



SELF STUDY REPORT

FOR

1st CYCLE OF ACCREDITATION

HARCOURT BUTLER TECHNICAL UNIVERSITY

HARCOURT BUTLER TECHNICAL UNIVERSITY

208002

www.hbtu.ac.in

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1. EXECUTIVE SUMMARY

1.1 INTRODUCTION

Harcourt Butler Technical University (Formerly Harcourt Butler Technological Institute, Kanpur) has always been a paragon and a source of inspiration in the field of science and technology since **the year 1921**. Now, as per Act No. 11 of 2016 by the government of Uttar Pradesh it is upgraded to University, i.e, Harcourt Butler Technical University, Kanpur (HBTU, Kanpur). The University has been established with a view for making it a leading Residential University w.e.f 01.09.2016 to become a "Centre of Excellence" with focus on Research and Development and Incubation in the field of Engineering, Technology, Basic & Applied Sciences, Humanities, Social Science & Management and other professional courses. HBTU, Kanpur aims to promote studies, research & innovation in engineering areas of higher education, to enhance skill development through continuing education programme and to achieve excellence in higher technical education.

On academic front, the University is running four schools namely, School of Engineering (SoE); School of Chemical Technology (SoCT); School of Basic & Applied Sciences (SoBAS) and School of Humanities and Social Sciences (SoHSS). The University offers thirteen Undergraduate Programmes (B.Tech.) in Chemical Engineering, Civil Engineering, Computer Science & Engineering, Electrical Engineering, Electronics Engineering, Information Technology, Leather Technology, Mechanical Engineering, Biochemical Engineering, Food Technology, Oil Technology, Paint Technology and Plastic Technology and one undergraduate programme in Bachelors of Business Administration (BBA) programme. It also offers M.Tech. programmes in eleven specializations. In addition, it runs a regular Master of Computer Application (M.C.A), Master of Business Administration (MBA), Master of Science (M.Sc.) in three streams (Physics, Chemistry and Mathematics). The University also offers doctoral programme in all the departments. Four departments of the University namely, Civil, Mechanical, Electronics and Chemical Engineering are recognized Quality Improvement Program (QIP) Centres for Ph.D. programmes.

The University provides a congenial environment for the holistic growth and all round development of the students such that they become globally acceptable personalities with communication skills, aptitude, problem solving capabilities and to work as a team.

HBTU Kanpur has received aid from the World Bank (Phases TEQIP-I, TEQIP-II & TEQIP-III) for various developmental projects. This aid has been utilized for development of the infrastructure, new laboratory equipments, maintenance and modernization of old laboratory equipments etc.

Vision

Vision statement clarifies the values, beliefs, and governing principles of the organization. In order to achieve the goal to become center of excellence with focus on Research & Development, Incubation in the fields of Engineering, Technology, Basic and Applied Science, Humanities, Social Science & Management and other professional courses and Innovation in emerging areas of higher technical education, HBTU, Kanpur specified its Vision which is as follows:-

“To achieve excellence in technical education, research and innovation”

In order to achieve the above vision the University has formulated the following objectives:-

- (a) To devise and implement programmes of education in engineering, technology, basic and applied sciences, humanities, social science and management, architecture and other professional courses keeping in mind the current needs, anticipated changes and projected long term academic, research, industry and societal requirements related to engineering and technology. Further to pursue and promote research, innovation and incubation, disseminate knowledge for the betterment of society and bring about wide spread awareness of the tools and methods continuously generated by the advances in such fields
- (b) To serve as a centre for fostering co-operation and exchange of ideas between the academic and research community on one hand and the industry, University on other, and promote entrepreneurship
- (c) To promote better interaction and coordination to improve the governance of the University and facilitate for higher education
- (d) To promote discipline and the spirit of intellectual inquiry and to dedicate itself as a fearless academic community to the sustained pursuit of excellence
- (e) To promote innovation through research and knowledge incubation
- (f) To further skill development and manpower training activates for the benefit of the society
- (g) To provide research and development and incubation facilities for budding entrepreneurs amongst students, teachers and others, and to provide help related to legal, financial, marketing and other matters to them

Mission

The mission statements of the University are aligned to the vision and they communicate the purpose of the University to all its stakeholders, develop the measurable goals and objectives in order to gauge the success of University's strategic plan.

Mission of the Univerity

1. Imparting Knowledge to develop analytical ability in science and technology to serve the industry and society at large
2. Equip and enable students with conceptual, technical and managerial skills to transform the organization and society
3. Inculcating entrepreneurial philosophy and innovative thinking to promote research, consultancy and institutional social responsibility
4. Serving people, society and nation with utmost professionalism, values and ethics to make development sustainable and to improve quality of life

Process of formulating Vision statement and Mission Statements of HBTU Kanpur

Vision statement of an organization clarifies values, belief and governing principles of the organization first for yourself and then for the society. Mission statements of an organization describe the objectives of the organization and their requisitions. Mission usually includes action-oriented statements.

The process of formulation of vision and mission of HBTU, Kanpur includes various stages of brainstorming, rigorous exercise of *what we are and where we want to move from here* and discussions with all the stakeholders. The following stages explain **formulation of the Vision and Mission statements of HBTU, Kanpur**

Step 1: Analyzing previous vision and mission of Institute (HBTI)

Step 2: Underlying the objectives and purpose of university formation mentioned in HBTU Act 2016

Step 3: Meeting and discussions with all stakeholders of the university (Alumni, Industry Students, Faculty and administrative people)

Step 4: Draft of Vision and Mission Statements

Step 5: Discussions with faculty and HODs of University for suggestions

Step 6: Incorporation of necessary suggestions in the Vision statement and Mission statements draft

Step 7: Meeting with Vice Chancellor, Pro-Vice Chancellor, Registrar, Deans and HODs of University to finalize vision statement and mission statements

Step 8: Approval of Final Vision and Mission of University by Hon'ble Vice Chancellor of University

1.2 Strength, Weakness, Opportunity and Challenges(SWOC)

Institutional Strength

Diversity in Technical Courses: Harcourt Butler Technological Institute, Kanpur (HBTI., Kanpur) was established in 1921 and was upgraded to University in 2016 which comprises of four schools viz. School of Engineering (SoE), School of Chemical Technology (SoCT), School of Basic and Applied Sciences (SoBAS) and School of Humanities and Social Sciences (SoHSS). The SoE and SoCT provide 13 Under Graduate degree programmes in Engineering and Technology alongwith education in Post-Graduation and Doctoral degrees. The SoBAS supports the B.Tech. and M.Tech. programmes and provides Post Graduation (M.Sc.- Physics, M.Sc.-Chemistry and M.Sc.-Mathematics) and doctoral degree programmes. The SoHSS also supports the B.Tech. and M.Tech. programmes and provides Under Graduation (BBA) and Post- Graduation (MBA) along with doctoral degree programmes.

Implementation of National Education Policy 2020 (NEP 2020) in course curriculum: The University has adopted NEP 2020 from the Academic Session, 2022-2023 which indicates its readiness to adopt innovative changes and this also reflects its institutional strength.

Inclusiveness and Diversity: The University has conducive environment for students, faculty members and staff members who are socially and economically diversified and come from different areas. This has helped

the University to adopt good ideas and opinions from diversified areas and create a multicultural atmosphere.

Student Centric University: The University has a full-fledged office of the Dean Students Welfare which looks after all the needs of the students. During the induction program of the new entrants all the students are attached to faculty mentors under the Mentor-Mentee concept which helps the new students to adapt to new atmosphere. The student feedback system is in place and University Students Activity Council (USAC) takes care of extracurricular activities and also provide them a platform to showcase and enhance their inherent talents. After analyzing the feedback of all the stakeholders, the syllabi of all the programmes are updated at regular intervals through Board of Studies (BoS) meetings. Moreover, students are free to meet various administrative heads and higher ups which helps in creating student friendly environment in the campus.

The University has well equipped Central Library named Tagore Central library which has 83,479 books and 24,290 book titles, 843 e-books subscriptions and 53982 e-journals with full text subscription which can be easily accessed by the students, staff and faculty members. The University also has a dedicated gymnasium along with outdoor and indoor sports facilities.

Institutional Weakness

Harcourt Butler Technical University, Kanpur is a state University governed by U.P. State Universities Act - 2016. As a matter of fact, the State Government has a very important role in the development and decision making of the University. The grants received from the Government are limited and this has resulted in inadequate funds for developmental activities. This University, despite being one of the longest serving University/Institute in the Country has been given limited grants in the past as well as at present also. Further, it is imperative to mention that, in a state like Uttar Pradesh, most of the population (approximately 70%) belongs to rural background and having less resources/paying capacity, therefore it is difficult to increase the fees for financial empowerment. The University has recently increased the intake of students and based on Faculty Student Ratio (FSR) it has submitted the proposal for increase in sanctioned strength of faculty and staff. However, University is still waiting to get concurrence from the state government. This in turn is affecting the growth of University as it is not able to widen its regular faculty base and therefore it is facing difficulty in diversifying research avenues. The University depends on state government for approval and implementation of various regulations as pronounced by different central regulatory bodies. Recently, 44 new faculty members have joined the University, however, the proposal for the sanction of new faculty positions is already in consideration with the state government. Sanction of new faculty positions will help strengthening teaching-learning process and research. The University has also received grants/funds from various government schemes for academic and infrastructure development. There has always been a time lag in implementation of such schemes and regulations, this in turn causes delay in the release of grants and thus slows down the growth. Maintenance of old buildings (100 years) with small maintenance grant is becoming very difficult at the University.

Institutional Opportunity

Kanpur is the biggest city of the state and is the main center of commercial and industrial activities. Formerly it was known as the Manchester of India. Now it is the commercial capital of Uttar Pradesh. HBTU, Kanpur formerly known as HBTI is an institute with more than 100 years of legacy and has seen the ups and downs of the city. The University strives to revive the lost glory of the city in terms of business avenues. Further, the presence of industries in nearby areas has given an opportunity to the faculty members and students to work on

industrial problems and provide solutions to them. Each year since past 100 years, the graduates have become successful entrepreneurs and leaders in various companies both in private and government sectors. Thousands of alumni of HBTU have been in top notch positions in all walks of life across the world and have always shown willingness to handhold the students of their alma mater. As they are equipped with adequate technology and science background to make breakthroughs, the HBTU graduates are prepared for better placements, paid internships and entrepreneurship capabilities with the help of alumni. The faculty members have a strong interaction with the alumni, which in turn helps in strengthening the course syllabus as per the need and changes in the professional world. The University has IIT, Kanpur in the vicinity and this has facilitated the faculty members to mutually get involved in the research and extension activities with the premium institute. Further, the University Students Activity Council (USAC) helps in strengthening inherent talents of the students, all the departments either have their own technical associations or are linked with some professional bodies in respective domain areas. Departments regularly organizes National/International Conferences with the help of these associations, providing opportunity to the students to interact with experts and professionals in their respective fields which helps in inculcating professionalism and team spirit in the students. The University strictly abides by the reservation policies of the state and also promotes gender-sensitive environment by conducting gender related programs in the University frequently.

Institutional Challenge

The state of Uttar Pradesh has many reputed technical institutions both government and private in nearby areas and therefore HBTU, Kanpur has an inherent challenge to perform better to attract good students, faculty and staff. Further, the University has a large student base and creating a quality infrastructure and facilities as per global standards becomes a big challenge due to limited inflow of funds from the state government. Being a premier State Government Technical University, it caters to students from diverse socio-cultural-economic backgrounds. The University in turn has a challenge to impart quality education at a reasonable fee structure to the students from affluent as well as economically weaker backgrounds from both rural and urban settings. In order to provide quality education to such a diverse student background, the University has to assess the learning levels of the students after admission at various stages. This activity is already in place in the University which is a challenging task. Another, important concern for any Higher Education Institute (HEI) is to disseminate Outcome Based Education (OBE) to ensure that all students are equipped with the knowledge, competence, and attributes needed to be successful when they exit after obtaining the degree. For continuous and sustainable transformation of traditional teaching-learning process to skill base education/latest pedagogy is one of the crucial aspect of the University in order to meet the latest advancements in outcome based teaching-learning process addressing to constant changes from time to time which is a challenging task. Another concern for faculty members is to sustain quality research supported by patents/ quality publications/ research projects in various diversified areas as well as undertaking research, catering to social issues along with starting Centers of Excellence in various disciplines in collaboration with industry. Further, it is worth mentioning that University celebrated its centenary year in 2021-22 and is trying to get funds from various schemes from Central/ State government. This would definitely improve the financial health as well as provide greater opportunities to serve the nation. The curriculum of all programs have been upgraded in line of implementing the National Education Policy – 2020 (NEP-2020). The University has dedicated faculty and very strong alumni base and therefore is optimistic to convert its challenges into strength and serve the nation for greater cause.

1.3 CRITERIA WISE SUMMARY

Curricular Aspects

HBTU, Kanpur caters to the needs of industry and the society by continuously updating its curriculum in order to keep pace with rapid changes in the technology. The aim of the Curriculum Design and Development is to fulfill local, national, regional and global developmental needs. Program Outcomes (POs), Program Specific Outcomes (PSOs) and Course Outcomes (COs) of each course is meticulously stated and they are aligned to the vision and mission of the University. Proposed program curriculum is thoroughly discussed in the meeting of Board of Studies (BoS) of the Department comprising of all faculty members, external domain experts and the representatives of the alumni / students. Finally, this program curriculum is sent to the Academic Council of the University for approval. While revising the program curriculum, focus on employability / entrepreneurship / skill development of the students is given due importance. The Choice Based Credit System (CBCS) / Elective Course System was introduced in the erstwhile Institute to allow students to choose courses from a basket of courses as per his / her choice and requirements. This basket is not limited to the courses listed in the syllabus whereas the students are free to choose courses from open online platforms such as NPTEL, MOOCs etc. after due approval from competent authority. Courses on professional ethics, human values and environment are included in each program to inculcate professional traits at work place. Due weightage is accorded to the field projects / research projects / internships and value added courses for imparting knowledge, skill and real life problem solving ability.

One of the Mission statements of the University reads ‘serving people, society and nation with utmost professionalism, values and ethics to make development sustainable and quality of life.’ This in itself is indicator that the University values very highly on cross cutting issues relevant to professional ethics, values and gender issues. All B.Tech. students are offered few audit courses namely Indian Constitution, Environment and Ecology and Cyber Security to address cross cutting issues relevant to professional ethics, gender, human values, environment and sustainability in curriculum.

A feedback mechanism has been devised to include the views of all the stakeholders (students, teachers, employers, alumni etc.) on curriculum design and development. This feedback is analyzed and appropriate action is taken to improve the syllabus. All the inputs are put before the BoS and semester wise course structure, evaluation scheme, Lecture-Tutorial-Practical (L-T-P) credits and syllabi of courses of a program are finalized after due deliberations.

Teaching-learning and Evaluation

HBTU Kanpur has a privilege to cater students from diverse socio-cultural-economic backgrounds. The University provides Quality education at a reasonable fee structure along with ample opportunities for scholarships. Therefore, students from affluent as well as economically weaker backgrounds from both rural and urban outlook are naturally attracted to get higher technical education. A good number of students are in fact the first generation learner in their family.

The University assesses the learning level of the students after admission at various stages and organizes special activities and courses for slow and advanced learners. The University believes that every student has a different learning ability due to their diverse background.

The academic module for various programmes in HBTU is tailored to give a holistic learning experience to the students. Innovative teaching-learning strategies are employed that encourage students to participate and contribute to the learning experience of their peers. Some of the innovative techniques adopted by the faculty

members towards student centric learning are Group/Collaborative class room activities, Flipped Class Room, Online Class Room Quizzes, experiment/ project based learning. Emphasis is given to Outcome-Based Education where a student achieves a goal by the end of the programme.

Faculty members are encouraged to organize and participate in various refresher programs to enhance their knowledge and skills, to prepare them for the role of motivator and guides both within and outside the classroom, to help students achieve their post-education goals. Teachers make use of ICT enabled tools including online resources for effective teaching and learning processes along with the conventional 'chalk and duster' method as both are complimentary to each other and having their own strengths and weaknesses. University has adequate number of Smart Classrooms and also facility for creating online learning resources.

Office of Controller of Examination (CoE) at the University understands its responsibility to make continuous improvement in evaluation system. The Office of CoE has fully integrated IT in the management of Examination System i.e., filling of Examination form, marks entry for mid semester / end semester, result preparation, result display, result correction and result analysis. Examination Management System is the part of ERP System and fully integrated with other subsystems of ERP. Final academic records of students are being published on **DigiLocker - National Academic Depository** for hassle free verification by employers.

Programme Outcome, Programme Specific Outcomes and Course Outcomes are well defined for each Programme run by the University. Question Papers are set as per Bloom's Taxonomy and due consideration is given for Course Outcomes. Result analysis is made based on attainment of Course outcome and Programme outcome. Provision of showing evaluated answer scripts ensure that student grievance is very less.

Research, Innovations and Extension

University is committed to serve the society by achieving excellence in higher technical education, research, innovation, extension works in Engineering, Technology, Science and Management. To achieve its mission, the University provides planned financial, technological and infrastructural support to faculty members and students in order to meet the challenges of advances in research, innovation and extension.

Harcourt Butler Technical University, Kanpur has a well-defined policy for the promotion of research approved by Executive Council of the University (apex body) which gets frequently updated at regular intervals. This policy is an overview of the research support provided to faculty members, staff and researchers to promote quality research. The objectives of the research policy are as follows:-

1. To establish an administrative structure within the University to support the research and innovation activities
2. To frame the norms for undertaking Research work and facilitate administrative processes to improve the overall quality of research for betterment of society
3. To motivate faculty members, staff members, students for cutting-edge research, innovations and incubation
4. To encourage undertaking of research projects from various funding agencies/sponsors.
5. To encourage collaborative and interdisciplinary research
6. To encourage faculty members for undertaking consultancy projects
7. To ascertain quality research work
8. To promote collaborative research projects, supervision and publications

In order to meet the above objectives related to innovation, HBTU, Kanpur has established Incubation Hub to provide a channel by which students can access entrepreneurial resources and share their ideas. Incubation Hub assists start-ups in converting their early-stage business into a highly scalable, commercially viable business and envisions fostering an entrepreneur-friendly culture around academics & research. It also provides services related to patenting and commercialization. Incubation Hub, HBTU has developed comprehensive expertise to foster innovations at the ideation stage of businesses aiming to scale up. It aims to provide critical ingredients for technology-driven, multidisciplinary innovations across agriculture, healthcare, aerospace, energy, water, and education.

HBTU, Kanpur has a well-defined policy for consultancy and testing which provides an opportunity for the faculty members to share their insights, technical knowledge and experience for the real world problems. It is a dynamic learning process with respect to students and faculty as it upgrades and enhances teaching and research activities at the same time consultancy and testing is an important source of revenue generation for the University.

Further, the University is committed to develop not only good human resources but also sensible citizens. The University has a dedicated National Social Service (NSS) sub-council which takes care of various activities in campus as well as in its neighborhood community. The University also has Women Study Center which organizes several events for women empowerment. The NSS sub-council and women study center undertake various activities like tree plantations, cleaning drives, awareness programs on social issues (like dowry, gender equality, girl education, nutrition) etc. in University campus, nearby villages and primary schools.

Infrastructure and Learning Resources

HBTU, Kanpur is spread across approximately 329 acre area in two campuses - Each Campus (77 acres) and West Campus (251.8 Acres) in heart of the city. This vast area is divided into various schools, departments, incubation hubs, research centers, administrative building, academic buildings, residential accommodations for teachers and employees, hostels, sports grounds, amenity area etc. University has 04 well-established schools and 16 departments within these schools.

In addition to the central computing centre, every department has one computer laboratory equipped with advanced computing software. Each department has sufficient number of well equipped laboratories, classrooms, seminar halls, conference rooms, and sitting rooms for faculty with Desktop/Laptop Computers, Internet, printers and other accessories. Departments continuously upgrade and augment their laboratories and equipment. Apart from departmental laboratories, there are facilities like Central Instrumentation Lab, Centre of Excellences, Incubation Hubs, Food Processing Laboratory, CAD and 3-D Printing Labs, Central Workshop having CNC Machines etc. for inculcating multidisciplinary research environment.

University has a well-designed administrative building with ICT enabled conference rooms and chambers/offices, 24x7 uninterrupted power supply through 33/11 KV substation, Internet and Wi-Fi facility, separate Common Rooms and rest rooms for Boys and Girls, Auditoriums, Engineering Drawing Halls, Design Centres, Incubation Hub, Central Workshop, Games and Sports facilities etc. as per minimum specified requirements by the statutory bodies like UGC and AICTE. Some of the other facilities are given below.

- Central Library with latest Books, e-Books, Journals, e-Journals, databases and Library Automation Software (ILMS).

- Digital library with 20 Computers in the library and about 600 computers in various departments including Computer Centre. Every department also has its own departmental library/Internet enabled library.
- Students Activity Council (USAC) having 10 sub-councils aimed at grooming extra-curricular skills of the students and holistic development.
- Central facilities like Canteen, Cafeteria, Medical Centre, Central Bank of India, SBI-ATM, Post Office, Community Centre.
- Well equipped Audio-Visual Centre, Media Centre, Lecture Capturing System, Mixing and Editing Software & Equipment etc.
- Sufficient number of Girls and Boys Hostels to accommodate all students.
- Maintenance Section with the adequate facilities for the upkeep, sanitation and maintenance.

Student Support and Progression

The main stakeholder of HBTU are students and University is therefore committed to provide support and handholding to the students right from the start of their programme through respective Dean of Schools, Head of Departments (HoDs), dedicated faculty/ staff members of the Department. The University has Academic Section to assist in various academic related issues of the students through Dean of Academic Affairs (DAA) and Controller of Examination Section to provide them support related to examinations, evaluation, result processing etc. through Controller of Examination (CoE). In order to cater to mentoring, advising, logistics, discipline, medical and other day to day related support to the students, the office of Dean Student Welfare works all the year round under the leadership of Dean of Student Welfare (DSW). The Training and Placement Cell (T&P) of the University plays a very important role not only in assisting in quality placements, skill and capability enhancement/development of students by organizing various training/ career counselling/ grooming programs but also in students progression to higher studies/ competitive examinations through training programs/ workshops. Further, internships of students in various industries is also taken care by T&P incharge through Dean Planning & Resource Generation (P&RG).

Students are benefited by various government and non-government scholarship schemes. University also awards student scholarships annually to economically weaker and extraordinary achievers. The University has an active student council known as University Student Activity Council (USAC) aimed for grooming the students in extra-curricular and co-curricular skills. USAC has 10 sub-councils and students are active members in these sub-councils including cultural and sports at both departmental and University level and are encouraged to participate in intra and inter-university sports competitions, cultural events along with various other activities like debates, plays, speeches, group discussions, technical, cultural fests etc. for overall development of students. They also take active participation in NSS social cause activities like blood donation camps, distribution of food to needy, village cleaning etc. Student grievances are addressed through dedicated committees with the target to resolve the issues at faster speed.

University regularly engage with its alumni through alumni meets, alumni mentors/career counseling of students, curriculum review etc. The Alumni association organizes various lectures for the benefit of the students in developing the general aptitude and make them more aware of latest trends in the industries. The Alumni association launched a novel initiative: Alumni Students Connect Program (ASCP) and constituted

alumni student connect program committee which is a student body in order to increase alumni student interaction.

Governance, Leadership and Management

The University has clearly stated its vision and mission which are reflected in its academic and administrative governance. The framework for institutional governance for achieving its vision and mission is provided in the HBTU act. Hon'ble Governor, Uttar Pradesh (U.P.) is the Chancellor of the University and carefully monitors all the academic, administrative and financial activities of the University regularly and appoints the Vice Chancellor as Chief Executive Officer of the University. Decentralization and participative management are practiced in the University through various bodies at mainly three levels i.e. functions, funds and functionaries (3Fs).

The Executive Council whose chairperson is Vice Chancellor, is the apex body of the University and monitors continuous development through decisions taken in consensus through participatory management of various bodies such as Academic Council (AC), Finance Committee (FC), Building and Works Committee (BWC), Board of Studies (BoS), Board of Examinations (BoE), Research Doctoral Committee (RDC), University Student Activity Council (USAC), Central Purchase Committee (CPC) etc.

The financial management, budgeting, and utilization of funds are carried through the account section, headed by the Finance Controller. University has decentralized the financial power to the Dean/ Head of the departments/Officers of the University/Sectional In-charges/Wardens to meet out the daily/monthly expenses of their respective offices.

All the Schools (SoE, SoCT, SoBAS, SoHSS) are headed by Deans and all the departments under these Schools are headed by the Head of Departments. At the Department level, faculty members are having active participation in various committees at the University/ Department level. The suggestions of Deans, HoDs, faculty members, students, administrative heads, Registrar, FC and other stakeholders are involved in forming various policies and procedures/guidelines. Students, the primary stakeholder of the University are a part of various cells/ committees like USAC, proctorial board, SC/ST/OBC committee, minority committee, Internal Quality Assurance Cell (IQAC). All hostel mess in University are co-operative mess and run by student committees. Their feedback, suggestions, and issues are addressed with top priority. In our University, we practice decentralization and participative management in a top to bottom approach.

The University has a well laid strategic plan and is effectively deployed. Further, the University has performance appraisal system, promotional avenues and effective welfare measures for teaching and non-teaching staff. Proper mobilization of funds and the optimal utilization of University resources is carried out following the financial rules of the government. Various internal and external financial audits are conducted by the University on regular basis. IQAC of HBTU contributes significantly for institutionalizing the quality assurance strategies and processes by constantly reviewing the teaching learning process, structures and methodologies of operations and learning outcomes at periodic intervals.

