Year faculty and financial Resources

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

E1. First Year Student-Faculty Ratio (FYSFR)

Table No. E1.1: FYSFR details.

Year	Sanctioned intake of all UG programs (S4)	No. of required faculty (RF4= S4/20)	No. of faculty members in Basic Science Courses & Humanities and Social Sciences including Management courses (NS1)	No. of faculty members in Engineering Science Courses (NS2)	Percentage= No. of faculty members $((NS1*0.8) + (NS2*0.2))/(No. of required faculty (RF4))$; Percentage= $((NS1*0.8) + (NS2*0.2))/RF$
2023-24(CAYm2)	645	32	14	8	40
2024-25(CAYm1)	645	32	20	20	62
2025-26(CAY)	645	32	23	32	78

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	1700	1600.2	1279.52	1267.74	641.38	641.38	500	163.04
Library	100	3.86	50	28.14	146	76.79	100.92	70.19
Laboratory equipment	700	429.85	300	213.03	500	104.79	500	163.04
Teaching and non-teaching staff	6178.31	3551.74	5408.06	4579.02	5163	2654.37	4982	4135.14
Outreach Programs	15	3.32	0	0	0	0	0	0
R&D	100	18.42	100	22.95	102.40	48.09	116.38	54.70
Training, Placement and	110	61.35	75	32.12	90	70.97	90	25.66
SDGs	3	3	0	0	0	0	0	0
Entrepreneurship	6.5	5	0	0	0	0	0	0
Others, specify	1425	900.95	550	532.21	300	246.64	250	236.42
Total	10337.81	6577.69	7762.58	6675.21	6942.78	3843.03	6539.30	4848.19

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	1000000	332620	1000000	65000	600000	0	400000	0
Software	500000	0	500000	0	300000	0	300000	0
SDGs	100000	30000	0	0	0	0	0	0
Support for faculty development	500000	99770	350000	99999	300000	49172	100000	36291
R & D	600000	102710	600000	36262	300000	30000	200000	65858
Industrial Training, Industry expert,	400000	74976	400000	82242	200000	92460	200000	0

Miscellaneous Expenses*	400000	37432	150000	25762	200000	24047	300000	5000
Total	3500000	677508	3000000	309265	1900000	195679	1500000	107149