Institutional Values and Best Practices

HBTU is committed towards the practice of ideals of human dignity and rights of all human beings without prejudice of caste, creed, religion and gender. The University takes special care to look into the safety and

security of girl students by providing round the clock security through lady guards, lady wardens and faculty mentors. The University has a Women Counselling Cell/ Internal Complaint Committee (ICC) to cater to all the issues related to girl students and women employees in order to create an atmosphere free from any form of discrimination and redressal of sexual harassment.

The University is committed to continuously improve the efficient use of energy and promotes use of alternate sources of energy like solar energy, biogas etc. It is cognizant of its environmental responsibilities and works on the philosophy of three “R” model: Reduce, Reuse, and Recycle to maintain eco-friendly campus. A well formulated ‘Waste Management Policy’ exists in the University covering the disposal procedures of solid, liquid, biomedical, e-waste, hazardous chemicals etc. The University has good water conservation facilities on campus, including rainwater collection, borewell/ open well recharge, tank and bunds and maintenance of water bodies and distribution system. The University has two lush green campuses and it discourages entry of automobiles in the campus in order to reduce carbon footprints in the atmosphere and therefore bicycles/ battery powered vehicles are majorly used by students and staff personnel for transportation. Further, in order to tackle plastic waste and worsening pollution the University has banned the single use plastic. To promote environmental awareness and sensitization about efficient use of energy resources and to identify energy saving opportunities, University regularly conducts green, environmental and energy audits.

To support differently-abled students, staff and faculty members, University created a friendly atmosphere by providing physical facilities like wheelchairs, ramp/ lift facilities for easy access, divyangjan friendly washrooms etc. The University has taken all possible initiatives in providing an inclusive environment towards cultural, regional, linguistic, socioeconomic and other such diversities through induction programs, fresher functions, cultural and technical fests, sports events, speeches, skits, personality development workshops, various philanthropic activities etc. under the umbrella of DSW. The University organizes events for raising consciousness about national identity, fundamental rights, duties and other constitutional obligations. University commemorates the birth and death anniversaries of great figures like Mahatma Gandhi, Dr. B.R. Ambedkar, Swami Vivekananda etc. and also important days and festivals like Independence Day, Republic Day, International Yoga Day, Holi, Deepawali, Lohri, Christmas, Eid etc. The University has a well defined “Code of Conduct” for students and employees which is displayed on the website and also organizes various professional ethics and awareness programs.

Amongst the best practice the university has two innovative practices. Alumni Student-support *for* Placements, Internships, Research and Entrepreneurship [ASPIRE] with the objective to develop an ecosystem which fosters better paid internship programs, enhances entrepreneurship abilities and provides better placement opportunities with the help of Alumni Student Connect Programs (ASCPs). The other one is Social Activities for Women Empowerment in Rural Areas [SAWERA] so that our students can inculcate a strong sense of social responsibility catering to women empowerment in rural areas. Further, University offers B.Tech., M.Tech. and Ph.D. programmes in distinctive Chemical Technology branches (Paint, Plastic, Leather, Biochemical, Food and Oil Technology) that are rare nationally/ internationally and niche in nature.

2. PROFILE

2.1 BASIC INFORMATION

Name and Address of the University	
Name	HARCOURT BUTLER TECHNICAL UNIVERSITY
Address	Harcourt Butler Technical University
City	Kanpur
State	Uttar pradesh
Pin	208002
Website	www.hbtu.ac.in

Contacts for Communication					
Designation	Name	Telephone with STD Code	Mobile	Fax	Email
Vice Chancellor	Samsher	0512-2534000	9554449900	0512-253381 2	vc@hbtu.ac.in
IQAC / CIQA coordinator	Vandana Dixit Kaushik	0512-2534001	8318694566	0512-253381 2	deanceiqa@hbtu.ac.in

Nature of University	
Nature of University	State University

Type of University	
Type of University	Unitary

Establishment Details	
Establishment Date of the University	01-09-2016
Status Prior to Establishment, If applicable	Autonomous College
Establishment Date	25-11-1921

Recognition Details		
Date of Recognition as a University by UGC or Any Other National Agency :		
Under Section	Date	View Document
2f of UGC	01-09-2016	View Document
12B of UGC	01-09-2016	View Document

University with Potential for Excellence	
Is the University Recognised as a University with Potential for Excellence (UPE) by the UGC?	No

Location, Area and Activity of Campus							
Campus Type	Address	Location*	Campus Area in Acres	Built up Area in sq.mts.	Programmes Offered	Date of Establishment	Date of Recognition by UGC/MHRD
Main campus	Harcourt Butler Technical University	Urban	329.67	1334123	B.Tech., M.Tech., MCA, Ph.D., MBA, M.Sc.		

2.2 ACADEMIC INFORMATION

Affiliated Institutions to the University

Type of Colleges	Permanent	Temporary	Total
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Furnish the Details of Colleges of University

Type Of Colleges	Numbers
Constituent Colleges	0
Affiliated Colleges	0
Colleges Under 2(f)	0
Colleges Under 2(f) and 12B	0
NAAC Accredited Colleges	0
Colleges with Potential for Excellence(UGC)	0
Autonomous Colleges	0
Colleges with Postgraduate Departments	0
Colleges with Research Departments	0
University Recognized Research Institutes/Centers	0

Is the University Offering any Programmes Recognised by any Statutory Regulatory Authority (SRA)	: Yes				
<table border="1"> <thead> <tr> <th>SRA program</th> <th>Document</th> </tr> </thead> <tbody> <tr> <td>AICTE</td> <td>112501_9000_1_1670070503.pdf</td> </tr> </tbody> </table>	SRA program	Document	AICTE	112501_9000_1_1670070503.pdf	
SRA program	Document				
AICTE	112501_9000_1_1670070503.pdf				

Details Of Teaching & Non-Teaching Staff Of University

Teaching Faculty												
	Professor				Associate Professor				Assistant Professor			
	Male	Female	Others	Total	Male	Female	Others	Total	Male	Female	Others	Total
Sanctioned	19				38				89			
Recruited	4	0	0	4	11	1	0	12	36	10	0	46
Yet to Recruit	15				26				43			
On Contract	2	0	0	2	0	0	0	0	56	26	0	82

Non-Teaching Staff				
	Male	Female	Others	Total
Sanctioned				236
Recruited	72	7	0	79
Yet to Recruit				157
On Contract	94	17	0	111

Technical Staff				
	Male	Female	Others	Total
Sanctioned				99
Recruited	32	3	0	35
Yet to Recruit				64
On Contract	23	4	0	27

Qualification Details of the Teaching Staff

Permanent Teachers										
Highest Qualification	Professor			Associate Professor			Assistant Professor			Total
	Male	Female	Others	Male	Female	Others	Male	Female	Others	
D.sc/D.Litt/LLD/DM/MCH	0	0	0	0	0	0	0	0	0	0
Ph.D.	28	5	0	11	3	0	2	1	0	50
M.Phil.	0	0	0	0	0	0	0	0	0	0
PG	0	0	0	8	0	0	2	2	0	12
UG	0	0	0	0	0	0	0	0	0	0

Temporary Teachers										
Highest Qualification	Professor			Associate Professor			Assistant Professor			Total
	Male	Female	Others	Male	Female	Others	Male	Female	Others	
D.sc/D.Litt/LLD/DM/MCH	0	0	0	0	0	0	0	0	0	0
Ph.D.	2	0	0	0	0	0	17	9	0	28
M.Phil.	0	0	0	0	0	0	0	0	0	0
PG	0	0	0	0	0	0	40	16	0	56
UG	0	0	0	0	0	0	0	0	0	0

Part Time Teachers										
Highest Qualification	Professor			Associate Professor			Assistant Professor			Total
	Male	Female	Others	Male	Female	Others	Male	Female	Others	
D.sc/D.Litt/LLD/DM/MCH	0	0	0	0	0	0	0	0	0	0
Ph.D.	0	0	0	0	0	0	0	0	0	0
M.Phil.	0	0	0	0	0	0	0	0	0	0
PG	0	0	0	0	0	0	0	0	0	0
UG	0	0	0	0	0	0	0	0	0	0

Distinguished Academicians Appointed As

	Male	Female	Others	Total
Emeritus Professor	0	0	0	0
Adjunct Professor	0	0	0	0
Visiting Professor	2	0	0	2

Chairs Instituted by the University

Sl.No	Name of the Department	Name of the Chair	Name of the Sponsor Organisation/Agency
1	No Department	Not applicable	Not applicable

Provide the Following Details of Students Enrolled in the University During the Current Academic Year

Programme		From the State Where University is Located	From Other States of India	NRI Students	Foreign Students	Total
UG	Male	2085	26	0	0	2111
	Female	513	2	0	0	515
	Others	0	0	0	0	0
PG	Male	236	0	0	0	236
	Female	136	0	0	0	136
	Others	0	0	0	0	0
Doctoral (Ph.D)	Male	0	0	0	0	0
	Female	0	0	0	0	0
	Others	0	0	0	0	0

Does the University offer any Integrated Programmes?	No
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Details of UGC Human Resource Development Centre, If applicable

Year of Establishment	Nil
Number of UGC Orientation Programmes	0
Number of UGC Refresher Course	0
Number of University's own Programmes	0
Total Number of Programmes Conducted (last five years)	0

2.3 EVALUATIVE REPORT OF THE DEPARTMENTS

Department Name	Upload Report
Biochemical Engineering	View Document
Chemical Engineering	View Document
Chemistry	View Document
Civil Engineering	View Document
Computer Science And Engineering	View Document
Electrical Engineering	View Document
Electronics Engineering	View Document
Food Technology	View Document
Humanities And Social Sciences	View Document
Information Technology	View Document
Leather Technology	View Document
Mathematics	View Document
Mechanical Engineering	View Document
Oil Technology	View Document
Paint Technology	View Document
Phd	View Document
Physics	View Document
Plastic Technology	View Document

Institutional preparedness for NEP

1. Multidisciplinary/interdisciplinary:	<p>One of the main focus of NEP 2020 is to make education more multidisciplinary. In this light, HBTU Kanpur has implemented NEP 2020 from the academic session 2022-23 at the undergraduate level. The features of the NEP 2020 agreed upon and approved in several rounds of meetings in the University (including the BoS) and other statutory bodies, such as the Academic Council and the Executive Council and implemented from 2022-23 which includes the following: (a) The 4-year B.Tech. programme shall have a total of 180 credits. Out of that, 44 credits in first year, 28 are to be earned from Engineering Sciences courses, 12 from Basic Science</p>
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and 4 from Humanities (b) Focus on multidisciplinary courses/subjects has been ensured (c) Provision of multiple exit system after B.Tech 1st year and 2nd year leading to the following: i) After the 1st year, "Certificate course in Engineering and Technology" ii) After the 2nd year, "Diploma in the respective branch of Engineering/Technology" (d) The Syllabus and Scheme of evaluation of all courses being taught in B.Tech. in the first year has been prepared and approved by the respective Board of Studies (BoS) and the Academic Council (AC) and later ratified by the Executive Council (EC) of the University (e) The course structure and the scheme of evaluation of all B.Tech. programme are already prepared and approved by the respective BoS and the AC and are later ratified by the EC (f) Provision of "Minor" degree in a programme of study other than the one in which the student was enrolled (the "Major") at the time of his/her admission in B.Tech 1st year has been made. For this, the student shall have to earn 20 extra credits from courses other than his/her own branch offered by the same department (g) The details of programmes in which "Minor" is being offered by various departments has been prepared and approved by the respective BoS and the Academic Council and later ratified by the Executive Council. This includes the name of the "Minor", prerequisite in terms of minimum CGPA at the end of 2nd year, a basket of courses for choosing 20 credits courses for "Minor" (h) Several open elective and mandatory courses included from 3rd year onwards to make it more interdisciplinary Specifically, the first year of the B.Tech programme encompasses various Engineering Science courses which are multidisciplinary/interdisciplinary in nature. These include an introduction to Computer Science, Mechanical, Civil, Electrical, Electronics, Chemical Engineering/Technology and Engineering Graphics; "Basic Science" courses such as Physics, Chemistry and Mathematics; "Humanities Courses" such as Professional Communication. Also, to give a "vocational" touch to the programme, the course on Workshop Practice is being taught to first-year students. This course covers Welding, Black Smithy, Carpentry, and Machining. The "soft skills" training are imparted through courses on Professional Communication and extracurricular activities. The courses like "Environment & Ecology", "Indian

	<p>Constitution”, “Cyber Security” are also offered to all the students. Other courses in cutting-edge areas such as Artificial Intelligence, 3-D printing, Big Data Analysis, Machine Learning, Image Classification, Speech Recognition, Nanotechnology are introduced.</p>
<p>2. Academic bank of credits (ABC):</p>	<p>The Academic Bank of Credits (ABC) scheme is essentially credit based, highly flexible students-centric scheme paving the way for seamless students mobility between degree granting Higher Education Institutions (HEIs) through a formal system of credit recognition, credit accumulation, credit transfer and credit redemption to promote distributed and flexible teaching learning. The University is committed to be a part of HEIs for establishment and operationalization of ABC scheme as per UGC regulation, 2021. The University aims to satisfy the students’ quest for knowledge, freedom to choose and change their academic directions, connect different domains and help them to acquire right foundation and fulfill their dreams. The University has following preparedness for establishment and operationalization of ABC scheme as per UGC regulation. (a) In tune with National Educational Policy 2020 the University has provided academic flexibility to the students by adopting a new course structure applicable from academic session 2022-23 (b) Since the ABC scheme is intended to promote multi/intra disciplinary higher education as its fundamental principle the course structure has been revised with appropriate credit requirements apportioned as core courses/core electives/open electives etc. as per the approval of the Executive Council of the University (c) As a part of academic flexibility the course of study provide degree/diploma/certificate of study offering multiple entries for students studying in the University and multiple exit facilities (d) The multiple entry options for the students of other HEIs will be applicable once the University will be eligible to register such candidates as per UGC regulations (e) In the new course structure applicable from the academic session 2022-23 based on NEP-2020 any student leaving the University after completion of 1st year B. Tech. program will be awarded Certificate of Engineering & Technology, after completion of 2nd year B. Tech. program will be awarded Diploma in the relevant branch of study and after completion of 4 year B.</p>

	<p>Tech. program will be awarded Degree (f) Since the total time allotted for completion of B. Tech. program is kept seven years, any student leaving the University in between after getting the Certificate/Diploma can re-enroll in the University to complete his/her rest of the credits to get the Degree (g) To provide mobility within across various disciplines the University has started award of B. Tech. Honours and B. Tech. with major in their branch of study along with minor degree of other specialization (h) Courses undergone by the students through the online modes through National Schemes like SWAYAM, NPTEL etc. are considered for credits accumulation (i) The University has created the appropriate educational infrastructure in terms of audio-visual facilities, e-resources, virtual classrooms, high bandwidth internet connectivity to support online courses and other infrastructure facilities to participate in the ABC scheme</p>
3. Skill development:	<p>(a) The university has Innovation and Incubation Hub to promote soft skill development and also has arrangements to strengthen the vocational education with National Skill Qualification Framework to all its students by way of extending financial support (b) Various programs are organized for the students to showcase their ideas and skills which integrate with the mainstream education (c) The university has included various subjects for providing value based education to inculcate positivity amongst the learners that include the development of humanistic, ethical, constitutional and universal human values of Truth, righteous conduct, peace, love, non-violence, scientific temper, citizenship values and life skills (d) The Choice based Credit system (CBCS) has been introduced to allow the students to select courses from the basket as per their requirement and interest (e) The alumni from industry are invited to deliver talks on vocational education for sharing their experiences and expertise. This exercise overcomes the gaps vis-à-vis trained faculty provisions (f) Skilling courses are designed and offered to the students through offline and / or distance mode (g) The university has good practices in the form of (i) alumni support for employment and (ii) Rural development through appropriate technology</p>
4. Appropriate integration of Indian Knowledge system (teaching in Indian Language, culture, using	Multidisciplinary and interdisciplinary teaching/learning used in ancient Indian Education

online course):

System gave lots of thrust towards holistic development of students and to equip them with technical knowledge along with creative skills, human values, culture, ethics etc. The concept of 'meaningful life' that has been the goal of Indian knowledge system seems to be missing now in mainstream education of modern era. This change of direction necessitates complete integration of Indian Knowledge System with nation's Education. The very aim of Education shall have three outcomes as characteristics in graduates: Creation of New Knowledge, Wisdom to use the right knowledge in right time and place for right purpose, and the skill sets to get the proper results of knowledge in real life. These outcomes are possible only when the Indian Education System is properly balanced with the integration of knowledge and skills in the new education system. In Indian Knowledge System there has been a vast repository of knowledge available in all native Indian languages but has remained unexplored for the last several decades. It encompasses the Foundational knowledge, Science, Engineering & Technology, Humanities & Social Sciences and has a wide range of several beaches such as Astronomy, Health and Well-being, Mathematics and Computing, Languages and Linguistics, Metallurgy, Rasa-Shastra, Public Administration, War Technology, Management Sciences and many more. It is the need of today's world to integrate the IKS into the contemporary knowledge in harmonious ways that would involve the basic introduction to IKS, amalgamation of fundamental IKS concepts into the modern textbooks, and finally developing Indian Thought Models based on available IKS literature, and their application into various contemporary problem solving methods. In the context of IKS based education, Indian Languages play a very crucial role. A judicious balance of IKS and Indian Language education, be made part of Indian Education to achieve the main objective of NEP2020 to develop a holistic education. The goal of National Education Policy (NEP) 2020 can be achieved through holistic development of students by preparing them to be innovators, job providers and finally preparing them to be capable of resolving the issues of social problems. HBTU Kanpur has, therefore, implemented NEP 2020 w.e.f. academic session 2022-2023 at the

	<p>undergraduate level. The students are offered various subjects having interdepartmental credits. The University's Vision and Mission majorly addresses to societal needs through technical solutions and innovations. The University is fully committed towards developing an understanding amongst our students to inculcate Indian Knowledge System, as outlined above. The University offers various core and audit courses. Also, many awareness programs are organized with focus on gender sensitization, blood donation, tree plantation, global warming, women security & education, women legal rights, menstrual problems in women, women feticide, child marriage, dowry, electoral rights importance and awareness etc. The University is also committed to imparting valuable knowledge to students through online courses by duly implementing it in its curriculum through the list of open elective courses as well as some elective courses wherever applicable as part of NEP 2020 from coming Academic Sessions.</p>
<p>5. Focus on Outcome based education (OBE):</p>	<p>University has implemented OBE based curriculum, delivery and assessment process to ensure the effective teaching and learning. Curriculum is oriented towards fulfilling the local, national, regional and global developmental needs of the society at large and it is specifically designed according to the OBE framework to ensure attainment of the POs and PSOs and have due focus on employability / entrepreneurship / skill development through Choice Based Credit System (CBCS) / Buckets of Elective Courses. Curriculum includes courses on Engineering fundamentals, knowledge of mathematics, science and engineering specialization including Engineering Drawing, Workshop Practice, Engineering Mechanics, Strength of Materials, Computer Application etc. Areas of social and economic concern like environmental protection, energy conservation, productivity and quality, safety and entrepreneurial development are also included. Some of the mandatory non-credit courses like Cyber Security, Environment & Ecology, and Indian Constitution are also included in the course curriculum alongwith a general course on computer literacy and computer applications. Project work is one of the mandatory courses, which is intended to provide opportunity for the students to</p>

	<p>develop understanding of the inter relationship between courses and to apply the knowledge gained in a way that enables them to develop and demonstrate higher order skills. Industry Institution Interaction is an integral component of the curriculum. Program Elective and open elective courses are offered to provide an opportunity for limited specialization in an area of the students' choice that cover new and emerging areas. There is also the provision of awarding minor degree in some specialization where students complete 4-5 additional courses of 20 credits The University and its various departments/programs have well formulated vision and mission statements alongwith the Program Educational Objectives (PEOs) and Program Specific Outcomes (PSOs). Keeping in view the graduate attributes in the form of Program Outcomes (POs), content of every course has been formulated meticulously by clearly delineating the appropriate number of Course Outcomes (COs). Suitable Course Articulation Matrix establishing relationship between COs and POs as well as COs and PSOs have been created for various programs running in the University. Attainment of COs and POs is ensured by formulating appropriate rubrics using direct methods which display the students' knowledge and skills from their performance in the continuous internal assessment, end semester examinations, seminars and classroom & laboratory assignments etc. and Indirect methods such as surveys, feedback and opinion of the stakeholders reflecting the students' learning. Attainment levels are finally analyzed to find out deviations from the target values of the attainments and appropriate remedial measures are taken to meet out the target values if the deviations are towards the lower side. Process adopted for setting of question papers and the evaluation and assessment is as per the OBE framework.</p>
6. Distance education/online education:	<p>Effective learning requires a comprehensive approach that involves appropriate curriculum, engaging pedagogy, continuous formative assessment, and adequate student support along with suitable resources and infrastructure such as quality libraries, classrooms, labs, technology, sports/recreation areas, student discussion spaces, and dining areas. To improve the learning environment in sync with the global movement to integrate educational resources</p>

and increase the ease of accessibility to them while harnessing the powers of the global revolution, especially through technological interventions, following measures have been planned to be implemented in due course of time: (a) Take initiatives to ensure inclusive digital education by development and procurement of a rich variety of educational software, studios for content creation, digital repository and dissemination, online teaching/assessment platforms and tools for the use by the students and teachers (b) Providing training to the teachers on IT based infrastructure and high-quality online content creation (c) Ensure the integration of technology based education platforms like MOOCS, SWAYAM, NPTEL, CourseEra etc., use of the other channels such as television, radio, mass media and promotion of blended mode of teaching-learning (d) Creation of initial versions of instructional materials and courses including online courses in cutting-edge domains, virtual labs, a digital repository of coursework, learning games and simulations (e) Promotion of continuing education, awareness and extension activities through the use of disruptive technologies, ODL, and Online education. As of now, the University has been successful in making implementation of the following measures (f) ERP system which can monitor student attendance, allow faculty to upload their recorded lectures, course materials, power point presentations, lecture notes, assignments & quizzes etc. (g) Facility for recording of the online feedback of all stakeholders of the University through University ERP (h) Most of the class rooms of the University are ICT enabled with facilities to promote online delivery of learning material including video lectures to students available from top notch MOOCs platforms across the globe (i) Students have also been provided with the flexibility to choose online courses through MOOCs platform and complete their degree with proper evaluation mechanism as laid down in the University ordinances (j) State of the art Media Centre consisting of facilities for lecture capturing, video recording, and software for editing and mixing etc. (k) 24x7 Wi-Fi facility of more than 1 GBPS speed throughout the campus (l) Provision for offering online courses to the students opting for the industry based full time projects during the VII and VIII semesters (m) Option to study under online mode from the

concerned course teacher during full time internship

Extended Profile

1 Program

1.1

Number of programs offered year-wise for last five years

2021-22	2020-21	2019-20	2018-19	2017-18
26	24	22	22	22
File Description		Document		
Institutional data in prescribed format		View Document		

1.2

Number of departments offering academic programmes

Response: 16

2 Students

2.1

Number of students year-wise during last five years

2021-22	2020-21	2019-20	2018-19	2017-18
2998	2667	2476	2381	2325
File Description		Document		
Institutional data in prescribed format		View Document		

2.2

Number of outgoing / final year students year-wise during last five years

2021-22	2020-21	2019-20	2018-19	2017-18
661	445	449	501	499
File Description		Document		
Institutional data in prescribed format		View Document		

2.3**Number of students appeared in the University examination year-wise during the last five years**

2021-22	2020-21	2019-20	2018-19	2017-18
2998	2651	2370	2096	1576
File Description		Document		
Institutional data in prescribed format		View Document		

2.4**Number of revaluation applications year-wise during the last 5 years**

2021-22	2020-21	2019-20	2018-19	2017-18
8	6	4	1	4

3 Teachers**3.1****Number of courses in all programs year-wise during last five years**

2021-22	2020-21	2019-20	2018-19	2017-18
827	741	666	446	430
File Description		Document		
Institutional data in prescribed format		View Document		

3.2**Number of full time teachers year-wise during the last five years**

2021-22	2020-21	2019-20	2018-19	2017-18
146	136	134	134	136
File Description		Document		
Institutional data in prescribed format		View Document		

3.3

Number of sanctioned posts year-wise during last five years

2021-22	2020-21	2019-20	2018-19	2017-18
146	137	137	137	137
File Description		Document		
Institutional data in prescribed format		View Document		

4 Institution**4.1****Number of eligible applications received for admissions to all the programs year-wise during last five years**

2021-22	2020-21	2019-20	2018-19	2017-18
6683	7080	5961	6129	6431
File Description		Document		
Institutional data in prescribed format		View Document		

4.2**Number of seats earmarked for reserved category as per GOI/State Govt rule year-wise during last five years**

2021-22	2020-21	2019-20	2018-19	2017-18
644	515	421	330	330
File Description		Document		
Institutional data in prescribed format		View Document		

4.3**Total number of classrooms and seminar halls****Response: 76****4.4****Total number of computers in the campus for academic purpose****Response: 1385**

4.5**Total Expenditure excluding salary year-wise during last five years (INR in Lakhs)**

2021-22	2020-21	2019-20	2018-19	2017-18
2369.52	2476.69	3334.12	2201.46	3103.81

4. Quality Indicator Framework(QIF)

Criterion 1 - Curricular Aspects

1.1 Curriculum Design and Development

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific Outcomes(PSOs) and Course Outcomes(COs) of the Programmes offered by the Institution.

Response:

Harcourt Butler Technical University, Kanpur (erstwhile HBTU, Kanpur) was established in 1921 to provide technical know how to nascent industries in the region. We continue to serve to the best of our abilities by catering to the needs of industry and the society. Keeping pace with rapid changes in the technology and requirements of the industry, we have been continuously updating our curriculum. Government of Uttar Pradesh, by Act No. 11 of 2016, upgraded us to Harcourt Butler Technical University on September 01, 2016 with the mandate to be a leading residential University and to become a Centre of Excellence with focus on research and development in the field of engineering, technology, science and humanities. The University is spread across two campuses – the East Campus (77 acres) and the West Campus (251.8 acres) situated about 3 km apart in the very heart of Kanpur. We completed glorious 100 years on November 25, 2021 and the Centenary Celebration function was attended by the Hon'ble President of India.

The aim of the Curriculum Design and Development is to fulfill local, national, regional and global developmental needs. Program Outcomes (POs), Program Specific Outcomes (PSOs) and Course Outcomes (COs) of each course are meticulously stated and they are aligned with the vision and mission of the University. The proposed program curriculum is thoroughly discussed in the meeting of Board of Studies (BoS) of the Department comprising of all faculty members, external domain experts and the representatives of the alumni / students. Finally, this program curriculum is sent to the Academic Council (AC) of the University for approval. While revising the program curriculum, focus on employability / entrepreneurship / skill development of the students is given due importance. The Choice Based Credit System (CBCS) / Elective Course System was introduced in the erstwhile Institute to allow students to choose courses from a basket of courses as per his / her choice and requirements. This basket is not limited to the courses listed in the syllabus whereas the students are free to choose courses from open online platforms such as NPTEL, MOOCs etc., after due approval from competent authority. Courses on professional ethics, human values and environment are included in each program to inculcate professional traits at workplace. Due weightage is accorded to the field projects / research projects / internships and value added courses for imparting knowledge, skill and real life problem solving ability.

A feedback mechanism has been devised to include the views of all the stakeholders (students, teachers, employers, alumni etc.) on curriculum design and development. This feedback is analyzed and appropriate action is taken to improve the syllabus. All the inputs are put before the BoS and semester-wise course structure, evaluation scheme, Lecture-Tutorial-Practical (L-T-P) credits and syllabi of courses of a program are finalized after due deliberations. The process of curriculum revision and updation is done regularly as a matter of policy. University is in the process of revision of course curriculum of all the degree programs to be effective w.e.f. academic session 2022-23. Implementation of the program curriculum is strictly done by ensuring the complete course coverage, examination and transparent evaluation system.

File Description	Document
Upload Additional information	View Document
Link for Additional information	View Document

1.1.2 Percentage of Programmes where syllabus revision was carried out during the last five years.

Response: 100

1.1.2.1 How many Programmes were revised out of total number of Programmes offered during the last five years

Response: 26

1.1.2.2 Number of all Programmes offered by the institution during the last five years.

Response: 26

File Description	Document
Minutes of relevant Academic Council/BOS meeting	View Document
Institutional data in prescribed format	View Document
Details of Programme syllabus revision in last 5 years	View Document
Any additional information	View Document
Link for additional information	View Document

1.1.3 Average percentage of courses having focus on employability/ entrepreneurship/ skill development offered by the institution during the last five years

Response: 100

1.1.3.1 Number of courses having focus on employability/ entrepreneurship/ skill development year-wise during the last five years

2021-22	2020-21	2019-20	2018-19	2017-18
827	741	666	446	430

File Description	Document
Programme/ Curriculum/ Syllabus of the courses	View Document
MoU's with relevant organizations for these courses, if any	View Document
Minutes of the Boards of Studies/ Academic Council meetings with approvals for these courses	View Document
Institutional data in prescribed format	View Document
Any additional information	View Document

1.2 Academic Flexibility

<p>1.2.1 Percentage of new courses introduced of the total number of courses across all programs offered during the last five years.</p> <p>Response: 53.57</p>	
<p>1.2.1.1 How many new courses were introduced within the last five years.</p> <p>Response: 443</p>	
<p>1.2.1.2 Number of courses offered by the institution across all programmes during the last five years.</p> <p>Response: 827</p>	
File Description	Document
Minutes of relevant Academic Council/BOS meeting	View Document
Institutional data in prescribed format	View Document
Any additional information	View Document
<p>1.2.2 Percentage of Programmes in which Choice Based Credit System (CBCS) / elective course system has been implemented (Data for the latest completed academic year).</p> <p>Response: 100</p>	
<p>1.2.2.1 Number of Programmes in which CBCS / Elective course system implemented.</p> <p>Response: 26</p>	

File Description	Document
Minutes of relevant Academic Council/BOS meetings	View Document
Institutional data in prescribed format	View Document
Any additional information	View Document

1.3 Curriculum Enrichment

1.3.1 Institution integrates crosscutting issues relevant to Professional Ethics ,Gender, Human Values ,Environment and Sustainability into the Curriculum

Response:

One of the Mission statements of the University reads ‘serving people, society and nation with the utmost professionalism, values and ethics to make development sustainable and quality of life. This in itself is an indicator that the University values very highly on cross-cutting issues relevant to professional ethics, values and gender issues. All B.Tech. students are offered three audit courses namely Indian Constitution: 2 (2-0-0), Environment and Ecology: 2 (2-0-0) and Cyber Security: 2 (2-0-0) to address cross-cutting issues relevant to professional ethics, gender, human values, environment and sustainability in the curriculum.

Indian Constitution

All the students of B.Tech. First Year is offered an audit course Indian Constitution to inculcate justice, liberty, and equality along with the dignity of an individual and unity and integrity of the Nation.

Environment and Ecology

All first-year students are exposed to environmental issues through an audit course Environment and Ecology which deals with air and water pollution and its control. Students are made aware of vehicular and industrial pollution including noise pollution. Students are taught the importance of sustainable development and the optimum use of natural resources.

Cyber Security

Students are introduced to information systems, their security and different types of security threats to their communication. Students are also informed about protection against cyber threats, cyber-bullying and fraud.

Ethical Issues and Human Values

Students are exposed to courses like Organizational Behavior, Entrepreneurship Development and Business Ethics to make them aware of professionalism, human values, behavioral and ethical issues and socially accepted norms and values.

Induction Program

All the new entrants have to undergo a two-three week Induction Program through which they are made aware of the University and its working. In place of coursework, they are engaged in yoga and physical tasks in the morning session followed by motivational classes. They participate in sports and cultural

activities in the evening. The idea is to assimilate them into the system smoothly. They are made to learn to manage stress and improve individual behavior, interpersonal skills, decision-making, teamwork and leadership ability to make them future-ready.

National Social Service

University has a National Social Service (NSS) unit under a senior faculty member to involve students in village cleanliness drives, conducting classes for village children, and awareness of hygiene, pollution control and social evils. They also conduct blood donation camps, voter awareness programs, tree plantation drives, green campus initiatives and nukkad nataks on important issues relevant to society.

Gender Issues and Women Empowerment

University also has a 'Mahila Adhyayan Kendra' to take up gender issues and the empowerment of women. This center organizes programmes to increase awareness related to personal hygiene amongst girl child, rights and equality issues of women, especially rural women. University has made provisions for safe, secure and congenial environment for girls to progress on an equal basis. They are encouraged to actively participate in various curricular and extra-curricular activities. The University also organizes various activities related to gender equality and women empowerment from time to time. The University has Women Counseling Cell and Internal Complaint Committee (ICC) for grievance redressal related to girls' students and women employees in order to create an atmosphere free from any form of discrimination and sexual harassment.

File Description	Document
Upload the list and description of the courses which address the Gender, Environment and Sustainability, Human Values and Professional Ethics into the Curriculum	View Document
Any additional information	View Document

1.3.2 Number of value-added courses for imparting transferable and life skills offered during last five years.

Response: 73

1.3.2.1 How many new value-added courses are added within the last five years.

Response: 73

File Description	Document
Institutional data in prescribed format	View Document
Brochure or any other document relating to value added courses	View Document
Any additional information	View Document

1.3.3 Average Percentage of students enrolled in the courses under 1.3.2 above.**Response:** 79.22**1.3.3.1 Number of students enrolled in value-added courses imparting transferable and life skills offered year-wise during the last five years.**

2021-22	2020-21	2019-20	2018-19	2017-18
2539	2265	1986	1708	1733

1.3.4 Percentage of students undertaking field projects / research projects / internships (Data for the latest completed academic year).**Response:** 45.36**1.3.4.1 Number of students undertaking field projects or research projects or internships.**

Response: 1360

File Description	Document
List of Programmes and number of students undertaking field projects research projects/ / internships (Data Template)	View Document
Any additional information	View Document
Link for additional information	View Document

1.4 Feedback System**1.4.1 Structured feedback for design and review of syllabus – semester-wise / year-wise is received from 1) Students, 2) Teachers, 3) Employers, 4) Alumni****Response:** A. All 4 of the above

File Description	Document
URL for stakeholder feedback report	View Document
Institutional data in prescribed format	View Document
Any additional information	View Document
Action taken report of the University on feedback report as stated in the minutes of the Governing Council, Syndicate, Board of Management (Upload)	View Document

1.4.2 Feedback processes of the institution may be classified as follows:**Response:** A. Feedback collected, analysed and action taken and feedback available on website

File Description	Document
URL for feedback report	View Document
Upload any additional information	View Document
Institutional data in prescribed format	View Document

Criterion 2 - Teaching-learning and Evaluation

2.1 Student Enrollment and Profile

2.1.1 Demand Ratio (Average of last five years)

Response: 7.12

2.1.1.1 Number of seats available year wise during the last five years

2021-22	2020-21	2019-20	2018-19	2017-18
1353	1093	880	724	719

File Description

Document

Demand Ratio (Average of Last five years) based on Data Template upload the document

[View Document](#)

• Any additional information

[View Document](#)

2.1.2 Average percentage of seats filled against reserved categories (SC, ST, OBC, Divyangjan, etc.) as per applicable reservation policy during the last five years (Excluding Supernumerary Seats)

Response: 86.85

2.1.2.1 Number of actual students admitted from the reserved categories year wise during last five years

2021-22	2020-21	2019-20	2018-19	2017-18
426	411	387	324	324

File Description

Document

Average percentage of seats filled against seats reserved (Data Template)

[View Document](#)

Any additional information

[View Document](#)

2.2 Catering to Student Diversity

2.2.1 The institution assesses the learning levels of the students and organises special Programmes for advanced learners and slow learners

Response:

Being a premier State Government Technical University of Uttar Pradesh, HBTU Kanpur has a privilege to cater students from diverse socio-economic backgrounds. The University provides Quality education at a reasonable fee structure along with ample opportunities for scholarships. University has maintained its excellent placement track record. Therefore, students from affluent as well as economically weaker backgrounds from both rural and urban outlook are naturally attracted to get higher technical education. A good number of students are in fact the first generation learner in their family.

The University assesses the learning level of the students after admission at various stages and organizes special activities and courses for slow and advanced learners. The University believes that every student has a different learning ability due to their diverse background.

Assessment Process:

HBTU conduct an induction program which includes several diagnostic tests During their studies, student performance is continuously assessed through quizzes, assignments, class tests, seminars, viva voce and semester end examination. The performance of student in these activities is key indicators that help in categorizing students as slow learner or advance learner.

Special Programs Organized:

The University assesses the achievement, satisfaction and the extent to which the academic environment supports student learning to improve achievement in co-curricular activities and scholarly work. The University manages this diversity and accepts it as a challenge to support advanced and slow learners. Special programs are organized for advanced and slow learners based on their learning levels

Programs organized for Advanced Learners: The University encourages the advanced learners to participate in various co-curricular and extra-curricular activities:

- A lot of seminars, workshops, expert lecture series, Quizzes, debates etc. are organized at University as well as at the departmental level to improve thinking horizon of the students
- Meritorious students are given positions in various sub councils of University Students Activities Council (USAC) i.e., Cultural, Hobby, Sports, Photography, Literary, Yoga Sub council
- There are several active technical clubs e.g. Aero Club, Coder Club, Product Design Club, Google Club, which organize activities on regular basis
- Innovative pedagogy and andragogy is designed and developed by faculty members that could enhance the self- learning ability of students
- Advance learners are also encouraged in startup and entrepreneurship activities through the University Incubation Hub

Programs organized for Slow Learners: The slow learners are identified based on their performance in the assessment process. Various activities organized for slow learners are as follows:

- Slow learners are helped by their mentor faculty members who act as their counsellors to solve their academic and other problems through mentor-mentee provision
- At departmental level, special remedial, tutorial and extra classes were conducted for slow learners
- For students with Hindi Medium background, remedial English and communicational skill

development related courses are organized

- Various personality development programs are organized from time to time to improve the overall personality of students and boost their confidence
- Hostel wardens, who are regular faculty members, take special care of all the students and provide counselling on regular basis to handle any mental stress, psychological trauma or any other behavioral issue

File Description	Document
Upload Any additional information	View Document
Paste link for additional information	View Document

2.2.2 Student - Full time teacher ratio (Data for the latest completed academic year)

Response: 21:1

File Description	Document
Any additional information	View Document

2.3 Teaching- Learning Process

2.3.1 Student centric methods, such as experiential learning, participative learning and problem solving methodologies are used for enhancing learning experiences

Response:

In order to provide an enriched learning experience, the University emphasizes on various student-centric learning methods that suit the needs of students and the course being taught.

The academic module of various programs in HBTU is tailored to give a holistic learning experience to the students. Innovative teaching-learning strategies are employed that encourage students to participate and contribute to the learning experience of their peers. The core curriculum ensures that students have a strong grasp of the basic concepts and are able to apply their knowledge to analyze, evaluate and use in practical situations. Emphasis is given to Outcome-Based Education (OBE) where the students achieve a goal by the end of the program. Choice-Based Credit System (CBCS) allows students to choose papers of their choice that aligns with their goal for the future. The following measures are taken to ensure experiential learning, participative learning, and problem-solving methodologies:

- Experiential learning through laboratory experimental work, summer internship, semester internship, field visits, industrial visits etc.
- Students make use of the latest software and tools available in the laboratories to enhance their knowledge and expertise
- Participative learning through brainstorming sessions, expert lectures and conducting quizzes at the department level

- Problem-solving methodologies through research project work

Faculty members encourage student-centric learning by giving problem and learning material that involve the students in Project-based learning, group problems/discussions, collaborative learning, and learning by examples. Faculty members make use of multimedia teaching-learning process using smart classroom and the latest software like matlab, virtual lab, smartdraw, ArgoUML etc. for demonstration purposes.

Some of the innovative techniques adopted by the faculty members towards students centric learning are:-

- **Group/Collaborative Class Room Activities:** Design tasks are assigned to the students divided into 5-6 groups. Each group is allocated 25 minutes to evolve the design through mutual discussion. Each group leader is then allotted 05 minutes time to present the design in the class which leads to a substantial gain in students' involvement in learning through collaboration
- **Flipped Class Room:** Students are communicated about a video lecture related to upcoming lecture to view and attempt an online quiz before actually attending the lecture. Thus, students knowing well in advance about the topic of discussion feel more attentive and interactive during the class
- **Online Class Room Quizzes:** Online quizzes are conducted in the classroom on the content of the lectures conducted so far. One to two quizzes are expected to be conducted by the teacher during the semester. Quiz performance is instantly shared with the students
- Learning materials /resources are provided to the students and also made available on the University website
- Students are also encouraged to make class interactive by having question-answer sessions and by getting their doubts clarified on the spot during the lecture hour
- In some of the courses like Software Engineering, Software Project Management, Mobile Application Development, project-based learning is promoted where students are assigned projects in groups

File Description	Document
Upload any additional information	View Document
Link for Additional Information	View Document

2.3.2 Teachers use ICT enabled tools including online resources for effective teaching and learning process.

Response:

The use of ICT tools helps faculty to represent the content in a more meaningful way using different media elements. Each department has sufficient teaching-learning facilities such as a number of well-equipped laboratories, classrooms, seminar halls, conference rooms, computing equipment/facilities, 1 GBPS internet connectivity with campus-wide Wi-Fi connectivity. Faculty members and students make optimum use of the available ICT Infrastructure and learning resources which is exemplified by the following points:

- Teachers make use of smart classrooms for effective teaching and learning process. It includes smart boards, LCD projectors, Language Lab, E-learning resources etc. The conventional ‘chalk and duster’ method is also used to supplement teaching-learning
- Teaching-Learning tools like Microsoft PowerPoint, Google Classroom, G-suit Meet, Microsoft Teams, YouTube channels are being used during regular Lecture sessions as well as Webinars
- Faculty members prepare powerpoint presentation on their own for teaching and upload the same along with other learning materials, assignments, tutorials on Learning Management System (LMS)
- As a regular practice, faculty members create their Course specific WhatsApp group for the assigned class and share all the notices, assignments, learning material, quizzes, results etc. regularly. Students can clear their doubts on the group as and when required
- Faculty members promote and use courses on online platforms like NPTEL, Coursera, National Educational Alliance for Technology (NEAT), e-PG Pathshala, National Digital Library (NDL) by IIT Kharagpur, MOOCs under SWAYAM portal are being used by students
- Advanced computing software including MATLAB, NS2, Qualnet, IBM Rational Rose and RSA, CAD, ProE, NISHA, SPSS, Virtual Lab, etc. are being used to enhance the practical and analytical skills of the students
- Teachers and Students access e-books procured by the library from anywhere through the University website. Ph. D. scholars make ample use of e-journals of IEEE, Springer, ACM, Inderscience, ASME, ASCC, ASCE and other reputed publishers. They have access to e-resources provided by Shodhganga and e-ShodhSindhu through campus IPs
- Teachers and Students make extensive use of the online platforms for coding and other technical interactions
- University has a virtual classroom facility that is used for expert lectures from academia and industry persons
- University has established a state-of-the-art MOOCs Recording Studio which is used for the professional quality recording of video lectures, technical talks, panel discussions etc.
- University has plagiarism checking tool Turnitin which is extensively used by faculty members and students to check the originality of their work and remove plagiarism in their assignments, submissions and research papers
- The attendance Monitoring System is used to monitor the course attendance of the students. A Biometric Attendance System is in place for faculty and staff members
- University gives recognition to the innovation made by faculty members in teaching-learning methods through the best teacher awards on Teachers Day each year
- During Covid 19 Pandemic, faculty members upgraded themselves with the latest tools and technologies for remote teaching-learning. Remotely proctored examinations were conducted successfully with the help of Google Form, Google Classroom and Google Meet

File Description	Document
Upload any additional information	View Document
Provide link for webpage describing the " LMS/ Academic management system"	View Document

2.3.3 Ratio of students to mentor for academic and other related issues (Data for the latest completed academic year)

Response: 21:1

2.3.3.1 Number of mentors ?????????????? ???????

Response: 146

File Description	Document
Upload year wise, number of students enrolled and full time teachers on roll.	View Document
mentor/mentee ratio	View Document
Circulars pertaining to assigning mentors to mentees	View Document

2.4 Teacher Profile and Quality

2.4.1 Average percentage of full time teachers against sanctioned posts during the last five years

Response: 98.83

File Description	Document
Year wise full time teachers and sanctioned posts for 5 years	View Document
List of the faculty members authenticated by the Head of HEI	View Document
Any additional information	View Document

2.4.2 Average percentage of full time teachers with Ph.D./D.M/M.Ch./D.N.B Superspeciality/D.Sc./D’Lit. year-wise during the last five years

Response: 55.73

2.4.2.1 Number of full time teachers with *Ph. D. / D.M. / M.Ch. / D.N.B Superspeciality / D.Sc. / D.Litt.* year wise during the last five years

2021-22	2020-21	2019-20	2018-19	2017-18
105	74	74	69	62

File Description	Document
List of number of full time teachers with Ph D/D M/M Ch/D N B Superspeciality/DSc/D Lit and number of full time teachers for 5 years	View Document
Any additional information	View Document

2.4.3 Average teaching experience of full time teachers in the same institution (Data for the latest completed academic year in number of years)

Response: 10.01

2.4.3.1 Total experience of full-time teachers

Response: 1461.92

File Description	Document
List of Teachers including their PAN, designation, dept and experience details	View Document
Any additional information	View Document

2.4.4 Average percentage of full time teachers who received awards, recognition, fellowships at State, National, International level from Government/Govt. recognised bodies during the last five years

Response: 161.08

2.4.4.1 Number of full time teachers receiving awards from state /national /international level from Government/Govt. recognized bodies year wise during the last five years

2021-22	2020-21	2019-20	2018-19	2017-18
45	51	56	46	23

File Description	Document
Institutional data in prescribed format	View Document
e-copies of award letters (scanned or soft copy)	View Document
Any additional information	View Document

2.5 Evaluation Process and Reforms

2.5.1 Average number of days from the date of last semester-end/ year- end examination till the

declaration of results year-wise during the last five years**Response:** 17.6**2.5.1.1 Number of days from the date of last semester-end/ year- end examination till the declaration of results year wise during the last five years**

2021-22	2020-21	2019-20	2018-19	2017-18
18	17	15	18	20

File Description	Document
List of Programmes and date of last semester and date of declaration of results	View Document
Any additional information	View Document

2.5.2 Average percentage of student complaints/grievances about evaluation against total number appeared in the examinations during the last five years**Response:** 0.19**2.5.2.1 Number of complaints/grievances about evaluation year wise during the last five years**

2021-22	2020-21	2019-20	2018-19	2017-18
8	6	4	1	4

File Description	Document
Number of complaints and total number of students appeared year wise	View Document
Any additional information	View Document

2.5.3 IT integration and reforms in the examination procedures and processes (continuous internal assessment and end-semester assessment) have brought in considerable improvement in examination management system of the institution**Response:****IT Integration and Reforms:**

The Office of the Controller of Examinations has fully integrated IT in the management of Examination

System i.e., filling of Examination form, marks entry for mid-semester / end semester, result preparation, result display, result correction and result analysis. Examination Management System is the part of ERP System and is fully integrated with other subsystems of ERP.

The students can login to the ERP portal of the University for downloading their Admit Cards. Students have access to view their detailed marks of the academic performance in the University website by logging in with their Roll Number and validating it with the password. Final academic records of students are being published on **DigiLocker - National Academic Depository** for hassle free verification by employers.

Board of Examinations is responsible for making continuous reforms in examination procedure and process. Examination Conduction Rules for Invigilators, Flying Squads, Students and supporting staff are clearly defined and displayed on Website and Notice Board.

Continuous Evaluation System is inherent in HBTU and is practiced religiously by the teachers. Quiz, Class / Home Assignments, Tutorials, Lab evaluations, Seminars, etc. give ample opportunity to the teachers for continuous assessment of the student's performance. Lab assignments are evaluated then and there and marks are assigned to the students for that Lab session. This practice helps students to be attentive and regular during their studies.

Transparency: The students are given an opportunity to go through their evaluated answer scripts of the Mid /End Semester Examinations before their marks are uploaded on the University ERP Portal. They have to write "Seen and Satisfied" on their answer scripts along with their signature. It is a best practice of the University which strengthens the credibility of the Examination System.

Challenged Evaluation: As a result of answer scripts viewed by students, cases of challenged evaluation are very few. University has well-defined rules for challenged evaluation. In case the student opts for it, his/her answer script is evaluated by two independent evaluators and average of the marks obtained is awarded to the student.

Use of Unfair Means: University has strict rules for the use of Unfair Means (UFM) in examinations. Depending upon the seriousness of the act, punishments of various levels are defined in various clauses of UFM Rules. The students are given full opportunity to represent their cases before the UFM Committee.

Carry Over/Supplementary Examinations: The conduct of the Carry Over/Supplementary Examinations is a healthy practice of the Examination System allowing the outgoing students to clear maximum number of courses in order to complete their programme within the stipulated time.

During the COVID-19 pandemic, the University was able to conduct the Internal Assessment Tests and End Semester Examinations in online mode successfully. The Viva Voce Examinations for the project work of the Post Graduate students and the Comprehensive Viva Examination of the final year students were also held online. The Board of Examination (BoE) made amendments to the exam rules for the conduct of online examinations.

File Description	Document
Year wise number of applications, students and revaluation cases	View Document
Any additional information	View Document
Link for additional information	View Document

2.5.4 Status of automation of Examination division along with approved Examination Manual

Response: 100% automation of entire division & implementation of Examination Management System (EMS)

File Description	Document
Current manual of examination automation system and Annual reports of examination including the present status of automation	View Document
Current Manual of examination automation system	View Document
Any additional information	View Document
Annual reports of examination including the present status of automation	View Document

2.6 Student Performance and Learning Outcomes

2.6.1 The institution has stated learning outcomes (generic and programme specific)/graduate attributes which are integrated into the assessment process and widely publicized through the website and other documents

Response:

The University has well-defined learning outcomes that are extensively publicized through the following means:

Name of the media	Stakeholders connected	Nature of Dissemination
Website	Internal as well as external stakeholders such as industry, employers, alumni, funding agencies, students, parents, faculty, Staff	POs and, and PEOs have been published on the University website www.hbtu.ac.in PSOs and COs are available on Department Pages on the Website
Portrayal Display	Students, Faculty Members, Staff,	Vision and Mission are displayed

	and Management	at prominent places
Information Brochure	Students and Parents	Students are provided with a copy of the Information Brochure containing Vision, Mission, ordinances, rules and regulations and other information about the University / Departments at the time of admission of the students in the first year

Mechanism to set question papers as per Outcome/Learning Levels

- Complete syllabus of the theory courses is divided into five units
- Accordingly, the COs have been identified for various courses
- In the question paper of end semester examination, it is mandatory to give one question from each unit. Thus, it ensures that all COs are covered in the question papers
- Questions in the question papers are of various levels as per Bloom's Taxonomy
- To ensure the quality of the question papers, an internal audit is conducted by a Moderation Committee comprising of senior faculty members of the department

Quality of student projects

The prime objective of the project work is to make the practical implementation of theoretical knowledge gained by the students during the study. Students are required to implement their original ideas, modification/enhancement of the existing engineering techniques, real-time industrial problems, and current applications of their courses of study considering factors including environment, safety, ethics, cost, standards etc. In assigning the projects, it is ensured that higher-order skills are enhanced among students as per Bloom's taxonomy.

Identification of Projects and Allocation Methodology

The project topics are chosen to accomplish the following objectives: -

- In the real world, we face a number of unexpected challenges with little or no aid to address them. Students are involved to resolve these issues/challenges in creative ways by providing appropriate solutions
- Teamwork and leadership qualities are essential attributes for students to become successful professionals. Group project works not only enhances technical skills but also inculcates teamwork and leadership qualities in the students which is very important in their overall development.

Impact/Outcomes of the project work are as follows:

- Show preparedness to work on real-time problem scenarios to be addressed using knowledge of fundamentals, techniques, programming languages and tools in the field of engineering, technology, sciences and management
- Use innovative ideas and technical skills to address real-life issues and provide efficient solutions for process-oriented work

- Relevance of the projects and their contribution towards the attainment of POs and PSOs

File Description	Document
Upload COs for all courses (exemplars from Glossary)	View Document
Upload any additional information	View Document
Paste link for Additional Information	View Document

2.6.2 Attainment of Programme outcomes, Programme specific outcomes and course outcomes are evaluated by the institution

Response:

All the courses taught in a programme must cover all the POs (and PSOs). For a course, we map the COs to POs through the CO-PO matrix and to PSOs through the CO-PSO matrix as shown below. The various correlation levels are:

“1” – Slight (Low) Correlation

“2” – Moderate (Medium) Correlation

“3” – Substantial (High) Correlation

“-”-- indicates there is no correlation.

There are four levels of outcome i.e., Course Outcome (CO), Program Outcome (PO), Program Specific Outcome (PSO) and Program Educational Objective (PEO).

Course Outcomes are the statements that declare what students should achieve at the end of a course. POs are predefined Graduate Attributes (GAs) related to the skills, knowledge and abilities of students beyond disciplinary content knowledge, that are applicable in the range of contexts in their lives. GAs are the components indicative of the graduate’s potential to acquire competence to practice at the appropriate level.

The Program Outcomes reflect the ability of graduates to demonstrate knowledge in fundamentals of Basic Sciences, Humanities and Social Sciences, Engineering Sciences and apply these principles in understanding and practically apply the knowledge in professional core subjects, electives and projects which enables the graduates to be competent at the time of graduation. The graduates must adhere to

professional and ethical responsibilities in the pursuit of their careers and also for the benefit of society. These outcomes also enable the graduates to pursue higher studies and engage in R&D for a successful professional career.

Program Specific Outcomes are the statements that assert what the graduates of a specific programme should be able to do. Program Educational Objectives are the broad statements that describe in detail about the career and professional accomplishments after significant years of graduation that the program prepare the graduates to achieve.

The University makes assessments of the attainment of PO, PSO and CO for all programs. Course Outcomes along with their mapping with POs/PSOs are well defined for all the courses offered by the programme. Programme Articulation Matrix for POs/PSOs is created by taking course-wise average of all the COs. Assessment tools to measure the students' learning and hence attainment of COs are categorized into direct and indirect methods. Direct methods display the students' knowledge and skills from their performance in the continuous internal assessment, semester examinations, seminars, and classroom & laboratory assignments. Indirect method involves feedback from the outgoing students to reflect their learning of various courses. Result analysis is made on the basis of the attainment of CO, PO and PSO.

Gap Analysis

The articulation matrix of COs with POs / PSOs is analyzed to find out the gaps. These gaps are bridged by compensating for the observations that may include updating of curriculum, arranging invited lectures, workshops and mentoring the students with other suitable measures as and when required.

The evaluation of COs is analyzed by the concerned faculty /Head and corrective measures are taken accordingly. Similarly, the attainment level of POs and PSOs are monitored, analyzed and corrected.

File Description	Document
Upload any additional information	View Document
Paste link for Additional Information	View Document

2.6.3 Pass Percentage of students(Data for the latest completed academic year)

Response: 93.36

2.6.3.1 Total number of final year students who passed the examination conducted by Institution.

Response: 661

2.6.3.2 Total number of final year students who appeared for the examination conducted by the Institution.

Response: 708

File Description	Document
Upload list of Programmes and number of students passed and appeared in the final year examination	View Document
Upload any additional information	View Document
Link fo any additional information	View Document
Paste link for the annual report	View Document

2.7 Student Satisfaction Survey

2.7.1 Online student satisfaction survey regarding teaching learning process	
Response:	
File Description	Document
Upload database of all currently enrolled students	View Document

Criterion 3 - Research, Innovations and Extension

3.1 Promotion of Research and Facilities

3.1.1 The institution's Research facilities are frequently updated and there is a well defined policy for promotion of research which is uploaded on the institutional website and implemented

Response:

Harcourt Butler Technical University, Kanpur has a well-defined policy for the promotion of research approved by Executive Council of the University (apex body) which gets frequently updated at regular intervals. This policy is an overview of the research support provided to faculty members, staff and researchers to promote quality research. The objectives of the research policy are as follows:-

- 1.To establish an administrative structure within the University to support the research and innovation activities
- 2.To frame the norms for undertaking Research work and facilitate administrative processes to improve the overall quality of research for betterment of society
- 3.To motivate faculty members, staff members, students for cutting-edge research, innovations and incubation
- 4.To encourage undertaking of research projects from various funding agencies/sponsors
- 5.To encourage collaborative and interdisciplinary research

Various aspects of Research Promotion Policy are as follows:

Research Inventiveness

- Faculty and staff members are encouraged to apply for research projects to various funding agencies/sponsors
- Promotion of collaborative and inter-disciplinary research
- Faculty members are encouraged to undertake research leading to quality publications/ presentations/ invited talks/ generation of IPR/ socially useful outcomes etc
- Enhance quality research output, student mentorship and internship

Research Administration and Financial Support

- Administration of research activities under Ph.D. programs are coordinated by the Dean, Research & Development
- Financial support is provided to faculty members, research scholars and Post Graduate (PG) students for attending conferences, Short Term Training Programme (STTP), Faculty Development Programme (FDP), etc
- Monthly stipend of rupees 15,000/- as per the University norms is given to each research scholar till third year of his/her Ph.D. program
- Contingency grant of rupees 20,000/- in each academic session is provided to research scholars to facilitate R&D activities like registration fees for National/ International Conference, travel grants to attend conferences, membership fees of Professional society, experimental, characterization work and stationary, etc.
- M.Tech/B.Tech students are encouraged to carry out experiment/research work by providing

maximum of 10,000/- and 5,000/- rupees respectively to purchase raw materials and experiment set-up etc.

Research Publications

- Faculty members are encouraged to publish their findings in SCI/SCIE Journals.
- SCI/SCIE/UGC/Scopus/WoS Journal papers are considered for award of Ph.D. degree.
- Faculty members are encouraged to present their research papers in National/ International Conferences/ Seminars like IEEE, IChE, ASME, AIChE, ICE, etc. and organize research conferences/ seminars at Regional/ National/ International level
- University has MoUs with various research organizations, academic institutions at National/International levels to support academics and research.

Research Ethics

- A committee is formed in the University for Ethical Research
- Researchers follow norms laid down by **Research Ethics Committee** for the use of animals, human subjects, recombinant DNA, biological agents and radioactive materials
- Bioethics includes medical ethics, which focuses on issues in health care and relationship between human activities and the environment
- Chemical ethics promote safety, good laboratory practices and precautions in procurement, storage, handling and disposal of hazardous substances
- Adhering to Plagiarism check is ensured by the concerned supervisor before submitting the thesis/dissertation/project work/research papers

File Description	Document
Minutes of the Governing Council/ Syndicate/Board of Management related to research promotion policy adoption	View Document
Any additional information	View Document
URL of Policy document on promotion of research uploaded on website	View Document

3.1.2 The institution provides seed money to its teachers for research (average per year, INR in Lakhs)

Response: 74.95

3.1.2.1 The amount of seed money provided by institution to its faculty year-wise during the last five years (INR in lakhs).

2021-22	2020-21	2019-20	2018-19	2017-18
35.72	82.88	118.56	95.58	42.00

File Description	Document
Minutes of the relevant bodies of the University	View Document
Institutional data in prescribed format	View Document
Budget and expenditure statements signed by the Finance Officer indicating seed money provided and utilized	View Document
Any additional information	View Document

3.1.3 Percentage of teachers receiving national / international fellowship / financial support by various agencies for advanced studies / research during the last five years.

Response: 26.09

3.1.3.1 The number of teachers who received national / international fellowship / financial support by various agencies for advanced studies / research year-wise during the last five years.

2021-22	2020-21	2019-20	2018-19	2017-18
28	45	46	39	21

File Description	Document
Institutional data in prescribed format	View Document
e-copies of the award letters of the teachers	View Document
Any additional information	View Document

3.1.4 Number of JRFs, SRFs, Post Doctoral Fellows, Research Associates and other research fellows enrolled in the institution during the last five years.

Response: 132

3.1.4.1 The Number of JRFs, SRFs, Post Doctoral Fellows, Research Associates and other research fellows enrolled in the institution year-wise during the last five years.

2021-22	2020-21	2019-20	2018-19	2017-18
32	20	21	38	21

File Description	Document
Institutional data in prescribed format	View Document
Any additional information	View Document

3.1.5 Institution has the following facilities to support research

1. Central Instrumentation Centre
2. Animal House/Green House
3. Museum
4. Media laboratory/Studios
5. Business Lab
6. Research/Statistical Databases
7. Mootcourt
8. Theatre
9. Art Gallery
10. Any other facility to support research

Response: A. 4 or more of the above

File Description	Document
Upload the list of facilities provided by the university and their year of establishment	View Document
Upload any additional information	View Document
Paste link of videos and geotagged photographs	View Document

3.1.6 Percentage of departments with UGC-SAP, CAS, DST-FIST, DBT, ICSSR and other recognitions by national and international agencies (Data for the latest completed academic year)

Response: 100

3.1.6.1 The Number of departments with UGC-SAP, CAS, DST-FIST, DBT, ICSSR and other similar recognitions by national and international agencies.

Response: 16

File Description	Document
Institutional data in prescribed format	View Document
e-version of departmental recognition award letters	View Document
Any additional information	View Document

3.2 Resource Mobilization for Research

3.2.1 Extramural funding for Research (Grants sponsored by the non-government sources such as industry, corporate houses, international bodies for research projects) endowments, Chairs in the University during the last five years (INR in Lakhs).

Response: 21.39

3.2.1.1 Total Grants for research projects sponsored by the non-government sources such as industry, corporate houses, international bodies, endowments, Chairs in the institution year-wise during the last five years (INR in Lakhs).

2021-22	2020-21	2019-20	2018-19	2017-18
17.76	0.24	0.25	2.50	0.64

File Description	Document
Institutional data in prescribed format	View Document
e-copies of the grant award letters for research projects sponsored by non-government	View Document
Any additional information	View Document

3.2.2 Grants for research projects sponsored by the government agencies during the last five years (INR in Lakhs).

Response: 436.84

3.2.2.1 Total Grants for research projects sponsored by the government agencies year-wise during the last five years (INR in Lakhs).

2021-22	2020-21	2019-20	2018-19	2017-18
125.61	33.64	200.58	14.15	62.86

File Description	Document
Institutional data in prescribed format	View Document
e-copies of the grant award letters for research projects sponsored by government	View Document
Any additional information	View Document

3.2.3 Number of research projects per teacher funded by government and non-government agencies

during the last five years

Response: 1.13

3.2.3.1 Number of research projects funded by government and non-government agencies during the last five years.

Response: 33

3.2.3.2 Number of full time teachers worked in the institution year-wise during the last five years..

Response: 146

File Description	Document
Supporting document from Funding Agency	View Document
Institutional data in prescribed format	View Document
Any additional information	View Document
Paste Link for the funding agency website	View Document

3.3 Innovation Ecosystem

3.3.1 Institution has created an eco system for innovations including Incubation centre and other initiatives for creation and transfer of knowledge.

Response:

HBTU, Kanpur, alongside the Entrepreneurship Cell, has established Incubation Hub to provide a channel by which students can access entrepreneurial resources and share their ideas. Incubation Hub is dedicated to nourishing new and small enterprises with the motive to work for all and with all as a single unit. Incubation Hub assists start-ups in converting their early-stage business into a highly scalable, commercially viable business and envisions fostering an entrepreneur-friendly culture around academics & research. Incubation Hub works with parallel with the Entrepreneurship Cell to promote innovation, research, and entrepreneurial activities in technology-based areas. It provides a platform for start-ups by budding entrepreneurs and intrapreneurs to convert their innovative ideas into commercially viable propositions. It also provides services related to patenting and commercialization.

Incubation Hub provides more freedom to incubators in decision-making with less administrative hassles for executing the programs related to innovation, IPR and start-ups. Moreover, the incubators will have better accountability towards investors supporting the incubation facility. Incubation Hub, HBTU has developed comprehensive expertise to foster innovations at the ideation stage of businesses aiming to scale up. It aims to provide critical ingredients for technology-driven, multidisciplinary innovations across agriculture, healthcare, aerospace, energy, water, and education.

HBTU Incubation centre has created an innovative ecosystem in accord with vision of its founders, mentors and alumni. Accordingly, its mission is to provide small businesses with the following main services:

- To help plan the start-up and translate the ideas into a great business plan.
- To launch the business and turn the business plan into a reality (register, file, and start doing business).
- To manage the budding start-up to master in day-to-day operations and achieve success.
- To grow the start-ups to a full-fledged business and help them with new funding, locations, and customersto expand the business.
- Creating a complete ecosystem will foster a culture of self-employment and innovation by providing training to the students.
- To provide a platform for budding entrepreneurs to pitch their ideas and connect them with potential investors to build a successful start-up.
- To conduct relevant seminars, workshops, and lectures by Alumni and subject experts to acquaint the students with strategies, insights, and knowledge required to become a successful entrepreneurs.
- To provide ample mentorship opportunities for budding entrepreneurs.

Few success stories of Incubation Hub are as follows:

1. A group of almost 20 students of III B.Tech worked up on an idea, successfully retrofitted an old condemned petrol bike and came out with RELECTRA (Retrofitted Electric Bike) which cost approximately 30-40 thousand rupees.
2. A student named Anurag Basu of II B.Tech Civil Engineering has developed “Thanda Bartan” (earthen fresh). Earthen Fresh is an evaporative cooler (made from clay, saw-dust and charcoal) that cools air through the evaporation of water in the space between the two pots wherein vegetables and fruits remain fresh up to 7 days.

A company under section 8, HBTU TBI foundation, is also registered to incubate the startups.

File Description	Document
Upload any additional information	View Document
Paste link for additional information	View Document

3.3.2 Number of workshops/seminars conducted on Research methodology, Intellectual Property Rights (IPR),entrepreneurship, skill development during the last five years.

Response: 193

3.3.2.1 Total number of workshops/seminars conducted on Research methodology, Intellectual Property Rights (IPR),entrepreneurship, skill development year-wise during the last five years.

2021-22	2020-21	2019-20	2018-19	2017-18
103	33	24	17	16

File Description	Document
Report of the event	View Document
Institutional data in prescribed format	View Document
Any additional information	View Document

3.3.3 Number of awards / recognitions received for research/innovations by the institution / teachers / research scholars / students during the last five years.

Response: 860

3.3.3.1 Total number of awards / recognitions received for *research* / innovations won by institution / teachers / research scholars / students year-wise during the last five years.

2021-22	2020-21	2019-20	2018-19	2017-18
302	152	126	109	171

File Description	Document
Institutional data in prescribed format	View Document
e- copies of award letters	View Document
Any additional information	View Document

3.4 Research Publications and Awards

3.4.1 The Institution ensures implementation of its stated Code of Ethics for research through the following: 1. Inclusion of research ethics in the research methodology course work 2. Presence of Ethics committee 3. Plagiarism check through software 4. Research Advisory Committee

Response: A. All of the above

File Description	Document
Code of ethics for Research document, Research Advisory committee and ethics committee constitution and list of members on these committees, software used for Plagiarism check, link to Website	View Document
Any additional information	View Document

3.4.2 The institution provides incentives to teachers who receive state, national and international

recognitions/awards 1. Commendation and monetary incentive at a University function
 2. Commendation and medal at a University function 3. Certificate of honor 4. Announcement in the Newsletter / website

Response: A.. All of the above

File Description	Document
Institutional data in prescribed format	View Document
e- copies of the letters of awards	View Document
Any additional information	View Document

3.4.3 Number of Patents published / awarded during the last five years.

Response: 32

3.4.3.1 Total number of Patents published / awarded year-wise during the last five years.

2021-22	2020-21	2019-20	2018-19	2017-18
19	10	1	1	1

File Description	Document
Institutional data in prescribed format	View Document
Any additional information	View Document

3.4.4 Number of Ph.D's awarded per teacher during the last five years.

Response: 0.72

3.4.4.1 How many Ph.D's are awarded within last five years.

Response: 39

3.4.4.2 Number of teachers recognized as guides during the last five years

Response: 54

File Description	Document
Institutional data in prescribed format	View Document
Any additional information	View Document
URL to the research page on HEI web site	View Document

3.4.5 Number of research papers per teachers in the Journals notified on UGC website during the last five years**Response:** 4.64**3.4.5.1 Number of research papers in the Journals notified on UGC website during the last five years.**

2021-22	2020-21	2019-20	2018-19	2017-18
255	123	110	73	75

File Description	Document
Institutional data in prescribed format	View Document
Any additional information	View Document

3.4.6 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years**Response:** 1.03**3.4.6.1 Total number of books and chapters in edited volumes/books published and papers in national/ international conference proceedings year-wise during last five years**

2021-22	2020-21	2019-20	2018-19	2017-18
70	20	16	17	19

File Description	Document
Institutional data in prescribed format	View Document
Any additional information	View Document

3.4.7 E-content is developed by teachers :

- 1. For e-PG-Pathshala**
- 2. For CEC (Under Graduate)**
- 3. For SWAYAM**
- 4. For other MOOCs platform**
- 5. Any other Government Initiatives**

6.For Institutional LMS**Response:** B. Any 4 of the above

File Description	Document
Institutional data in prescribed format	View Document
Give links or upload document of e-content developed	View Document
Any additional information	View Document

3.4.8 Bibliometrics of the publications during the last five years based on average citation index in Scopus/ Web of Science or PubMed**Response:**

File Description	Document
Bibliometrics of the publications during the last five years	View Document
Any additional information	View Document

3.4.9 Bibliometrics of the publications during the last five years based on Scopus/ Web of Science - h-index of the Institution**Response:**

File Description	Document
Bibliometrics of publications based on Scopus/ Web of Science - h-index of the Institution	View Document
Any additional information	View Document

3.5 Consultancy**3.5.1 Institution has a policy on consultancy including revenue sharing between the institution and the individual and encourages its faculty to undertake consultancy.****Response:**

HBTU, Kanpur has a well-defined policy for consultancy and testing, which also includes the terms of revenue sharing between institutions and individual faculty. The policy has been framed for full-time faculty and academic staff to encourage them in consultancy and testing work without interference in their normal academic duties. The salient features of the policy are:

- Individuals or departments can take up consultancy work. The report of the departmental consultancy projects will be signed by the investigators and countersigned by the Head of the department. The report of the individual consultancy project will be signed by the Principle Investigator (PI)
- For projects involving only site visits for consultation work and/or personal discussion, fees may be charged on per day basis at mutually acceptable rate excluding the day spent on travel
- For technical and other staff, making only site visits outside the scope of ongoing consultancy project, fees may be charged on per day per man basis
- The PI with the prior permission of competent authority may avail the services of the person not employed in the University as Investigators, provided that concerned Head of the Department (HOD) certifies that the services required are of nature for which the expertise is not available in department/University
- Student assistant for consultancy work will be paid 150 rupees per hour subject to 50 hour maximum in a month.
- Duty leave will be admissible for consultancy/testing work for 15 working days in a session within the overall limits of the duty leave. For absence beyond 15 days for consultancy/testing work, leave as due will be taken by the staff member. Any absence from the headquarter in connection with the consultancy/testing approved by Research & Consultancy (R & C) Committee will be with prior approval of HOD of concerned department.
- When a faculty member is approached for the consultancy work, he will be treated as the Principle Investigator. If he does not wish to be the Principle Investigator, Vice Chancellor of the University will identify a suitable person the PI.
- The PI whose retirement is due from University service, will identify a new P.I. for the consultancy project at least three months before his/her retirement.
- A copy of all reports submitted to the client Firm will be filed in the department.
- The most expeditious and convenient mode of travel as per govt. norm should be used for the consultancy work to minimize period of absence from the University.
- All legal action will be subject to the jurisdiction at Civil Court at location of the University/High Court at Prayagraj.
- In case any legal dispute arises between the investigator(s) and the clients such that the Investigator(s) are in any way, held responsible to make good the losses occurred by the client, such liability will be restricted to a maximum limit which will be calculated as follows:

Maximum Liability = The total amount charged for the project (-) total expenditure on the project.

Any guidelines further needed for operating consultancy projects or any dispute arising in the University will be framed/ solved by the R&C committee.

File Description	Document
Upload soft copy of the Consultancy Policy	View Document
Upload minutes of the Governing Council/ Syndicate/Board of Management related to consultancy policy	View Document
Upload any additional information	View Document
Paste URL of the consultancy policy document	View Document

3.5.2 Revenue generated from consultancy and corporate training during the last five years (INR in Lakhs).

Response: 1253.15

3.5.2.1 Total amount generated from consultancy and corporate training year-wise during the last five years (INR in lakhs).

2021-22	2020-21	2019-20	2018-19	2017-18
401.57	311.16	224.62	206.68	109.12

File Description	Document
Institutional data in prescribed format	View Document
Audited statements of accounts indicating the revenue generated through consultancy	View Document
Any additional information	View Document

3.6 Extension Activities

3.6.1 Extension activities in the neighbourhood community in terms of impact and sensitising students to social issues and holistic development during the last five years.

Response:

HBTU, Kanpur is committed to develop not only good human resources but also sensible citizens. HBTU sensitizes its students for various social issues also besides providing the cutting edge technical knowledge for their holistic development. To achieve this, university has a dedicated National Social Service (NSS) sub-council which takes care of various activities in campus as well as in its neighborhood community. Besides NSS sub-council, the University has Women Study Center (WSC) which organizes several events for women empowerment. The NSS sub-council and WSC undertakes various activities in university campus, nearby villages and primary schools.

Protection of health and environment is the need of hour. The NSS club council of the university encourages the students as well as neighborhood residents/villagers to save our environment and inculcate habit of hygiene by organizing different programs. The environmental pollution issue is also well taken up by the university and continuous efforts are being made for clean and green campus. Tree plantation activities are been done from time to time. Besides this we encourage every individual of University to avoid use of plastic bags and less use of petroleum driven vehicle. Swacchata Abhiyaan under the initiative of Swacch Bharat Abhiyan (SBA) is regularly carried out in University and nearby villages as well to motivate the village people for cleanliness and hygiene.

Social issue like Dowry, Gender Equality, girl education and nutrition of infants etc. are taken up by NSS time to time through various activities like nukkadnatak, seminar, symposium, etc. Blood donation camps are organized in the campus in association with NGOs like Rotary Club in which active participation of faculty members, staff members and students is ensured.

In line with Fit India movement, an initiative of Govt. of India for the well-being and good health, International Yoga Day is celebrated in the University campus every year. The event is participated by the students, staff and faculty members with a huge enthusiasm. Casting vote is very important in democracy. In order to strengthen democratic system of our country the Voter Awareness Program is conducted, whenever there is any election scheduled. This sensitizes the common mass about his/ her right to vote.

The martyrs of various attacks should be remembered for their patriotism by each of us. The tribute is paid to martyrs by candle march to develop patriotism among students. University employees also contribute to provide financial support during natural calamities like corona, flood, earthquake and drought. The University supports the students of primary schools of nearby villages by providing them books, copies and accessories under Institutional Social Responsibility. The children from primary schools are felicitated with the stationery, books and bag on each convocation as well.

On the other hand, WSC of the university also organizes various events like Environment day, International Youth day, international population day, National doctor's day, international women's day, national science day, energy conservation day, teachers' day etc. Women education center is limited not to the women empowerment only but the common mass should also be benefitted with the activities.

File Description	Document
Upload any additional information	View Document
Paste link for additional information	View Document

3.6.2 Number of awards received by the Institution, its teachers and students from Government /Government recognised bodies in recognition of the extension activities carried out during the last five years

Response: 142

3.6.2.1 Total number of awards and recognition received for extension activities from Government/ Government recognised bodies year-wise during the last five years.

2021-22	2020-21	2019-20	2018-19	2017-18
21	16	29	64	12

File Description	Document
Institutional data in prescribed format	View Document
e-copy of the award letters	View Document
Any additional information	View Document

3.6.3 Number of extension and outreach programs conducted by the institution through NSS/NCC, Government and Government recognised bodies during the last five years

Response: 60

3.6.3.1 Number of extension and outreach programs conducted by the institution those through NSS/NCC, Government and Government recognised bodies during the last five years

2021-22	2020-21	2019-20	2018-19	2017-18
21	8	7	16	8

File Description	Document
Reports of the event organized	View Document
Institutional data in prescribed format	View Document
Any additional information	View Document

3.6.4 Average percentage of students participating in extension activities listed at 3.6.3 above during the last five years

Response: 52.6

3.6.4.1 Total number of students participating in extension activities listed at 3.6.3 above year-wise during the last five years.

2021-22	2020-21	2019-20	2018-19	2017-18
2311	1543	900	1625	545

File Description	Document
Report of the event	View Document
Institutional data in prescribed format	View Document
Any additional information	View Document

3.7 Collaboration

3.7.1 Number of Collaborative activities for research, Faculty exchange, Student exchange/ internship per year

Response: 51.4

3.7.1.1 Total number of Collaborative activities with other institutions / research establishment / industry for research and academic development of faculty and students year-wise during the last five years.

2021-22	2020-21	2019-20	2018-19	2017-18
115	48	40	27	27

File Description	Document
Institutional data in prescribed format	View Document
Copies of collaboration	View Document
Any additional information	View Document

3.7.2 Number of functional MoUs with institutions/ industries in India and abroad for internship, on-the-job training, project work, student / faculty exchange and collaborative research during the last five years.

Response: 34

3.7.2.1 Number of functional MoUs with institutions/ industries in India and abroad for internship, on-the-job training, project work, student / faculty exchange and collaborative research year-wise during the last five years.

2021-22	2020-21	2019-20	2018-19	2017-18
9	3	8	5	9

File Description	Document
Institutional data in prescribed format	View Document
e-copies of the MoUs with institution/ industry	View Document
Any additional information	View Document

Criterion 4 - Infrastructure and Learning Resources

4.1 Physical Facilities

4.1.1 The institution has adequate facilities for teaching - learning. viz., classrooms, laboratories, computing equipment, etc.

Response:

Harcourt Butler Technical University, Kanpur has been established in the year 2016 by the Government of Uttar Pradesh (UP Act No. 11 of 2016) by reconstituting erstwhile Harcourt Butler Technological Institute, Kanpur with a view to make it a leading Residential University in order to become a Centre of Excellence with focus on Research & Development and Incubation in the field of Engineering, Technology, Basic & Applied Sciences, Humanities, Social Science & Management, Architecture and other professional courses.

HBTU, Kanpur has 04 schools with 16 departments within these schools. **Each department has sufficient teaching-learning facilities such as number of well-equipped laboratories, classrooms for teaching, seminar halls, conference rooms, computing equipment/facilities, rooms for faculty and non-teaching staff members as prescribed by the statutory bodies like AICTE, New Delhi and UGC, New Delhi.** In addition to the central computing facility/centre, every department has atleast one computer laboratory equipped with advanced computing software including MATLAB, NS2, Qualnet, IBM Rational Rose and RSA, CAD, PROE, NISHA, SPSS etc. to enhance practical and analytical skills of the students. Department of Humanities and Social Sciences has a specifically designed Professional Communication Lab, which caters to special requirements of students to express and communicate in a better way. Apart from departmental laboratories, there are facilities like Central Instrumentation Lab, Centres of Excellence, Incubation Hubs, Food Processing Laboratory, CAD and 3-D Printing Labs, Central Workshop having CNC Machines etc. for inculcating multidisciplinary research environment.

There are well equipped three (03) Auditoriums, one seminar hall in every department, Engineering Drawing Halls, Design Centres etc. **Various UG and PG programmes offered by the University are approved by the AICTE, New Delhi and most of the UG programmes are accredited by the NBA.** Details of some of such facilities are given below:

- Well-designed administrative building with ICT-enabled conference rooms and computer enabled chambers for efficient functioning of the University
- Separate Common Rooms and hostels for Boys and Girls
- Every department has facilities like office room, common room and separate rest rooms for women students and staff
- Faculty members are provided with personal chambers, Desktop/Laptop Computers with Internet, printers, other accessories and accommodation in the campus
- More than 1 GBPS, 24x7 Internet facility alongwith the Wi-Fi facility
- Central Library with latest Books, e-Books, Journals, e-Journals, Library Automation Software (ILMS), digital library and subscribed databases. In addition, every department has departmental library/Internet enabled library
- Uninterrupted power supply through 33/11 KV substation
- Total 76 classrooms and seminar rooms out of which 60 are equipped with digital boards and ICT equipment

- An adequate number of well-equipped laboratories with instruments for computing, synthesis, analysis, testing, and evaluation in every department
- Some departments have laboratories with sophisticated equipment for research and consultancy
- In addition to the centralized computing facility in the Computer Science & Engineering Department, there is one lab with adequate computing facilities in almost every department

File Description	Document
Upload any additional information	View Document
Paste link for additional information	View Document

4.1.2 The institution has adequate facilities for cultural activities, yoga, games and sports (indoor & outdoor); (gymnasium, yoga centre, auditorium, etc.,)

Response:

The University is committed to and encourages holistic growth of the students. Besides, enabling the students to excel in academics and research, the University also encourages students to participate in co-curricular and extra-curricular activities including cultural, games & sports, yoga, literary, social service etc. by providing proper ambience, environment and support for their physical, mental, and emotional growth which is essential for creating an integrated and holistic personality. The University Students Activity Council (USAC) aims to groom extra-curricular, co-curricular and technical skills of the students through 10 sub-councils with activities of each sub-council managed by a committee consisting of a faculty member as its advisor/convener, a nominated/elected student secretary and council members.

Sports Sub-Council and Cultural Sub-Council conduct sports activities and cultural events respectively. Sports Sub-Council together with Physical Instructor and sub-council convener constitute various teams that deal with different games and sports. Each team functions under a Faculty as Convener and a student Captain. The team regularly conducts try-outs to select athletes from various departments. University has adequate facilities for indoor and outdoor games and sports including Cricket Ground of National Standard in which State level North Zone and All India Inter-university Cricket Tournaments are organized, Cricket Pitch (Turf Wickets) made by International Pitch Curator of BCCI, Pitch and Ground Roller of International Standard, Basketball Courts, Volleyball Court, Football Ground, Badminton Courts, Lawn Tennis Courts, Table Tennis Hall, etc. Playgrounds in each campus and various Courts are used to conduct various sports and athletic activities. A Gymnasium with the state of the art facilities is also functional in the West Campus of the University. University has a Physical Instructor who is BCCI hybrid level 2 Coach having 13 years of experience, Coach for U.P. State Junior Cricket Team at National level Championship organized by the BCCI and Selector for Kanpur Cricket Association.

Various cultural and literary activities of the University are organized in Radhakrishnan Auditorium in the East Campus and Multi-purpose Hall (Shatabdi Bhawan) in the West Campus. Another, auditorium in the East Campus is likely to be operational very soon. Apart from this, there are two open stages where cultural and extra-curricular activities like open air theatre, nukkad natak etc. are conducted which encourage open expression of the students.

The NSS Sub-Council organizes various activities of social relevance such as Blood Donation Camps, Free Clinical Checkups, Adaption of Villages, Cleaning Drives, Road Safety Programmes etc. The Technical Sub-Council organizes various technical events from time to time in laboratories and Auditoriums. For the development of a healthy mind and soul University encourages practice of Yoga in day-to-day life. Other Sub-Councils also organize various events under their domain from time to time. In addition, there are various clubs like Aero Club, Coder Club, E-Cell, Startup Cell etc. which are operated primarily by the students under the guidance and supervision of the faculty advisors.

File Description	Document
Upload any additional information	View Document
Geotagged pictures	View Document
Paste link for additional information	View Document

4.1.3 Availability of general campus facilities and overall ambience

Response:

HBTU, Kanpur is spread across approximately 329 acres area in two campuses - East Campus (77 acres) and West Campus (251.8 acres) which is more than the area required by the AICTE, New Delhi. This vast area is divided into various schools, departments, incubation hubs, research centers, administrative building, academic buildings, residential accommodations for teachers and employees and hostels, sports grounds, amenity area etc. It is located in the heart of Kanpur city with nature-friendly environment having variety of trees and plants all over the campus giving it an excellent overall ambience. The environment of University is peaceful and pollution free. Main building of the University has been designed and constructed during the British regime and has a very artistic monumental look.

The University also encourages students coming from different regions of the state and country by providing the facility of well-maintained hostels. The University has total fourteen hostels with proper arrangements for living, food, study, medical, communication and recreation of the students. There are four (06) Girls' Hostels and eight (08) Boys' Hostels with total capacity of 674 girls and 1492 boys. The University has disabled friendly environment for the smooth movement of divyangjan. Most of the faculty buildings are enabled with ramps and lifts for differently abled students and staff. Other than departments the university has easily accessible restrooms built all over the campus. Apart from that, various important occasions such as Earth Day and Environment Day are organized in the departments and hostels all over the campus by involving the students to understand and appreciate nature and contribute to a sustainable environment. Also, there are adequate numbers of residences for Faculty and Staff.

The East Campus mainly houses administrative and academic departments, auditorium and other Central facilities like Tagore Central Library, Central Workshop, Cafeteria, Canteen, Football ground, Badminton court, Lawn Tennis Court, Basketball court for girls, 33/11 KV Power Sub Station, Branch of Central Bank of India with ATM, Dispensary, Guest house having 02 VIP Suites & 08 Double Bed Rooms, Conference Hall, Lounge and Dining Hall, Lush Green Lawns, Centenary Pillar containing Time Capsule to commemorate 100 years of the Institution (1921-2021). All 06 Girls' Hostels and 02 Boys' Hostels (for I Year students) and a few residences for Officers and Staff of the University are also located in this campus.

West Campus is mainly a residential campus for Faculty, Staff and Students. It houses 06 Boys Hostels which have independent power back-up through generators. The University Sport's Ground having a National standard and B.C.C.I. approved cricket pitch and ground roller for National level/Inter University level cricket matches, Physical Instructor who is an approved coach for under 19 cricket team, Fully Air Conditioned Gymnasium, Flood light Basketball and Volleyball Courts, SBI ATM, Post Office, Community Centre and Centrally air-conditioned Multi-purpose hall named Shatabdi Bhawan having one VIP Lounge and Conference Hall are also located in the West campus. To ensure pollution free and convenient commutation between the two campuses, University provides free cycles and e-rickshaws facility to the students and staff.

File Description	Document
Upload any additional information	View Document
Paste link for additional information	View Document

4.1.4 Average percentage of expenditure for infrastructure augmentation excluding salary during the last five years (INR in Lakhs)

Response: 47.5

4.1.4.1 Expenditure for infrastructure augmentation, excluding salary during the last five years (INR in lakhs)

2021-22	2020-21	2019-20	2018-19	2017-18
1086.55	801.80	1305.53	1108.61	2165.45

File Description	Document
Upload audited utilization statements	View Document
Upload any additional information	View Document
Institutional data in prescribed format	View Document

4.2 Library as a Learning Resource

4.2.1 Library is automated using Integrated Library Management System (ILMS) and has digitisation facility

Response:

Tagore Central Library of the University caters to the basic and research related learning needs of faculty and students. It is one of the oldest libraries in India, which was established in 1921. The Library has

83479 books, 24290 book titles, 843 current e-book subscription and 53982 e-journal full text subscription and databases through J-Gate or publisher's websites directly. In addition, the Library has large number of B. Tech./MCA projects, M. Tech. dissertations and Ph.D. theses. Library also has TURNITIN software to check for plagiarism in theses and research papers. The library has the facility to lend books to the faculty members for the entire session. The University also encourages departments to develop their own library and update the book collection with the collaboration of Central Library.

Library is using Integrated Library Management Software (ILMS) Libsys i.e. LSPremia (web centric system) since 2008. Modules of LIBSYS in use are: Acquisition, Cataloguing, Circulation, and Online Public Access Catalogue (OPAC). The Acquisition system deals with ordering of library materials, receipts, monitoring and accessioning etc. Cataloguing system makes available various catalogues/indexes online for instant reference. It has a powerful data entry facility which also provides an option to accept data in standard machine-readable formats such as CCF (ISO-2709), MARC (ANSI-Z39) etc. The circulation system maintains up-to-date membership records and the latest status of collection meant for circulation. Membership involves various functions such as registration, renewal, cancellation, record modification, loss of Cards, issue of duplicate cards etc. Besides maintaining the records of members, as well as the collection, there are front desk operations like check-out, check-in, renewal and reserves. The Online Public Access Catalogue (OPAC) provides facility to search the bibliographic databases extensively, which also includes word based search facility using boolean operation. The OPAC also provides a periodic list of recent additions to library collections and allows users to find the material issued to them as well.

Library makes available more than ten thousand full-text e-journals and databases through an agreement with the Inflightnet. Also, with collaboration of MHRD, library has provided easy access to e-ShodhSindhu which supports current as well as archival access to more than 15,000 core and peer-reviewed journals and a number of bibliographic, citation and factual databases in different disciplines from a large number of publishers and aggregators to its member institutions including centrally-funded technical institutions, universities and colleges that are covered under 12(B) and 2(f) Sections of the UGC Act. Library has also established an e-resource centre or digital library within its premises with 20 computers connected through internet to provide online services of e-ShodhSindhu, e-ShodhGanga and other e-resources for its UG/PG students, research scholars and faculty.

As an extension of the Library, University has developed a Cyber Library with around 600 computers in the computer centre and various departments through which e-resources can be directly accessed. Cyber Library has online access to e-books, e-journals and more than eleven databases of International publishers such as Springer Nature, Elsevier, Pearson, Taylor and Francis, Proquest, EBSCO, Bibliotex etc.

File Description	Document
Upload any additional information	View Document
Paste link for additional information	View Document

4.2.2 Institution has access to the following: 1. e-journals 2. e-ShodhSindhu 3. Shodhganga Membership 4. e-books 5. Databases 6. Remote access to e-resources

Response: A. Any 4 or more of the above

File Description	Document
Upload any additional information	View Document
Institutional data in prescribed format	View Document

4.2.3 Average annual expenditure for purchase of books/ e-books and subscription to journals/e-journals during the last five years (INR in Lakhs)

Response: 23.39

4.2.3.1 Annual expenditure for the purchase of books and journals including e-journals year-wise during last five years (INR in Lakhs)

2021-22	2020-21	2019-20	2018-19	2017-18
51.43	6.88	56.21	0.54	1.88

File Description	Document
Institutional data in prescribed format	View Document
Audited statements of accounts	View Document
Any additional information	View Document

4.2.4 Percentage per day usage of library by teachers and students (foot falls and login data for online access) during the latest completed academic year

Response: 22.68

4.2.4.1 Number of teachers and students using library per day over last one year

Response: 713

File Description	Document
Details of library usage by teachers and students (Library accession register, online accession details to be provided as supporting documents)	View Document
Any additional information	View Document

4.3 IT Infrastructure

4.3.1 Percentage of classrooms and seminar halls with ICT - enabled facilities such as LCD, smart

board, Wi-Fi/LAN, audio video recording facilities. (Data for the latest completed academic year)

Response: 78.95

4.3.1.1 Number of classrooms and seminar halls with ICT facilities

Response: 60

File Description	Document
Upload any additional information	View Document
Institutional data in prescribed format	View Document
Paste link for additional information	View Document

4.3.2 Institution has an IT policy, makes appropriate budgetary provision and updates its IT facilities including Wi-Fi facility

Response:

HBTU, Kanpur provides IT resources to support the educational, research, and administrative activities of the University and to enhance the efficiency and productivity of the employees. These resources are used as tools to access and process information related to their areas of work. These resources help them to remain well informed and carry out their functions in an efficient and effective manner.

The University has a well formulated IT policy to manage procurement, upkeep & maintenance, up-gradation of the IT resources including Wi-Fi facilities, ensure protection/security and legal & appropriate use of IT infrastructure established by the University in the campus. Information assets addressed by the policy include data, information system, computer network devices, intellectual property as well as documents and verbally communicated information.

Major objective of this policy is to ensure proper access to and usage of HBTU's IT resources and prevent their misuse by the users. Use of IT resources provided by the HBTU implies the users' agreement to be governed by this policy. The policy establishes University-wide strategies and responsibilities for protecting the confidentiality, integrity, and availability of the information assets that are accessed, created, managed and/or controlled by the University. This policy applies to all users including faculty, staff, students, alumni, guests, external individuals, organizations, departments, offices and any other entity which fall under the management of HBTU using computing, IT and network resources owned or managed by HBTU. IT resources include all University owned, licensed, or managed hardware and software and use of the University network via a physical or wireless connection, regardless of the ownership of the computer or device connected to the network. Misuse of these resources can result in unwanted risk and liabilities for the University. It is, therefore, expected that these resources are used primarily for University-related purposes and in a lawful and ethical way. This policy governs the usage of IT resources from an end user's perspective.

University has 100 MBPS internet facility provided through National Knowledge Network (NKN) line and 100 MBPS lease line from Power Grid Corporation of India Ltd. All the departments of the University are connected through optical fiber network. The internet facility is available to the faculty in all the

departments through this network and students can access internet in the library and computer centre. They can also have access to this wired internet facility through various departmental computer Labs. In addition, University has also developed e-learning facility through a centralized lab in the Computer Science & Engineering department, departmental computer labs and the Tagore Central Library. University also provides Wi-Fi facility through Reliance Jio and 1 GBPS Wi-Fi facility through BSNL in the entire campus. Ensuring effective and efficient 24x7 internet facility in both the campuses of the University is also under the domain of the IT policy.

University makes proper budgetary provisions under capital head expenditure (CAPEX) as well as recurring/operational head expenditure (OPEX) for upgradation, augmentation, smooth functioning of IT services as well as implementation of new IT based solutions.

File Description	Document
Upload any additional information	View Document
Paste link for additional information	View Document

4.3.3 Student - Computer ratio (Data for the latest completed academic year)

Response: 2:1

File Description	Document
Upload any additional information	View Document
Student – computer ratio	View Document

4.3.4 Available bandwidth of internet connection in the Institution (Leased line)

Response: A. ?1 GBPS

File Description	Document
Upload any additional information	View Document
Details of available bandwidth of internet connection in the Institution	View Document

Other Upload Files

1	View Document
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4.3.5 Institution has the following Facilities for e-content development

1. Media centre
2. Audio visual centre
3. Lecture Capturing System(LCS)

4. Mixing equipments and softwares for editing

Response: A. All of the above

File Description	Document
Upload any additional information	View Document
Institutional data in prescribed format	View Document
Links of photographs	View Document

4.4 Maintenance of Campus Infrastructure

4.4.1 Average percentage expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary component during the last five years

Response: 19.12

4.4.1.1 Expenditure incurred on maintenance of infrastructure (physical facilities and academic support facilities) excluding salary component year-wise during the last five years (INR in lakhs)

2021-22	2020-21	2019-20	2018-19	2017-18
570.78	821.61	326.60	347.62	395.30

File Description	Document
Upload any additional information	View Document
Institutional data in prescribed format	View Document
Audited statements of accounts	View Document

4.4.2 There are established systems and procedures for maintaining and utilizing physical, academic and support facilities - laboratory, library, sports complex, computers, classrooms etc.

Response:

To ensure that all maintenance activities in the University are conducted in a planned manner as per prescribed norms, standards, specifications and guidelines having consistency with the Vision and Mission of the University, the Maintenance Policy forms a part of the HBTU's Strategic Plan and consists of well defined schedules, procedures and rules for the maintenance and utilization of physical, academic and various support facilities created for better teaching-learning process. It demonstrates the University's commitment to planning and constructing new infrastructure and maintaining the existing one in a

strategic, cost-effective, environmentally safe, and timely in line with the latest norms and Standards/Guidelines. Scope of the maintenance policy covers Routine Maintenance, Preventative Maintenance, Scheduled Maintenance, Corrective Maintenance and addressing Complaints/Requests from departments, offices, hostels, residents etc. pertaining to the following areas:

- New construction of buildings/infrastructure
- Repair and maintenance of existing buildings/infrastructure
- Other Civil infrastructures such as roads, sewerage systems, storm water drains, and on-site waste treatment facilities
- Electrical and Mechanical Infrastructure
- ICT Infrastructure
- Departments and Laboratories
- Sports facilities
- Horticulture

The “Building and Works Committee” (BWC) is a principal statutory body as per the HBTU Act, whose role is to decide the development and renovation of new Civil Infrastructure in the University. It has several outside experts from the Public Works Department and other construction agencies which are involved in construction-related activities in the University. Once an infrastructure development proposal is approved in BWC, it is put up before the Finance Committee of the University for the allocation of budget. For effective implementation of the University’s maintenance policy, the roles and responsibilities of the main stakeholders are well defined.

University has a separate Maintenance Section with a senior faculty member as its Chairman/Professor In-charge, who is the Nodal Officer and has the overall responsibility to ensure compliance of the Maintenance Policy. He/she coordinates all the related activities and is responsible for arranging O&M/AMC of all sewers, electrical, and other building-related infrastructure. He/She is supported by a complete team consisting of an Assistant Engineer (Maintenance), Faculty In-charges of various maintenance sub-sections like Electrical Maintenance, Mechanical Maintenance, Civil Maintenance, Transport/Vehicle Section etc., Junior Engineers, Foremen, Mechanics and other support staff to oversee the maintenance of buildings, classrooms and laboratories. Entire team of dedicated maintenance and support staff works coherently to keep buildings, lab equipment, other infrastructural facilities functional, clean and in good condition. Chairman, Maintenance also coordinates University’s efforts for disaster preparedness (like fire, earthquake, etc), maintenance of outdoor areas such as playgrounds, parking areas, lawns, gardens etc. apart from indoor facilities. He also ensures that Infrastructure related issues and requirements are attended promptly by the Maintenance Section staff.

Set of procedures and SOPs have been developed for the maintenance and upkeep of various other facilities and purchase activities connected to infrastructural maintenance. The Central Store and Purchase Section of the University, in collaboration with Maintenance and other Section In-charges takes care of the purchase-related activities concerned with the maintenance of various sections. Physical Education Instructor ensures necessary support in various sports activities and also takes care of the maintenance and upkeep of the sports facilities including playgrounds. University has Sports Sub-Council that has a Chairman, Convener, Student Secretary & representatives and support staff, who collaboratively look after various sports activities and facilitate different sports activities. Sports facility for students has been created at different grounds on both campuses of the University. USAC in general and Sports Sub-Council in particular take care of these grounds and hold various competitions and activities throughout the year.

University has Tagore Central Library apart from the departmental libraries developed in every department for the purpose of keeping programme specific books. In addition, the University has digital/cyber library through which faculty and students can access books, journals and other learning resources in online mode through computers available in the Tagore Library and various departments. Tagore Central Library is looked after by the Professor In-charge (Library), Librarian and other supporting staff for maintenance and enrichment.

University laboratories are well equipped with state of the art equipment and facilities with proper stock maintenance. Laboratories are under the overall control of the concerned Head of Department or Section In-charge. Every laboratory is associated with a Laboratory In-charge (Generally a Faculty member) who is supported by lab technicians/assistants and lab attendants for taking care of activities and assigning laboratory timings to faculty. As a policy, HODs, Lab In-charges, faculty members, staff, lab assistants, lab technicians and other service personnel are given the responsibility to upkeep and maintain equipment under their supervision. For day to day pretty maintenance activities, every department is sanctioned an imprest amount of Rs. 5000/-. For the maintenance activities, which are not possible to be taken-up in-house, maintenance is done either by calling external equipment manufacturers or agreements/AMCs are signed with the relevant agencies.

To provide theoretical and practical knowledge of the manufacturing environment, the University has a Central Workshop where facilities for various shops like Machining, Carpentry, Fitting and Bench Working, Black Smithy, Foundry, Welding, Sheet Metal are available. Every shop in the workshop is equipped with the modern machines and tools. Various maintenance activities of the workshop are managed by a dedicated team of Workshop Superintendent, Asstt. Workshop Superintendent, Jr. Engineer, Foremen, Instructors, Mechanics and other Staff.

Dean of Student Welfare (DSW) ensures and coordinates the maintenance of all the hostels through the respective wardens. He submits all proposals related to new construction /maintenance/renovation of hostels. Hostel wardens ensure the general cleanliness of their respective hostels.

Maintenance activities pertaining to the IT infrastructure including Computer Centre, Internet lease lines, Wi-Fi facility, MOOCs Recording Studio, University Website, University ERP System, IT-enabled Classrooms, Seminar Halls, Auditoriums etc. are managed by the System Manager through a well-defined IT Policy.

File Description	Document
Upload any additional information	View Document
Paste link for additional information	View Document

Criterion 5 - Student Support and Progression

5.1 Student Support

5.1.1 Average percentage of students benefited by scholarships and freeships provided by the institution, Government and non-government agencies (NGOs) during the last five years (other than the students receiving scholarships under the government schemes for reserved categories).

Response: 51.2

5.1.1.1 Number of students benefited by scholarships and free ships provided by the institution, Government and non-government bodies, industries, individuals, philanthropists during the last five years (other than students receiving scholarships under the government schemes for reserved categories)

2021-22	2020-21	2019-20	2018-19	2017-18
1503	1963	1132	1034	1002

File Description	Document
Upload self attested letter with the list of students sanctioned scholarship	View Document
Upload any additional information	View Document
Institutional data in prescribed format	View Document
Link for additional information	View Document

5.1.2 Average percentage of students benefited by career counseling and guidance for competitive examinations as offered by the Institution during the last five years.

Response: 74.99

5.1.2.1 Number of students benefitted by guidance for competitive examinations and career counselling offered by the institution year wise during last five years

2021-22	2020-21	2019-20	2018-19	2017-18
2787	1768	2288	1671	1235

File Description	Document
Institutional data in prescribed format	View Document
Any additional information	View Document
Link for additional information	View Document

5.1.3 Following Capacity development and skills enhancement activities are organised for improving students capability 1. Soft skills 2. Language and communication skills 3. Life skills (Yoga, physical fitness, health and hygiene) 4. Awareness of trends in technology

Response: A. All of the above

File Description	Document
Institutional data in prescribed format	View Document
Any additional information	View Document
Link to Institutional website	View Document
Link for additional information	View Document

5.1.4 The institution adopts the following for redressal of student grievances including sexual harassment and ragging cases 1. Implementation of guidelines of statutory/regulatory bodies 2. Organisation wide awareness and undertakings on policies with zero tolerance 3. Mechanisms for submission of online/offline students' grievances 4. Timely redressal of the grievances through appropriate committees

Response: A. All of the above

File Description	Document
Upload any additional information	View Document
Minutes of the meetings of student redressal committee, prevention of sexual harassment committee and Anti Ragging committee	View Document
Details of student grievances including sexual harassment and ragging cases	View Document
Link for additional information	View Document

5.2 Student Progression

5.2.1 Average percentage of students qualifying in state/national/ international level examinations during the last five years (eg: IIT-JAM/CLAT/ NET/SLET/GATE/ GMAT/CAT/GRE/ TOEFL/ Civil Services/State government examinations, etc.)

Response: 74.23**5.2.1.1 Number of students qualifying in state/ national/ international level examinations (eg: IIT/JAM/ NET/ SLET/ GATE/ GMAT/CAT/GRE/ TOEFL/ Civil Services/ State government examinations, etc.)) year-wise during last five years**

2021-22	2020-21	2019-20	2018-19	2017-18
74	56	111	182	199

5.2.1.2 Number of students appearing in state/ national/ international level examinations (eg: IIT/JAM/ NET / SLET/ GATE/ GMAT/CAT,GRE/ TOEFL/ Civil Services/ State government examinations) year-wise during last five years

2021-22	2020-21	2019-20	2018-19	2017-18
93	76	241	208	236

File Description	Document
Upload supporting data for the same	View Document
Institutional data in prescribed format	View Document
Any additional information	View Document
Link for additional information	View Document

5.2.2 Average percentage of placement of outgoing students during the last five years**Response:** 62.95**5.2.2.1 Number of outgoing students placed year - wise during the last five years.**

2021-22	2020-21	2019-20	2018-19	2017-18
523	299	283	270	257

File Description	Document
Upload any additional information	View Document
Self attested list of students placed	View Document
Institutional data in prescribed format	View Document
Link for additional information	View Document

5.2.3 Percentage of student progression to higher education (previous graduating batch).

Response: 5.6

5.2.3.1 Number of outgoing student progressing to higher education.

Response: 37

File Description	Document
Upload supporting data for student/alumni	View Document
Institutional data in prescribed format	View Document
Any additional information	View Document
Link for additional information	View Document

5.3 Student Participation and Activities

5.3.1 Number of awards / medals won by students for outstanding performance in sports / cultural activities at inter-university / state / national / international events (award for a team event should be counted as one) during the last five years.

Response: 87

5.3.1.1 Number of awards/medals won by students for outstanding performance in sports / cultural activities at inter-university / state / national / international events (award for a team event should be counted as one) year - wise during the last five years.

2021-22	2020-21	2019-20	2018-19	2017-18
27	03	25	26	06

File Description	Document
Institutional data in prescribed format	View Document
e-copies of award letters and certificates	View Document
Any additional information	View Document
Link for additional information	View Document

5.3.2 Presence of Student Council and its activities for institutional development and student welfare.

Response:

The University is committed for overall personality development and welfare of the students and promotes healthy atmosphere for them. University has an active Student Council known as “University Students Activity Council (USAC)” aimed for grooming the students in extra-curricular and co-curricular skills. The students of University are encouraged to take part in all the activities of the council to inculcate cultural, literary, technical and social betterment to serve society and Nation with utmost professionalism, values, ethics and improved quality of life.

USAC has 10 Sub-Councils manned by the Student Secretaries and their teams, under the supervision of Faculty Advisors. Dean of Students Welfare is the Chairperson of USAC and is associated by Secretary/Deputy Secretary and Faculty Advisors nominated by Vice-Chancellor of the University. The 10 Sub-Councils are as follows:

- Sports Sub-Council
- Cultural Sub-Council
- Hobby Sub-Council
- Literary Sub-Council
- Photography Sub-Council
- NSS Sub-Council
- Yoga Sub-Council
- Social and Print Media Sub-Council
- Technical Sub-Council
- NCC Sub-Council

From time to time these councils organize various activities wherein students show case their talents. The students of University also participate in various Inter- University/ State / National level programs/ Competitions and in the past have won many medals and awards which brought lots of recognition and goodwill to the University. Since, the Sub-Councils are majorly run by Student Secretaries and their teams, the organisation/ management of all the events is done by students themselves, this inculcates in them managerial/ leadership skills which helps in Institutional growth and development along with their own personal growth. The USAC activities are funded from the fees collected by the students as well as grants received from the Government or other agencies for organising the various activities and events. The purpose of the Sub-Councils are as follows:

- University Sports Sub-Council promotes physical education through physical and sports activities,

this further imparts values like team work, solidarity and respect. University has set-up various sports facilities which include sports grounds, courtyards for outdoor-indoor activities, gymnasium etc. Cricket ground is of International standard with a turf wicket and Mechanical Roller. The Council organises various sports events round the year including a National level sports event 'AAGAZ'

- National Service Scheme (NSS) Sub-Council is the largest student volunteer body and one of the most active organization in the campus in the field of social/ community service like blood donation camps, distribution of food to needy, child education, cleanliness drives in villages
- Cultural Sub-Council organizes various cultural programs throughout the year which includes PARICHAY, ADHYAY in collaboration with Hobby, Literary and Photography Sub-Councils
- Literary Sub-Council has been very active in organizing debates, essay-writings, quizzes, group discussions and deliberations on social and contemporary issues which provides the students a good platform to develop communication and writing skills
- Yoga Sub-Council organizes yoga camps, International yoga week etc. for the benefit of faculty, staff and students of the University
- Social and Print Media Sub-Council fortnightly publishes University Newsletter named 'Pulse of HBTU' and also organizes an annual event SAMVAD and is active in issues related to social and print media
- Technical Sub-Council includes technical clubs of the University and organizes various technical events including a National level event TECHNIKA

File Description	Document
Upload any additional information	View Document
Link for additional information	View Document

5.3.3 Average number of sports and cultural events / competitions organised by the institution per year

Response: 122.8

5.3.3.1 Number of sports and cultural events / competitions organised by the institution year - wise during the last five years.

2021-22	2020-21	2019-20	2018-19	2017-18
177	44	156	168	69

File Description	Document
Upload any additional information	View Document
Report of the event	View Document
Institutional data in prescribed format	View Document
Link for additional information	View Document

5.4 Alumni Engagement

5.4.1 The Alumni Association / Chapters (registered and functional) contributes significantly to the development of the institution through financial and other support services.

Response:

Alumni Association, HBTU, Kanpur is registered under the Societies Registration Act which is approved by competent authority. It is an association of the alumni of Harcourt Butler Technical University, Kanpur (formerly HBTI). The main aim of the Association is to develop a strong bond between alumni and the University. Alumni Association has been continuously organizing International Alumni Meet every year since 2005 with good participation of alumni from India and abroad. The University has completed 100 years of its existence and celebrated Centenary function on 25th November 2021, with the support of Alumni Association in the presence of Hon'ble President of India. Alumni of the University have made significant contribution for the betterment of civilization across the globe. Over the period of time the University has expanded and made significant enhancements in the number of undergraduate and postgraduate programs leading to the awards of B.Tech, M.Tech, MCA, BBA, MBA, MSc. and Ph.D. degrees and thus creating a large Alumni base all across the globe.

Each year since past 100 years, the graduates have become successful entrepreneurs and leaders in various companies both in private and government sectors. Thousands of alumni of HBTU have been in top notch positions in all walks of life across the world and have always shown willingness to handhold the students of their alma mater. As they are equipped with adequate technology and science background to make breakthroughs, the HBTU graduates are prepared for better placements, paid internships and entrepreneurship capabilities through **Alumni student connect programs, a voluntary program run by the Alumni association of the University**. Alumni Student Connect Program started taking shape when a group of thirty (30) members were selected to start this program. The Rajiv Agha Memorial Hall in Alumni Office is regularly used by the students for their Quiz, Group Discussions, placement interviews, etc. under ASCPs, following programs exist for better placements, innovations and internships of students:

• Buddy Programs

By working alumnus with working experiences of 05 to 30 years for HBTU students with the aim of frequent and need based professional guidance on voluntary basis as per prevailing needs of the profession in industry and around

• Mentorship Programs

By senior working alumnus in leadership role with good working experiences for the students of HBTU, with the aim of mentoring the students from remote locations

- **Vocational Projects**

Short-term project opportunities through alumni-students relationships where working alumni can get their elementary work done through students in campus on voluntary basis and in return students get handsome experiences and better curriculum vitae (CV).

- **Guest Lectures**

Voluntary guest lectures by eminent alumni in leadership role is conducted in campus/ off campus for knowledge sharing and hands on industry exposures

- **Scholarships**

Many prominent alumni offer good scholarships to meritorious students (topper students of B.Tech./ M.Tech.) in order to motivate them to flair well in academics and subsequently in various research activities

The Alumni Association of the University has actively contributed in the last five years through several development and maintenance works like **Cricket Pitch Development, Cafeteria Renovation, Maintaining parks, Installation of R.O. in hostels and canteen, Preparing and printing Coffee table book** containing glorious history of HBTU during Centenary year celebration.

File Description	Document
Any additional information	View Document
Link for additional information	View Document

5.4.2 Alumni contribution during the last five years (INR in Lakhs)

Response: A. ? 100 Lakhs

File Description	Document
Any additional information	View Document
Link for any additional information	View Document

Criterion 6 - Governance, Leadership and Management

6.1 Institutional Vision and Leadership

6.1.1 The institution has a clearly stated vision and mission which are reflected in its academic and administrative governance.

Response:

Any organization cannot flourish without its vision and mission. Vision statement clarifies the values, beliefs, and governing principles of the organization whereas Mission statements describe what the organization is going to do and why it is required. Hence, with a goal to become a center of excellence focusing on Research & Development, incubation in the fields of Engineering, Technology, Basic and Applied Science, Humanities, Social Science & Management, and other professional courses and innovation in emerging areas of higher technical education, the HBTU, Kanpur specified its Vision and Mission statements and all academic and administrative governances are molded to meet the Vision and Mission of the University which are as follows:-

VISION STATEMENT

“To achieve excellence in technical education, research, and innovation”.

MISSION STATEMENT

1. Imparting knowledge to develop analytical ability in science and technology to serve the industry and society at large.
2. Equip and enable students with conceptual, technical, and managerial skills to transform the organization and society.
3. Inculcating entrepreneurial philosophy and innovative thinking to promote research, consultancy and institutional social responsibility.
4. Serving people, society and nation with utmost professionalism, values and ethics to make development sustainable and quality of life

Process of formulating Vision statement and Mission statements of HBTU Kanpur

The vision statement clarifies the values, beliefs, and governing principles of the University, first for yourself and then for society, and the mission statements of the University are aligned to the vision and it communicates the purpose of the University to all its Stakeholders, developed measurable goals and objective in order to gauge the success of University's Strategic Plan.

The process of formulation of the vision and mission of HBTU, Kanpur includes various stages of brainstorming, the rigorous exercise of *what we are and where we want to move from here*, and discussions with all the stakeholders. The following stages explain the **formulation of the Vision and Mission statements of HBTU, Kanpur**

Step 1: Analyzing the previous Vision and Mission of the Institute (HBTI)

Step 2: Underlying the objectives and purpose of University formation mentioned in the HBTU Act 2016

Step 3: Meeting and discussions with all stakeholders of the University (Alumni, Industry Students, Faculty, and administrative people)

Step 4: Draft of Vision and Mission Statements

Step 5: Discussions with Faculty and HODs of the University for suggestions

Step 6: Incorporation of necessary suggestions in the Vision statement and Mission statements draft

Step 7: Meeting with the Vice Chancellor, Pro-Vice Chancellor, Registrar, Deans, and HODs of the University to finalize the vision statement and mission statements

Step 8: Approval of the Final Vision and Mission of the University by the Executive council (EC) of the University

University is providing world-class technical manpower over the years, to cater the national and international needs, with almost 100% placement over the years in the best of the organizations across the globe. University also promotes research and innovation in various emerging fields to meet the latest challenges in the field and simultaneously solve societal issues.

File Description	Document
Any additional information	View Document
Link for additional information	View Document

6.1.2 The effective leadership is reflected in various institutional practices such as decentralization and participative management.

Response:

Decentralization and participative management are practiced in HBTU Kanpur through various bodies at mainly three levels i.e. Functions, Funds and Functionaries (3F)

Function Level: The Hon’ble Governor, Uttar Pradesh (U.P.), is the Chancellor of the University and carefully monitors all academic activities regularly. The Executive Council is the apex body of the University and is involved in the monitoring of its continuous development and the Hon’ble Vice Chancellor is the Chairperson of this Council. All the decisions are taken in consensus through participatory management of various bodies such as the Academic Council, Finance Committee (FC), Building and Works Committee (BWC), Board of Studies (BoS), Board of Examinations (BoE), Research Doctoral Committee (RDC), University Student Activity Council (USAC), Central Purchase Committee (CPC), etc. The EC meets on a regular basis in order to periodically review the functioning of various Academic Departments/Schools and Research Centres to ensure that they are functioning as per the aims and objectives of the University. This helps the University to achieve its missions and goals.

Fund level: The financial management, budgeting, and utilization are carried through the account section,

headed by the Finance Controller. University has decentralized the financial power to the Dean/ Head of the Departments/Officers of the University/Sectional In-charges/Wardens to meet the daily/monthly expenses of their respective offices.

Functionaries Level: The Chancellor of the University has all the administrative powers and appoints the Vice Chancellor as the Chief Executive Officer of the University. All the Schools (School of Engineering, School of Chemical Technology, School of Basic and Applied Sciences, School of Humanities and Social Sciences) are headed by Deans and all the Departments under these Schools are headed by the Heads of Departments. At the Departmental level, Faculty members are having active participation in various committees. Faculty members are responsible to conduct various co-curricular activities such as organizing workshops/conferences/ faculty development courses (FDP) etc. in order to promote research and upgrade the quality of education. The University encourages participative management within various Departments by involving faculty and students in various collaborative research activities and guidance. The feedback of the Deans, HoDs, Coordinator of various committees, Administrative Heads, Registrar, Finance Controller, Faculty members, Students, and other Stakeholders, etc, are involved in forming various policies and procedures/guidelines regarding admission, counseling, research activity, and development of infrastructure of the University, etc. Students, the primary stakeholder of the University have been given utmost importance in the various decision-making and policy formation such as feedback process, USAC, proctorial board, SC/ST/OBC committee, minority committee, and Internal Quality Assurance Cell (IQAC) as student representative members of the committees. All the Hostel messes in University are co-operative messes and are run by student committees. Their feedback, suggestions, and issues are addressed with top priority. Decentralization and participative management in the University is practiced in a top to bottom approach.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

6.2 Strategy Development and Deployment

6.2.1 The institutional Strategic plan is effectively deployed.

Response:

The University has well laid Strategic plan and is effectively deployed. Further, the Strategic plan for 2021 to 2030 defines a complete framework of priorities of the University and its Schools, Departments, and Sections. Every individual component of the University will act as a vital partner in the implementation of the Strategic Plan for its holistic development. Strategic Plan is supported by a more detailed implementation/action plan that acts as a Road Map to achieve the objectives. It is monitored by the Vice Chancellor and by the Executive Council. The annual reports are published in hardcopy as well as on the University website.

One Successful Activity: Restructuring the existing UG programmes and starting various new programmes

- To improve the academic environment by responding to present opportunities and tomorrow's challenges and also providing enough choices and more flexibility in the academic curriculum to nurture creativity, experimentation, and skills in students, we perform restructuring of the existing UG programs i.e. increasing the intake of popular UG programs like Computer Science & Engineering, Information Technology, Electronics Engineering to meet the requirement of technical manpower of the industry and for revenue generation as well
- University has introduced new Master in Science (M. Sc.) programmes on various advance and demanding topics such as M.Sc. in Mathematics and Data Science offered by the Department of Mathematics, M.Sc. in Chemical Sciences offered by the Department of Chemistry and M.Sc. in Optoelectronics offered by the Department of Physics under the School of Basic and Applied Sciences
- Master of Technology (M. Tech.) programme is started in the Department of Computer Science and Engineering and Electrical Engineering under the School of Engineering
- Started a new program Master of Business Administration (MBA) and Bachelor of Business Administration (BBA) under the School of Humanities and Social Sciences
- Started the M. Tech program in the Department of Plastic and Paint Technology under the School of Chemical Technology
- Apart from the above, University is planning to commence some new programs like B. Pharma and B. Arch very soon in the near future.

File Description	Document
Any additional information	View Document
Strategic Plan and deployment documents on the website	View Document
Link for Additional Information	View Document

6.2.2 The functioning of the institutional bodies is effective and efficient as visible from policies, administrative setup, appointment, service rules and procedures, etc.

Response:

University functions in a very transparent manner without any discrimination which is visible in all policies, administrative setup, service rules, procedures, etc. University formulates policies after thorough discussions at various levels. Presently, there are 08 well-defined policies governing various functions of the University which are as follows:

1. Research Promotion
2. Waste Management
3. Information –Technology (IT)
4. Maintenance
5. Consultancy
6. Students with Disabilities (Divyangjan)

7. Academic Audit

8. Recruitment

Administrative Setup:

- **The Executive Council (EC):** The Executive Council is the apex body of the University and is involved in the monitoring and continuous development of the University. The EC shall meet at least four times in year
- **The Academic Council (AC):** The Academic Council is the principal academic body of the University which provides academic feedback on current and future academic programs. The AC shall meet at least twice in year
- **Finance Committee (FC):** The Finance Committee is to examine and scrutinize the annual budget of the University, and make suitable recommendations to the Executive Council
- **Admission Committee:** The Admission committee is responsible for selecting candidates for admission to various programs in the University
- **Board of Studies:** The BoS is responsible to review the syllabi of the courses of study and incorporate the comments and contents based on requirements from reputed industries in concerned fields, along with recommending books, including text-books, supplementary reading, reference books, and other material for courses of study. Further, recommends names of suitable persons for inclusion in the panels for appointment of paper setters, examiners, and moderators for examinations
- **Research & Development Committee (RDC):** This committee monitors the routine progress of research scholars pursuing their Ph.D. and gives valuable suggestions helpful in their research
- **Central Purchase Committee (CPC):** This committee is formed for purchasing of academic materials, stationary, software, electrical, electronic items, etc through the GeM portal as per the requirement. All types of purchasing over 1 lakh are being carried out after the due approval from CPC
- **Building and Works Committee (BWC):** The BWC scrutinizes and subsequently make recommendations with respect to major construction and capital works, excluding minor construction/maintenance and repairs
- **Grievance Redressal Committees (GRCs):** The GRCs consider all grievances submitted by an individual member of the University regarding employment/ association, working conditions, and any other alleged injustice done to an employee/ student while discharging his/her duties at the University

Appointment:

- All the Teaching/Non-Teaching staff recruitment in the University is made as per the guidelines received from Raj Bhawan incorporating the latest AICTE/UGC regulations
- University also follows guidelines/recruitment rules of the Government of Uttar Pradesh, from time to time for the recruitment of faculty and staff
- University has framed recruitment rules clearly mentioning the eligibility of the candidates taking care of the above-mentioned guidelines
- The entire process of recruitment including recruitment rules is approved by Executive Council

Service Rules and Procedures:

The service rules for the employees of the University are governed by the Statutes of the University which are under consideration with the State Government, however, till then the service rules/bylaws of the erstwhile HBTI Kanpur are being followed.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document
Link to Organogram of the University webpage	View Document

6.2.3 Institution Implements e-governance covering following areas of operation

1. Administration
2. Finance and Accounts
3. Student Admission and Support
4. Examination

Response: A. All of the above

File Description	Document
Screen shots of user interfaces	View Document
ERP (Enterprise Resource Planning) Document	View Document
Details of implementation of e-governance in areas of operation, Administration etc (Data Template)	View Document
Any additional information	View Document
Link for additional information	View Document

6.3 Faculty Empowerment Strategies

6.3.1 The institution has a performance appraisal system, promotional avenues and effective welfare measures for teaching and non-teaching staff .

Response:

The University has a performance appraisal system, promotional avenues, and effective welfare measures for teaching and non-teaching staff as given below:

Performance appraisal system:

- The University adopts a comprehensive performance-based appraisal system (PBAS) to evaluate the performance of teaching and non-teaching staff annually. The adopted PBAS for the

- employees is according to the guidelines of AICTE/UGC and the State government
- For the promotion of teaching staff, HBTU follows the Career Advancement Scheme (CAS) as per the guidelines of AICTE/UGC
 - University cleared all the backlogs of CAS promotion for teaching staff and a total of 26 faculty members got promoted through CAS in the year 2021-2022
 - A total of 44 new regular faculty members with strong academic and research background have been appointed in the University to upgrade the teaching-learning and research activities in the year 2021-2022
 - For non-teaching staff, University collects Annual Confidential Reports (ACR) of employees for each year, and based upon the ACR, the non-teaching staff are promoted/awarded Assured Career Promotion (ACP)

Welfare Measure for Teaching and Non-teaching Staff:

- All regular employees are availing residence facilities in the east and west campuses of the University
- University has General Provident Fund (GPF) and National Pension Scheme (NPS) for their present and retired employees
- Provision of Maternity and child care leave is in existence in the University as per state government norms
- University facilitates House Building Advance (HBA) to its employees at a nominal interest rate
- University has the facility of Staff Welfare Fund to meet any exigency of the employees
- HBTU has its own dispensary with a qualified Medical officer, the patient (Employees/Students) are checked up by the medical officer and they are provided with prescriptions/medicines free of cost
- University has a Guest house having dining facilities made available for the parents of the students, faculty guests, and guests attending various programs conducted by employees
- Gymnasium, Sports Grounds, Cricket field, basketball court, and other recreational facilities are available all the time for employees and students

Other facilities:

- Biometric system for daily attendance
- Central Bank of India (CBI) branch and State Bank of India (SBI) ATM services
- Post-Office in West Campus
- Canteen, Cafeteria, and Namaste-India Dairy stall

Faculty Empowerment Measures:

- University provides financial support to their teaching staff to attend various training programs, National and International seminars, symposiums, conferences, workshops
- Study leave to pursue Ph.D. and Post-Doctoral Research
- Leave on Duty to attend academic/administrative assignments
- MOOCs Recording Studio for e-content development, mixing equipment, and editing software

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

6.3.2 Average percentage of teachers provided with financial support to attend conferences / workshops and towards membership fee of professional bodies during the last five years.

Response: 32.72

6.3.2.1 Number of teachers provided with financial support to attend conferences/workshops and towards membership fee of professional bodies year wise during the last five years

2021-22	2020-21	2019-20	2018-19	2017-18
59	50	83	18	15

File Description	Document
Details of teachers provided with financial support to attend conferences, workshops etc. during the last five years (Data Template)	View Document
Link for Additional Information	View Document

Other Upload Files

1	View Document
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6.3.3 Average number of professional development / administrative training Programmes organized by the institution for teaching and non-teaching staff during the last five years.

Response: 40.6

6.3.3.1 Total number of professional development /administrative training Programmes organized by the institution for teaching and non teaching staff year-wise during the last five years

2021-22	2020-21	2019-20	2018-19	2017-18
118	30	25	16	14

File Description	Document
Reports of the Human Resource Development Centres (UGC ASC or other relevant centres)	View Document
Reports of Academic Staff College or similar centers	View Document
Details of professional development / administrative training Programmes organized by the University for teaching and non teaching staff (Data Template)	View Document
Any additional information	View Document
Link for Additional Information	View Document

6.3.4 Average percentage of teachers undergoing online/ face-to-face Faculty Development Programmes (FDP)during the last five years (Professional Development Programmes, Orientation / Induction Programmes, Refresher Course, Short Term Course).

Response: 60.12

6.3.4.1 Total number of teachers attending professional development Programmes, viz., Orientation Programme, Refresher Course, Short Term Course, Faculty Development Programmes year wise during last five years

2021-22	2020-21	2019-20	2018-19	2017-18
146	37	129	59	45

File Description	Document
Reports of the Human Resource Development Centres (UGC ASC or other relevant centers)	View Document
IQAC report summary	View Document
Details of teachers attending professional development Programmes during the last five years (Data Template)	View Document
Any additional information	View Document
Link for Additional Information	View Document

6.4 Financial Management and Resource Mobilization

6.4.1 Institutional strategies for mobilisation of funds and the optimal utilisation of resources

Response:

The University has adopted resource mobilization strategies to generate funds through participation in various State Government Schemes, Rashtriya Uchchar Shiksha Abhiyan (RUSA), Students' tuition fees, Deen Dayal Upadhyay Quality Improvement Programme (DDU-QIP), Central Government Schemes such as the TEQIP-III project, Corporate Social Responsibility Fund (non-government body), etc. The detailed information is given below:

- **Government of Uttar Pradesh:** The University receives grants from the Government of Uttar Pradesh for salary and other recurring expenditures. Apart from this, University also receives grants for capital expenditure from time to time
- **Rashtriya Uchchar Shiksha Abhiyan (RUSA):** This scheme aims to improve higher education in Uttar Pradesh. As part of this scheme, the University received a grant of 6.5 Crore in the Financial Year (F.Y.) 2016-17, 13.40 Crore in F.Y. 2017-18, 3.10 Crore in F.Y. 2018-19, 3.63 Crore in F.Y. 2019-20 and 86.75 lac in F.Y. 2020-21. These received grants have been utilized to renovate the Incubation Hub, Old Library, Hostels, New buildings for the Chemical and Electronics Engineering Departments, Air Conditioning of the New Library, and the construction of a new Lecture Hall Complex
- **Testing and Consultancy:** Because of the proven technical expertise and excellence of the University, numerous government, and non-government organizations provide testing and consultancy work to the concerned Departments. University has well-drafted rules for testing and consultancy
- **Deen Dayal Upadhyay Quality Improvement Programme (DDU-QIP):** The University has received a grant of 15.00 Crore under the DDU-QIP scheme from Dr. A.P.J. Abdul Kalam Technical University (AKTU). This fund is meant for the digitalization, infrastructure, and academic development of the University.
- **TEQIP-III Scheme:** Under the Technical Education Quality Improvement Program (TEQIP-III) under Centrally Sponsored Scheme, the University received 15 Crore to improve the quality of technical education and develop and upgrade various research facilities.

Funds are also mobilized through:

- Rental Income from auditorium/Shatabdi Bhavan/Guest house/Canteen
- Rental income from Cricket Ground
- Redundant Account Closure
- Cost cutting by reducing the number of pages in answer sheets used in examinations
- Installation of energy-efficient lighting
- Installation of solar geysers in hostels
- Registration fee for FDP/conferences/workshops
- Donations from Alumni/ Philanthropists etc.

Optimal utilization of resources:

- The optimal utilization of various resources of the University is guaranteed through careful assessment of the requirements of various Schools/Departments for utility and relevance
- After fund allotment, the Finance Committee monitors all the expenditures from time to time
- All purchases in the University are done as per Government norms through the GeM portal

- The University also shares various research facilities/equipments with other institutes, wherever possible
- All financial transactions are subject to internal and external audits which ensures the proper utilization of funds

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

6.4.2 Funds / Grants received from government bodies during the last five years for development and maintenance of infrastructure (not covered under Criteria III and V) (INR in Lakhs).

Response: 6467.94

6.4.2.1 Total Funds / Grants received from government bodies for development and maintenance of infrastructure (not covered under Criteria III and V) year wise during the last five years (INR in Lakhs).

2021-22	2020-21	2019-20	2018-19	2017-18
1086.55	801.80	1305.53	1108.61	2165.45

File Description	Document
Details of Funds / Grants received from government bodies during the last five years (Data Template)	View Document
Any additional information	View Document
Annual statements of accounts	View Document
Link for Additional Information	View Document

6.4.3 Funds / Grants received from non-government bodies, individuals, philanthropists during the last five years (not covered in Criterion III and V) (INR in Lakhs)

Response: 19.07

6.4.3.1 Total Grants received from non-government bodies, individuals, Philanthropers year wise during the last five years (INR in Lakhs)

2021-22	2020-21	2019-20	2018-19	2017-18
2.9	2.5	9.46	3.37	0.84

File Description	Document
Institutional data in prescribed format	View Document
Any additional information	View Document
Annual statements of accounts	View Document
Link for Additional Information	View Document

6.4.4 Institution conducts internal and external financial audits regularly

Response:

The University conducts two levels of audits regularly

1. Auditing by Chartered Accountant
2. Auditing by the team of Accountant General (A G)

1) Auditing by Chartered Accountant:

University account is prepared by University staff under the control of the Finance Controller. After the preparation of the account, a Chartered Accountant is assigned for preparation of the balance sheet and income expenditure statement of the University. After the preparation of annual accounts, balance sheet, and income expenditure statement, another Chartered Accountant is assigned to audit the accounts. After auditing of accounts, balance sheet and income expenditure statement is presented to the Finance Committee and the Executive Council of the University for approval.

2) Audit by Accountant General (A G) Uttar Pradesh

This audit is done by a team of officers of A G Uttar Pradesh. The University presents its complete book of accounts, ledger, and various record for audit to the A G team. After that, A G team gives its report to the University. Finally, the University prepares para-wise answers and compliance and sends them to A G Uttar Pradesh. At present, there is no major para pending and also the reconciliation of all the accounts is done.

Other related information:

The Director of the Institute of Engineering and Technology is nominated as the Coordinator, Steering committee by the Government for the quarterly tally of salary and wages, non-salary and other admissible grants of faculty members /administrative officers and non-teaching personnel. In continuation to that, a provision is there to send the report each month to the Coordinator, Steering committee based on quarterly reconciliation statements related to grant from the Kanpur treasury. Apart from that there is a continuous

process of sending the utilization certificate related to the grant on 31st march each year to the Government and Finance Controller of the Directorate of Technical Education Uttar Pradesh.

There is a continuous process of sending the utilization certificate, withdrawn from treasury Kanpur of approved grant from the government under plan expenditure to an executive body nominated by the Government. There is a provision to present immediately the details related to the utilization of plan expenditure approved by the Government to the Accountant General (Prayagraj) if asked.

As per instructions from Raj Bhavan and Government, a balance sheet is made under finance rules and after financial audit by Chartered Accountant. The approval of this balance sheet is taken from Finance Committee and Executive Council.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

6.5 Internal Quality Assurance System

6.5.1 Internal Quality Assurance Cell (IQAC) has contributed significantly for institutionalizing the quality assurance strategies and processes by constantly reviewing the teaching learning process, structures & methodologies of operations and learning outcomes at periodic intervals.

Response:

The IQAC is meant for planning, guiding, and monitoring Quality Assurance (QA) and Quality Enhancement (QE) activities of the University including Academic Audit, Feedback Analysis, formats for Self-Appraisal (faculty and staff), Career Advancement Scheme rules and compilation of monthly progress of the University in the form of Prapatra-55 etc.

1. Active Participation in different grading/ranking frameworks and Surveys

The top leadership of the University (Hon'ble Chancellor, and Hon'ble Vice-Chancellor) carefully monitors all the grading and/or ranking framework processes of the University. IQAC ensures active participation of the University in National level grading/ranking frameworks. IQAC organizes meetings quarterly to review and discuss quality assurance strategies and processes.

It was decided in the meeting of IQAC held on 30/06/2021 that University will actively participate in all the important surveys and grading/ranking frameworks including NBA, NAAC, IIRF, NIRF, India Today, AISHE, DST etc. to improve the perception of the University in the public domain. Apart from that, it was also discussed to revamp the academic audit process. IQAC was also entrusted to revise related formats and perform this important academic task for all the departments. As the outcome of continuous and vibrant efforts by IQAC, most of the departments of the University got accredited by NBA. The academic audit is also conducted successfully in most of the departments. The University is also thriving hard in order to improve its ranking in various frameworks along with participation in NAAC. As per the direction

of the Hon'ble Chancellor, the University is sending all the administrative, academic and financial information in the form of '55 proforma' (drafted by the Raj Bhavan, U.P.) to Governor office every month.

2. Centenary year celebration in the University with 100 state-of-art academic events

Since 1921 Harcourt Butler Technical University (Formerly HBTI Kanpur) has always been a paragon and a source of inspiration in the field of science and technology. It has maintained its conspicuous presence in the technical world. It has a history of realization, fulfilment of necessities, and advancements in the field of science and technology. Its roots are as deep as its outlook. In 2021, the organization has completed 100 years and it was decided by the University administration and all the stakeholders to celebrate this auspicious occasion in a unique manner. In IQAC meeting held on 30/06/2021, it was decided to organize 100 state-of-art academic activities and target was given to each school/department to organize 6-8 academic events including webinars, training programmes, invited lectures, workshops, faculty development programmes etc. All the schools/departments contributed to this mega-academic celebration in the best possible manner. In total 103 academic events were organized by different schools/departments to make this event memorable. **The Hon'ble President of India, the First Citizen of our Country graced the occasion of the Centenary year celebration on 25 Nov., 2021 with his benign presence and deeply appreciated the developmental activities going on at the University.**

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

6.5.2 Institution has adopted the following for Quality assurance 1. Academic Administrative Audit (AAA) and follow up action taken 2.Confernces, Seminars, Workshops on quality conducted 3. Collaborative quality initiatives with other institution(s) 4.Orientation programme on quality issues for teachers and students 5. Participation in NIRF 6.Any other quality audit recognized by state, national or international agencies (ISO Certification, NBA).

Response: A. Any 5 or more of the above

File Description	Document
Upload e-copies of the accreditations and certifications	View Document
Upload details of Quality assurance initiatives of the institution (Data Template)	View Document
Any additional information	View Document
Paste web link of Annual reports of University	View Document
Link for Additional Information	View Document

6.5.3 Incremental improvements made for the preceding five years with regard to quality (in case of

first cycle), Post accreditation quality initiatives (second and subsequent cycles).

Response:

Starting of New Programmes

University has started various new programmes like M.Tech. in Paint Technology, Plastic Technology, Computer Science and Engineering, Electrical Engineering, MBA, BBA, M.Sc. in Physics, Chemistry and Mathematics. Further, University is poised to start new UG programmes in emerging areas.

Increase in Sanctioned Intake

The University has almost doubled its intake in various existing programmes during last five years, as per local, regional and global needs.

Enhancement in Research, Consultancy and Collaborative Activities

Number of research papers/patents/copyrights has substantially increased not only in terms of numbers but also in quality. Students, staff and faculty members are actively involved in quality research and consultancy works through research/consultancy projects offered by various government and non-government agencies/industries. Faculty members are also involved in various inter and intra University collaborative activities. Several MoUs with premier academic organizations/industries have been signed in order to boost collaboration.

Infrastructure Development

University has developed state-of-art infrastructure like ICT enabled Classrooms, Lecture Hall Complex, MOOCs Recording Studio for e-content development, Multipurpose Hall(Shatabdi Bhawan), New Auditorium, Centenary Pillar(Shatabdi Stambh), Girls Hostels (200 and 36 seated), Gymnasium, Helipad in West Campus, Environment friendly commute facilities through bicycles, e-rickshaws between both campuses etc. New Buildings are coming up shortly for Electronics Engineering Department, Chemical Engineering Department and Incubation Center. Apart from this, Central Library is continuously augmented with latest Books, e-Books, Journals, e-Journals, databases and Integrated Library Management Software (ILMS). University has established Center of Excellence in Oil Technology.

Promotion of Existing Faculty through Career Advancement Scheme (CAS)

University has cleared all due CAS promotions for faculty members and total of 26 faculty members got promoted through CAS promotions in the year 2021-22.

New Faculty Recruitment

Total of 44 new regular faculty members with strong academic and research background have been appointed in last year to strengthen the teaching-learning and research activities.

Promotion of Staff Members

University has promoted its staff members under Assured Career Promotion(ACP), which is a continuous

process.

Grants Received from Various Government/Non-Government Bodies

University has received grants in phased manner from various government and non-government bodies like RUSA, TEQIP-III, DDU-QIP, Ruchi Soya Industry, Rimjhim Ispat Ltd., Fare Labs etc.

Outreach and Extension Activities

University involves its students, faculty and staff members in social causes like blood donation camps, distribution of food, cleanliness drives etc. University's "Mahila Adhyayan Kendra" **organizes various activities in raising the overall standards of girls/women in rural areas, education to rural women for their empowerment, general health issues, nutrition, food, hygiene etc.**

Continuing Education and Quality Initiatives

University has IQAC for undertaking and monitoring various quality initiatives. It ensures the active participation of University in various ranking frameworks. Emphasis is given on innovative teaching-learning strategies for achieving the goals of Outcome-Based Education. The curriculum is periodically upgraded to meet the changing local, regional and global needs and demands. As an outcome, the student's placement is continuously improving in the last five years. Through IQAC, students, faculty and staff members are encouraged to organize and participate in various Refresher Programs/Workshops/FDPs/Conferences/Seminars etc. to enhance their knowledge and skills. UGC Expert Committee has already visited University for the grant of 12B status, the same will be granted after NAAC accreditation. Departments of the University are NBA accredited.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

Criterion 7 - Institutional Values and Best Practices

7.1 Institutional Values and Social Responsibilities

7.1.1 Measures initiated by the Institution for the promotion of gender equity during the last five years.

Response:

HBTU is committed towards the promotion and practice of the ideals of social and natural justice, human dignity and rights of all human beings without prejudice to caste, creed, religion and gender. It regularly organizes a lot of gender equity programs in which equal opportunity is given to both genders to participate in various events.

The campus has various facilities like cafeteria, round the clock Internet facility in all hostels, sports facilities (indoor & outdoor), gymnasium, library, medical dispensary, auditoriums, parks, conveyance facilities, bank with an ATM that are easily accessible to girl students and women employees of the University.

Safety and Security

The University has taken the following safety and security measures that are enlisted below:

1. All the hostels have secured environment manned by security guards on 24X7 basis. Special care is taken for the safety and security of girl students by providing round-the-clock security through lady guards, lady wardens, faculty mentors and attendants. The second layer of security is provided by security personnel spread throughout the campus
2. Squad system for security checks has been introduced in the University. Squad headed by senior faculty member is responsible to create a hassle free environment by regularly monitoring the discipline in the corridors, classrooms, canteens, laboratories, hostels, library, etc.
3. Separate hostels, badminton court, gymnasium, canteen etc. are available for girls in the University campus
4. The University has a Women Counselling Cell/ Internal Complaint Committee (ICC) to cater all the issues related to girl students and women employees in order to create an atmosphere free from any form of discrimination and redressal of sexual harassment. HBTU ensures that complaints of gender bias are dealt with in a sensitive, equitable, fair, timely and confidential manner. Girl students and women employees are encouraged for early reporting and redressal of any sexual harassment or gender conflict
5. Health center and ambulance service is provided in the campus which is available 24 hours to take care of any medical emergency of the students. A Cashless Medclaim facility is also available to meet the hospitalization expenses for all the students

Counseling

1. There is a dedicated center for women 'Mahila Adhyayan Kendra' which organizes various activities for women empowerment and to encourage and boost the confidence of the girl students including awareness programs on social issues (like dowry, gender equality, girl education, nutrition etc.) and other philanthropic activities like tree plantations, cleaning drives in University

campus, nearby villages and primary schools. Lectures are also organized with an aim to provide insight into the success stories of top-notch social workers in order to motivate women through “Mahila Adhyan Kendra”

2. Counseling is provided to all girl students residing in hostels through lady wardens / resident warden to deal with mental stress, psychological trauma etc. (if any) which in turn creates a congenial environment to live
3. University has a mentor-mentee system in place. Mentors are assigned to all the students at the time of admission itself in order to have effective monitoring and welfare of the students by providing regular counseling/ motivation from time to time

Common Room

A well-furnished common room is made available in all the hostels with recreational facilities like magazines, daily newspapers, television, indoor games etc. so that the students can utilize their leisure time in a fruitful manner.

File Description	Document
Specific facilities provided for women in terms of: a. Safety and security b. Counselling c. Common Rooms d. Day care center for young children e. Any other relevant information	View Document
Annual gender sensitization action plan	View Document

7.1.2 The Institution has facilities for alternate sources of energy and energy conservation measures

1. Solar energy
2. Biogas plant
3. Wheeling to the Grid
4. Sensor-based energy conservation
5. Use of LED bulbs/ power efficient equipment

Response: A. 4 or All of the above

File Description	Document
Geotagged Photographs	View Document
Any other relevant information	View Document

7.1.3 Describe the facilities in the Institution for the management of the following types of degradable and non-degradable waste (within 500 words)

- Solid waste management
- Liquid waste management
- Biomedical waste management
- E-waste management
- Waste recycling system
- Hazardous chemicals and radioactive waste management

Response:

The University complies with the Waste Management Rules as prescribed by the state of Uttar Pradesh (UP) and the guidelines of the Kanpur Nagar Nigam (KNN) issued from time to time. Arrangements are made to minimize solid and liquid waste production, segregation, collection, transportation, recycling, reuse and safe disposal of effluent generated in the University.

The University has a well drafted 'Waste Management Policy' covering the disposal procedures of solid, liquid, biomedical, e-waste, hazardous chemicals etc. University has adequate arrangements, facilities, infrastructure, requisite logistics and recycling infrastructure. All the students, staff and their families use these facilities for proper management of degradable and non-degradable waste. The primary objectives of the policy is to ensure cleanliness in both campuses for a healthy, hygienic and liveable environment. The University is committed to implementing an effective and responsible waste management process that meets all the environmental regulations for a sustainable society.

University is cognizant of its environmental responsibilities and works on the philosophy of three 'R' model: Reduce, Resuse and Recycle to maintain an eco-friendly campus.

Solid Waste Management

1. The solid waste generated in the campus includes food waste, cardboard materials, paper waste, metals, wood etc.
2. Dustbins are provided in the campus at convenient locations to keep campus clean and neat
3. All the garbage and solid wastes are collected from the sweepers/ cleaners and disposed of into an open pit inside the University campus

Liquid Waste Management

The liquid waste generated in the campus includes sewage, laboratory, laundry, hostel, and canteen effluent waste. The above waste is treated through constructing septic tank in all the residences. In addition, the University is periodically paying Water Tax and Sewer Tax for the treatment of liquid waste to Kanpur Nagar Nigam. Periodic checkup of plumbing lines is undertaken to ensure minimal loss of water due to leakage.

Biomedical Waste Management

Biomedical waste contains infectious or potentially infectious materials. These wastes are generated during

the diagnosis, treatment, and immunization of humans and animals. Biomedical wastes can be in both solid and liquid form. There is a proper arrangement for the disposal of used sanitary pads through the Incinerators installed in the girls hostels.

E-waste Management

Electronic goods are put to optimum use. The minor repairs of the electronic items are done by the laboratory staff. E-waste generated is first reused in the campus itself, if it is possible. The e-waste and other obsolete and unserviceable items are auctioned through a centralized mechanism from time to time to authorized vendors.

Hazardous Chemicals and Radioactive Waste Management

The University does not produce any hazardous and radioactive waste. The biological and chemical wastes are disposed properly through standard procedures. The electronic gadgets and computers which are discarded are auctioned as scrap for safe disposal.

File Description	Document
Relevant documents like agreements/MoUs with Government and other approved agencies	View Document
Geotagged photographs of the facilities	View Document
Any other relevant information	View Document

7.1.4 Water conservation facilities available in the Institution:

- 1. Rain water harvesting**
- 2. Borewell /Open well recharge**
- 3. Construction of tanks and bunds**
- 4. Waste water recycling**
- 5. Maintenance of water bodies and distribution system in the campus**

Response: A. Any 4 or all of the above

File Description	Document
Geotagged photographs / videos of the facilities	View Document
Any other relevant information	View Document

7.1.5 Green campus initiatives include:

- 1. Restricted entry of automobiles**
- 2. Use of Bicycles/ Battery powered vehicles**
- 3. Pedestrian Friendly pathways**

- 4. Ban on use of Plastic**
- 5. landscaping with trees and plants**

Response: A. Any 4 or All of the above

File Description	Document
Various policy documents / decisions circulated for implementation	View Document
Geotagged photos / videos of the facilities	View Document
Any other relevant documents	View Document

7.1.6 Quality audits on environment and energy are regularly undertaken by the Institution and any awards received for such green campus initiatives:

- 1. Green audit**
- 2. Energy audit**
- 3. Environment audit**
- 4. Clean and green campus recognitions / awards**
- 5. Beyond the campus environmental promotion activities**

Response: A. Any 4 or all of the above

File Description	Document
Reports on environment and energy audits submitted by the auditing agency	View Document
Certification by the auditing agency	View Document
Certificates of the awards received	View Document
Any other relevant information	View Document

7.1.7 The Institution has disabled-friendly, barrier free environment

- 1. Built environment with ramps/lifts for easy access to classrooms.**
- 2. Divyangjan friendly washrooms**
- 3. Signage including tactile path, lights, display boards and signposts**
- 4. Assistive technology and facilities for Divyangjan accessible website, screen-reading software, mechanized equipment**
- 5. Provision for enquiry and information : Human assistance, reader, scribe, soft copies of reading material, screen reading**

Response: A. Any 4 or all of the above

File Description	Document
Policy documents and information brochures on the support to be provided	View Document
Geotagged photographs / videos of the facilities	View Document
Details of the Software procured for providing the assistance	View Document
Any other relevant information	View Document

7.1.8 Describe the Institutional efforts/initiatives in providing an inclusive environment i.e., tolerance and harmony towards cultural, regional, linguistic, communal socioeconomic and other diversities (within 500 words).

Response:

The University has taken all possible initiatives for providing an inclusive environment towards cultural, regional, linguistic, socioeconomic, and other such diversities. The University is committed for overall personality development and welfare of the students and promotes healthy atmosphere for them. University has an active Student Council known as “University Students Activity Council (USAC)” aimed for grooming the students in extra-curricular and co-curricular skills. The students of University are encouraged to take part in all the activities of the council to inculcate cultural, literary, technical and social betterment to serve society and Nation with utmost professionalism, values, ethics and improved quality of life. Activities through University student activity council (USAC) is ensures the collective working of all the students of diverse back grounds enrolled in the University. USAC has 10 Sub-Councils manned by the Student Secretaries and their teams, under the supervision of Faculty Advisors. Dean of Students Welfare is the Chairperson of USAC and is associated by Secretary/Deputy Secretary and Faculty Advisors nominated by Vice-Chancellor of the University.

From time to time these councils organize various activities wherein students show case their talents. The students of University also participate in various Inter- University/ State / National level programs/ Competitions and in the past have won many medals and awards which brought lots of recognition and goodwill to the University. Since, the Sub-Councils are majorly run by Student Secretaries and their teams, the organisation/ management of all the events is done by students themselves, this inculcates in them managerial/ leadership skills which helps in Institutional growth and development along with their own personal growth

When diversity is talked about, it can be visually seen and contemplated by the numerous fests that the USAC organizes in the premises of the University. The grand three days festival of the Cultural Sub-Council namely ‘Adhyaay’, the three days gala of the Sports Sub-Council namely ‘Aagaz’. These are highly funded and rigorously organized festivals, while many regularly curated fests and events keep happening to maintain consistency with the zeal of the students.

Number of activities are conducted for promoting inclusive environment i.e. tolerance and harmony towards cultural, regional, linguistic, commercial, socio-economic, truth, righteous conduct, non-violence and peace, national values, national integration as well as observance of fundamental duties. Some of them

are:

- **Establishment of Community kitchen during COVID-19:** The dearth of food for families of daily waged earners faced acute problems. Our students and faculty came to rescue of such families and supported them by providing free meals for them.
- Our program "**SAAKSHAR**" came to existence when our students realized the dearth of quality education amongst children in slum areas. Volunteers continue their effort and teach the students with full dedication. These kinds of programs help in channelizing the energy of students towards a positive direction. It helps them and society simultaneously.
- Demonstration of Modern Chulha in Villages
- Distribution of school kits to students during convocation
- Interaction with village women and girls to understand their problems
- Children made aware of the green revolution
- Establishment of Mahila Addhyan Kendra
- Children made aware of the green revolution
- Establishment of Mahila Addhyan Kendra
- Promotion of Self-reliance activities like stitching, embroidery etc.
- International Family Day
- International girl child day
- Literacy day

File Description	Document
Supporting documents on the information provided (as reflected in the administrative and academic activities of the Institution)	View Document
Any other relevant information	View Document

7.1.9 Sensitization of students and employees of the Institution to the constitutional obligations: values, rights, duties and responsibilities of citizens (within 500 words).

Response:

- There is a well-defined mechanism for the students and employees to follow the **code of conduct** in the University, to understand the constitutional social obligations, to understand the rights and duties of being an Indian citizen. The code of conduct document is provided through a booklet issued by the Chief Proctor of the University and a written commitment from each student is taken
- 15 days **Induction Program**, a mandatory activity of AICTE, is organized in University for the First year students where in lectures from eminent speakers in different fields are arranged. It is scheduled to be conducted during August-September of every year. The participation in all activities of this program is mandatory. The total numbers of students registered are divided into groups, with 20 students in each group. Every group is assigned a Group Code and a Faculty mentor. All the First Year B. Tech. students, hostlers as well as day scholars, are instructed to attend the activities as outlined in the 'Schedule of Activities' and ensure their attendance with the Faculty mentor of the group. The 'Schedule of Activities' to be conducted during the above period

is circulated along with the list of group of students comprising Group Code and the name of Faculty mentors. All students are advised to keep 'Schedule of Activities' with them for participation in different activities of Induction Programme and note their group code and contact the corresponding Faculty mentor

- The University also has a well-defined **code of conduct** for the employees which are laid down in the University bye-laws
- A mandatory audit course, **HHS 205-Indian Constitution** is taught in second year to all the branches. The course on constitution of India **highlights key features of Indian Constitution, like directive principles of state policy, fundamental rights and duties, election commission, judiciary, union executive and the various organs of constitution.** The course aims at providing general awareness about the Indian Constitution. The main course objectives of this course are:
 - Understand the preamble and fundamental rights
 - Understand the governance and functioning of constitutional functionaries.
 - Describe the functions of legislative bodies.
 - Decipher the judiciary system & its role in governance.
 - Develop a democratic process through electoral mechanism into system.
- On the occasion of Independence Day and Republic Day, the constitutional values, rights and duties are discussed and disseminated among students, faculty and staff members of the university.
- National Service Scheme (NSS) and National Cadet Corps (NCC) organize different awareness programs to make the students and employee aware and abide by all the law and order of the country. Also to make the aware about their fundamental rights and duties, such as casting a vote, paying government taxes and protecting the country from corruption.

(<https://hbtu.ac.in/naac/criterion7/7-1-9-proof%20Sensitization%20of%20Students.pdf>)

- Details of activities that inculcate values; necessary to render students into responsible citizens

<https://hbtu.ac.in/anti-ragging/>

<https://hbtu.ac.in/wp-content/uploads/2020/06/HBTU-Bro-compressed.pdf>

<https://hbtu.ac.in/wp-content/themes/hbtu/pdf/hbtu-act-2016.pdf>

<https://hbtu.ac.in/wp-content/uploads/2018/08/inductionprog.pdf>

7.1.10 The Institution has a prescribed code of conduct for students, teachers, administrators and other staff and conducts periodic programmes in this regard.

- 1. The Code of Conduct is displayed on the website**
- 2. There is a committee to monitor adherence to the Code of Conduct**
- 3. Institution organizes professional ethics programmes for students, teachers, administrators**

and other staff

4. Annual awareness programmes on Code of Conduct are organized

Response: A. All of the above

File Description	Document
Details of the monitoring committee composition and minutes of the committee meeting, number of programmes organized, reports on the various programs etc., in support of the claims	View Document
Code of ethics policy document	View Document
Any other relevant information	View Document

7.1.11 Institution celebrates / organizes national and international commemorative days, events and festivals (within 500 words).

Response:

India is a country of great diversity and since students are coming to HBTU from far and wide, it serves as perfect potpourri of various cultures and traditions. The national festivals like Lohri, Eid, Diwali and the birth/death anniversaries of great Indian personalities are celebrated in the University campus. Important days like Republic Day (26th January) and Independence Day (15th August) are celebrated and flag hosting is done by Vice Chancellor of University followed by the National anthem.

The birth/death anniversaries of eminent freedom fighters are also celebrated to include the feelings of national pride among the students, faculty and staff. The birth anniversary of the father of nation, Mahatma Gandhi (2nd October) is celebrated as ‘**Swachhata Diwas**’ in the campus and the NSS unit of HBTU observes cleanliness campaign in adjoining villages/slum colonies. The 31st October is celebrated as “Rastriya Ekta Diwas” as a tribute to “Sardar Vallabh Bhai Patel” on his birth anniversary. 25th December is celebrated as ‘Sushasan Diwas (Good Governance Day)’ as a mark of respect to the immensely acclaimed former prime minister “Shri Atal Bihari Vajpaiee”. Former Prime minister “Shri Rajiv Gandhi’s” birth anniversary, 20th August is also celebrated as “Sadbhawna Diwas” to pledge peace and harmony. Teachers Day is celebrated on 5th September.

World Environment Day, 5th June: The women and children present in the campus were explained about the development of the environment and keeping cleanliness in daily life and a competition was also organized for the cleanliness of the slum/house.

International yoga day, 21st June: All the students, parents and other people of the society associated with the yoga camp were inspired to adopt yoga in life through online.

National Doctor's Day, 1st July: On this occasion, cleanliness and good health, avoiding diseases, balanced diet etc. were taught to the present villagers by following the Covid rules.

World Population Day, 11th July: Making the village women aware about daughters through the seminar. We all do girl child worship in Navratras and do not want a daughter in the house, we have this

mentality that what to do by educating the daughter whereas only a female doctor is needed for the treatment of the daughter-in-law of the house. Be it two sons or daughters, adopt them happily and bring them up well and Give good manners. Under the narrow mindedness of the society, thinking that more children especially boys will be the support of their old age, we forget that the importance of love, compassion and relationships comes only from good upbringing and good manners, not the difference between son and daughter.

International Justice Day, 17th July: Information about the laws made by the government for women, as well as various schemes run by the government (exemption given to women in registry, Kanyadhan Yojana, Widow Pension, Janani Suraksha Scheme, laws related to domestic violence, rights of women on property etc.) were given.

File Description	Document
Geotagged photographs of some of the events	View Document
Any other relevant information	View Document
Annual report of the celebrations and commemorative events for the last five years	View Document

7.2 Best Practices

7.2.1 Describe two best practices successfully implemented by the Institution as per NAAC format provided in the Manual.

Response:

Best Practice-01

Title of the Practice:

Alumni Student-support for Placements, Internships, Research and Entrepreneurship [ASPIRE]

Objectives of the Practice: To develop an ecosystem which fosters better paid internship programs, enhances entrepreneurship abilities and provides better placement opportunities with the help of Alumni Student Connect Programs (ASCPs).

Context:

Kanpur is the biggest city of the state and is the main center of commercial and industrial activities. Formerly it was known as the Manchester of India. Now it is the commercial capital of Uttar Pradesh. HBTU formerly known as HBTI is an institute with more than 100 years legacy and has seen the ups and downs of the city. The university strives to revive the lost glory of the city in terms of business avenues. Each year since past 100 years, the graduates have become successful entrepreneurs and leaders

in various companies both in private and government sectors. Thousands of alumni of HBTU have been in top notch positions in all walks of life across the world and have always shown willingness to handhold the students of their alma mater. As they are equipped with adequate technology and science background to make breakthroughs, the HBTU graduates are prepared for better placements, paid internships and entrepreneurship capabilities through **Alumni student connect programs, a voluntary program run by the Alumni association of the University**. Alumni Student Connect Program started taking shape when a 30 members group was selected to start this program. The Rajiv Agha Memorial Hall in Alumni Office is regularly used by the students for their Quiz, Group Discussions, placement interviews, etc. Under ASCPs, following programs exist for better placements, innovations and internships of students:

- **Buddy Programs**

By working alumnus with working experience of 05 to 30 years for HBTU students with the aim of frequent and need based professional guidance on voluntary basis as per prevailing needs of the profession in industry and around.

- **Mentorship Programs**

By senior working alumnus in leadership role with good working experience for the students of HBTU, with the aim of mentoring the students from remote locations.

- **Vocational Projects**

Short-term project opportunities through alumni-students relationships where working alumni can get their elementary work done through students in campus on voluntary basis and in return students get handsome experience and better curriculum vitae (CV).

- **Guest Lectures**

Voluntary guest lectures by eminent alumni in leadership role is conducted in campus/ off campus for knowledge sharing and hands on industry exposure.

- **Scholarships**

Many prominent alumni offer good scholarships to meritorious students (topper students of B.Tech./ M.Tech.) in order to motivate them to flair well in academics and subsequently in various research activities.

The Practice:

We start by segmenting alumni according to their knowledge, talent or co-creation capacity. The following areas are identified for segmentation as well as mapping for the ASCP:

- Alumni in Administrative roles (**Mentorship Programs / Guest Lectures**)
- Alumni associated with Fortune 500 companies (**Buddy Programs/ Guest Lectures**)
- Alumni associated with Maharatna/ Navaratna PSUs (**Buddy Programs/ Guest Lectures**)
- Alumni as Entrepreneurs/Consultants (**Vocational Projects/ Guest Lectures**)
- Alumni as Women leaders (**Mentorship Programs/ Guest Lectures**)

- Alumni also encourage the students by providing merit cum means scholarships

Regular meet-ups, contests, Hackathons etc. are organized as a part of Alumni student connect programs to encourage students for sustained interaction with the alumni.

Success Stories

An app “HBTI Alumni Connect” Application was developed for the students and alumni of HBTU Kanpur. The App enables the HBTU students and alumni to keep connected with each other through messages and mails. User will also get updates about recent activities. Using this app you can get access to the following features:

- Latest announcements
- Jobs openings
- News and events at and of HBTU, Kanpur
- Communication via messages and emails amongst the registered members
- Search nearby alumni

A few success stories are enumerated below. The detailed report is available as the supporting document.

- Mr. Alok Gupta, Senior Electrical Engineer, Houston, Texas, an alumni of HBTI gave a talk to develop solutions for the oil and gas platforms in September 2018.
- Dr. Vipin Shukla, 1994 ME, HBTI and Secretary, IIT Delhi Alumni Association and Dr. Apoorva Ranjan Sharma, 1994 EE ,HBTI, Cofounder & President of Venture Catalysts have made efforts to start an initiative called 'Global Innovation and Angel Network (GIAN)'. This initiative is committed to create a global startup platform of highest standards and build a startup ecosystem.
- TED is an annual event that brings together the world's leading thinkers and doers to share ideas that matter in any discipline, technology, entertainment, design, science, humanities, business, development. In the spirit of "ideas worth spreading," TED has created TEDx, a program of local, self-organized events that bring people together to share a TED-like experience. Our alumni participated in the event on January, 2019 and motivated the current students with their experiences.
- Mr. Anjanay and Mr, Harsh Yadav of 2nd year won the Megabuck competition at IIT Kanpur organized by TiE Kanpur
- AEROCLUB: was established by alumni CEO of Venture Catalysts Mr. Apoorva Ranjan Sharma in April 2019, he provided support in form of five drone kits to Aeroclub, MED, HBTU, Kanpur
- More innovations came to life with electricity being generated from heat and breakthrough research in soaps and paints in May 2019.
- HBTU got a project for reducing Ganga pollution in January 2020. This helped the students foster skills in this domain.
- Smart Fan Designed by our student gets nod for production in February 2020.
- AKS IT Services is founded by Shri. A.K.Saxena (1976). They have designed, developed and commercialized indigenous Artificial Intelligence-based on premise. Their product development is financially supported by Govt of India , They have been declared winner of National Technology Award2020 (MSME Category) by Govt. of India for commercializing Innovating Cyber Technology.
- Harcourtian powers KNHPI's effort to develop paint from cow dung: Kumarappa National Handmade Paper Institute (KNHPI), has developed low-cost distemper and emulsion from cow

Shri Vivek Saxena (PaintTechnology 1988) was associated with this initiative as Technical Consultant to KNHPI. Mr. Nitin Gadkari Minister of Road Transport & Highways and MSME has issued a Letter of Commendation congratulating and complimenting him for his exemplary work and technical support

- SMART INDIA HACKATHON (SIH) 2020 : Smart India Hackathon (SIH) is a national initiative launched by AICTE and MHRD aimed at providing students with a platform to solve some of the pressing problems we face in our daily lives, and to inculcate a culture of product innovation and problem-solving mentality. 02 teams got selected both the teams came up with incredible ideas, focused on the problem of stray cattle in India and a tool to recover Flash memory data. The Team 'FLASH_UNVEILED' of HBTU won the Smart India Hackathon-2020 conducted by the Government of India under Ministry of Human Resources and Development. They won a trophy and a cash prize of ₹100,000/- .
- Thiagrajar College of Engineering (TCE) and HBTU have collaborated towards organizing a Hackathon. The Problem Statement for the Hackathon was Waste Management for Urban Environment. Around 30 teams brought their ideas and 15 had to be selected for going to compete at TCE, Madurai. Our students won prizes in the TCE-HBTU Hackathon 2020.

Outcomes:

1. Better placements (upto 80% are placed in different companies, about 5% opt for higher studies from reputed institutions in India and abroad, about 5% prepare for civil services and the remaining students opt for innovations and start ups) of students with maximum salary of 46 lakhs. (List)
2. Paid Internships: About 200 students get paid Internships every year, with stipend ranging from 10,000/- to 1,00,000/- (List)
3. Many students got selected in UPSC (List)
4. Many students have become entrepreneurs and have become job providers. To name a few, the following companies are established by HBTU alumni:
 - Kamdhenu Steels has 20000 employees.
 - India mart has over 4100 employees.
 - Arvind Footwear has 4000 employees.
 - Kloudrac has 200 employees.
 - K.Tech. India Pvt. Ltd. has 200 employees.
 - A R Thermosets Pvt. Ltd. has 300 employees.

Many such companies are established by HBTU alumnus.

Problem Encountered and Resources Required:

No problems have been encountered in the implementation

Best Practice-02

Title of the Practice: Social Activities for Women Empowerment in Rural Areas [SAWERA]

Objectives of the Practice:

1. **To encourage our students' sense of social responsibility catering to women empowerment in rural areas.**
2. **To raise students' awareness of the social divides that currently exist in terms of gender, income, health, education, and nutrition in rural women.**
3. **To cultivate in young people a sense of empathy and compassion for the needs of the socially and economically disadvantaged, especially women.**
4. **To instill a sense of environmental responsibility in the students so that they can promote the same in rural areas by educating rural women.**

Context:

Our motherland is a land of enormous diversity wherein majority of the population is belonging to the rural background (approximately 64.61% - according to World Bank/ tradingeconomics.com). Moreover, the state of Uttar Pradesh is ahead of the national average with 77.73% of its population in villages. The majority of students of Harcourt Butler Technical University, Kanpur (HBTU, Kanpur) are from rural background with a strong affinity and motivation towards the social causes and problems at their native places. Many students taking admission at HBTU, Kanpur from rural backgrounds are well aware of the issues being faced by women folks in rural India especially in terms of gender inequalities, poor health and hygiene, malnutrition, education, lack of awareness about the rights given by Government to rural women etc. Over the recent past such students discuss their ordeal to the faculty members/ University officials and as a result the University through National Service Schemes (NSS) and establishment of **Women's Study Center (WSC) is committed to actively participate through various activities in raising the overall standard of girls/ women in rural areas.**

The lives of women in rural areas are marked by social inequalities and lack of opportunities, whether it be a lack of opportunity for a sustainable livelihood or for education, or a lack of access to health care and good hygiene. Education is the only medium that can eliminate these inequalities.

Top premium University like HBTU, Kanpur which has a wonderful history and legacy of over 100 years is fully aware that India's educational system can minimize the above mentioned gaps and is also deeply committed to raise awareness among the nation's youth (our students) to cultivate a sense of empathy and compassion for the needs of the socially disadvantaged women. In order to inspire girls and women to pursue education, good health, self-respect, and economic independence, HBTU established the **WSC**. Women should be encouraged to use modern technological resources, and their trust should be earned by developing close relationships with isolated rural women and educating them about the social inequalities that still exist today against women.

The Practice:

To achieve the above objective a large number of programs under the aegis of WSC are organized by the University approximately every month. The subject matter of the program is as follows:

- The students, teachers, officers and staff of the University organize various programs, lectures, sports competitions etc. to promote the overall personality development of the villagers, slum dwellers
- In this series, the Women's Study Center provides education to rural women for their empowerment, general health issues, nutrition, food, hygiene etc.
- Awareness is created among rural women about Central/State Government schemes, skill

development practices that provide employment, scientific approach information is provided

- Along with this, to establish the spirit of patriotism, various programs are organized on national days, such as run for freedom, run for unity, run for peace, street plays (on various social topics like: gender equality, women safety, women education, evil practices against women like dowry, women feticide, child marriage, right to vote etc.), debates, lectures etc
- To develop the overall personality of HBTU stakeholders – students, teachers, officers, employees, alumni and parents in order to create awareness problems faced in rural India along with emphasis among the villagers on self-defense, health related issues and for employment opportunities
- The University has been associated with the National Service Schemes, NSS for a long time, with the aim of engaging our students in the service of the poor, downtrodden and rural people so that the students can be aware of their problems. Students are likely to do social service work in their future life. The said work also helps in developing important qualities like compassion, spirit of co-operation, managerial skills etc. in the students. In this direction, students visit villages for cleanliness, poor students are helped by coaching in their studies. In this series, the university has adopted three villages, whose names are as follows: Village Barhat Bangar, Block Kalyanpur, Kanpur., Tatyaganj, Block Chaubepur, Kanpur., Maharajpur, Block Chaubepur, Kanpur

Thus, NSS and Women's Study Center, HBTU, Kanpur is constantly trying to fight problems and empower rural women and adult girls by organizing various programs

Evidence of Success:

Brief list of programs organized by Women's Study Centre, Harcourt Butler Technical University, Kanpur and their outcomes are as follows:

SNo. No.	Program	Date	Place	
1.	World Environment Day	June 05, 2021	Tatyaganj and Maharajpur	
2.	World Day Against Child Labour	June 12, 2021	Barhat Bangar	
3.	International Yoga Day	June 17-21, 2021	Gymnasium located in the west courtyard	
4.	National Doctor's Day	July 01, 2021	Barhat Bangar, Block Kalyanpur	
5.	World Population Day	July 11, 2021	Keshavpuram, Development No.-01, Kalyanpur	Housi
6.	International Justice Day	July 17, 2021	Online	

7.	National Friendship Day	August 01, 2021	Gram Panchayat Gadatha	
8.	International Youth Day	August 12, 2021	Village Tatiaganj	
9..	Visit of Women Pradhans of Kalyanpur and Chaubepur Blocks	August 25, 2021	administrative offices of Kanpur city like District Court / Family Court, District Officer's Office, Tehsil Sadar, District Jail, Women Police Station, Office of the Chief Medical Officer, Urs Hospital/Dufferin Hospital (Maternity Center) were visited	
10.	Literacy Day	September 08, 2021	Nagar Nigam Inter Nawabganj Kanpur	Colleg
11.	International Old Age Day	October 01, 2021	Barhat Bangar of Kalyanpur block	
12.	Gandhi Jayanti	October 02, 2021	Radhakrishnan Auditorium,	HBTU

13.	International Girl Child Day	October 11, 2021	Radhakrishnan Auditorium,	HBTU
14.	Children's Day	November 14, 2021	Bal Bhavan Phulbagh, Nagar	Kanpur
15..	National Pollution Prevention Day	December 02, 2021	Kalyanpur block of Kanpur city	
16.	Energy Conservation Day	December 14, 2021	Colonelganj GIC Sub Station	
17.	Farmer's Day	December 14, 2021	village Garhwa Ramaipur blo Bidhanu	
18..	International Family Day	January 01, 2022	Kalyanpur block of Kanpur city	
19.	Birth Anniversary of Smt. Sarojini Naidu	February 13, 2022	Online	
20.	National Science Day	February 28, 2022	Radhakrishnan Auditorium, Kanpur	HBTU
21.	International Women's Day	March 08, 2022	Radhakrishnan Auditorium,	HBTU

Outcomes: The SAWERA practice has been helping rural women by providing them with access to information, resources, and support that they may not otherwise have. These activities include education and training programs, health clinics and services, and community development initiatives. They have helped rural women to improve their economic status, gain new skills, and become more involved in their communities. Additionally, these activities have helped to break down social barriers and stereotypes, and provide a sense of empowerment for rural women. After understanding the problems and challenges faced by women/girls, a book "Aadarsh Naari" has been recently published to inspire rural women to excel in all aspects of life. This book comprises of activities conducted by WSC and its benefits. It was recently launched by Hon'ble Chancellor of the University.

Problem Encountered and Resources Required:

There are no problems encountered in the task as all the involved stakeholders show keen interest in the same.

File Description	Document
Best practices in the Institutional web site	View Document
Any other relevant information	View Document

7.3 Institutional Distinctiveness

7.3.1 Portray the performance of the Institution in one area distinctive to its priority and thrust within 1000 words

Response:

University offers distinctive study programs with its priority and thrust in imparting high quality education in Chemical Technology branches.

Harcourt Butler Technical University (HBTU), Kanpur erstwhile Harcourt Butler Technical Institute (HBTI), Kanpur which is renowned and oldest in Uttar Pradesh established in 1921 to promote high quality technical education by Governor of United Provinces. This institute is respected nationally and globally for having sixteen branches including **Chemical Technology branches namely Oil Technology, Chemical Engineering, Plastic Technology, Paint Technology, Food Technology, Bio-chemical Engineering and Leather Technology.**

The contributions of HBTU, Kanpur in these areas are:

The School of Chemical Technology (SoCT) produced more than 15,000 graduates in these programmes which caters to the industry and top level management human resource demands at national and international level

- SoCT researchers and academicians of these branches are contributing in novel research outcomes for national welfare.
- SoCT has worked on projects/ technologies based on industrial/ social problems and has given optimized solutions
- These branches encouraged the creation of small scale industries and inculcating a feeling among technocrats to be job providers not job seekers

Presently, SoCT is offering undergraduate and post graduate programmes in seven branches including Chemical Engineering as follows:

Oil Technology: The oldest department of HBTU, established in 1921. Around 1200 graduates & 50 Ph.Ds. have been produced till date. The department maintains a close liaison with other National, International institutions and industries for several research and development projects.

Some Alumni from various sectors are:

1. Mr. Dinesh Sahara, MD, M/s Ruchi Soya Industries, Mumbai
2. Mr. D. Mathur, MD, M/s Fare Labs, Gurugram
3. Mr. Javed Hussian, MD, M/s MuezHest, Mumbai
4. Mr. Ashwani Sharma, MD, M/s Pegasus Technologies, New Delhi

Chemical Engineering: The Department was established in 1954. Constant efforts are being made to accelerate the high standards and provide the students comprehensive facilities and favorable environment for dynamic work.

Some Alumni from various sectors are:

1. Prof. K. K. Pant, Director IIT Roorkee
2. Shri Rajendra Kumar Jalan Vice Chairman-Council for Leather Exports
Director M/s. AFPL Global Pvt. Ltd
3. Prof. S K Awasthi, Ex. Director, BIET, Jhansi & HBTI
4. Prof. P.K. Bhattacharya, Ex. Director, Rajiv Gandhi Institute of Petroleum Technology

Plastic Technology: It was established in 1964. Around 500 graduates & 75 Ph.Ds. have been produced till date. The department provides academicians and researches with facilities and favorable environment for dynamic work.

Some Alumni from various sectors are:

1. Dr. Pradeep Agarwal CEO and Managing Director at Ark Golden India Pvt. Ltd., Vadodara, Gujarat, India
2. Sarvesh Gupta, Director at Inno Color & Compounds Pvt. Ltd., Noida, Uttar Pradesh, India

Paint Technology: This degree was started in 1964. Initially, it was joined with Oil Technology Department, status of university changed to new Paint Technology Department on 9th January 2017.

Some Alumni from various sectors are:

1. Mr. G. B. Singh, MD, Anupam Chemical Industries Pvt. Ltd. Mumbai
2. Dr. Shubhash Chandra Srivastava, MD, K-TECH (INDIA) LIMITED and President-PACT
3. Mr. Rajeev Goel, VP-Asian Paints Ltd.
4. Er. Shilendra Kumar, Dy. Director, DRDO Kanpur

Food Technology: Department was established in 1964. It has well equipped and modern laboratories that meet the necessities of students. Association of Food Scientists and Technologists (India) Kanpur chapter is also working in the Department.

Some Alumni from various sectors are:

1. Mr. P.K.Srivastava, Amul Dairy, Deputy Manager
2. Mr. Alok Mani Misra, Banas Dairy (AMUL), Lucknow
3. Mr. Ashish Verma, Cargill India Pvt LTD, National Head Pharma
4. Mr. Navin Singhal, De-United Foods, Nigeria

Bio-chemical Engineering: The Department became autonomous in September 2016. Earlier, the department was twinned with Food Technology Department (1964). It has been granted various projects with financial assistance approved by reputed organizations for example CST, DBT, and World Bank. (TEQIP– I, II, III)

Some Alumni from various sectors are:

1. Dr. Raj Sachdev, Scientist & Cofounder IMMUGENE USA
2. Mr. A.V.N. Swami, Emeritus Professor & Head J.N.T.U, Hyderabad
3. Dr. Aroop Kumar Dutta, Director, ExCel Matrix Biological Devices P Ltd. Hyderabad
4. Prof. (Dr.) Shubhash Chand, Formerly Prof. & Head BEBT Deptt. IIT Delhi

Leather Technology: The Department was established in 1978. Kanpur is the only place in Northern India imparting Under Graduate courses in Leather Technology. Every year the final year topper receives Gold Medal from **Indian Leather Technologist Association, Kolkata.**

Some Alumni from various sectors are:

1. Dr. Sanjeev Kumar Gupta, CLRI, CSIR
2. Mr S. K. Misra, CLRI, CSIR
3. Mr. Alok Agarwal, Leer Cooperation
4. Mr. A. K. Rai, Prachi Leathers

Details of Industry Interaction, Placements & other Activities:

Sl. No.	Company Name
1	DCM
2	EXXON
3	SRF
4	FLIPKART

5	EVALUESERVE
6	VERROC GROUP
7	KRIBHCO
8	JUBILANT INGRAVIA
9	INFOSYS
10	UNITED BRAWERIES
11	RELIANCE
12	PI INDUSTRIES
13	AARTI INDUSTRIES
14	SAMSUNG ENGINEERING
15	SUEZ WATER TECHNOLOGIES(PPO)
16	EXXONMOBIL (PPO)
17	TCS NINJA
18	HUL
19	ZS ASSOCIATES
20	DCM SHRIRAM, BHARUCH
21	EXXONMOBIL
22	COGNIZANT
23	EVALUESERVE
24	YARA FERTILIZERS
25	MARUTI SUZUKI INDIA LTD.
26	GAIL
27	JK PAPER
28	ASIAN PAINTS
29	INDIGO PAINTS
30	ADITYA BIRLA GROUP
31	CENTURY PULP AND PAPER
32	BHARAT OMAN REFINERIES LTD(BORL)
33	JSW PAINTS
34	RELY PAINTS
35	ORIENTAL CARBON & CHEMICALS LTD.
36	TECHNIP FMC
37	VA TECH WABAG
38	JOHNSON MATTHEY
39	BERGER PAINTS (TSOT)
40	BIRLA CARBON

41	COROMANDEL INTERNATIONAL LTD
42	KBR POLYCHEM
43	SRF
44	HINDALCO INDUSTRIES
45	THERMAX LTD
46	BORL
47	TATA LEATHERS
48	CHAMBAL FERTILISERS
49	EMAMI AGROTECH
50	CREMICA FOOD INDUSTRIES LTD

Comparison of Chemical Technology branches in India/Abroad:

HBTU is one of the oldest reputed institutes in the country having seven Chemical Technology branches together.

India	Abroad
<ol style="list-style-type: none"> 1. In India we compare with Institute of Chemical Technology Mumbai, which has five Chemical Technology branches. 2. MIT-WPU Pune has three Chemical Technology branches together. 	<ol style="list-style-type: none"> 1. Outside India, we can compare with Imperial College London, UK which has five Chemical Technology branches together. 2. Also, University of Delaware, US, has three Chemical Technology branches together.
No other institute in India having seven branches together.	

File Description	Document
Any other relevant information	View Document
Appropriate web in the Institutional website	View Document

5. CONCLUSION

Additional Information :

Among the magnificent structure of the “Shatabadi Bhavan” and “Shatabadi Stambh” commemorating the “Eternal Legacy” of excellence in Technical Education, Harcourt Butler Technical University, Kanpur (HBTU, Kanpur) celebrated its 100 years of establishment on 25th November, 2021 in the benign presence of Hon’ble President of India along with Hon’ble Chancellor and Governor of Uttar Pradesh, Hon’ble Minister, Technical Education wherein, the University released the Coffee table book & history book, Grounding of Time Capsule in Shatabdi Stambh (approximately 10 m below the ground level), Shatabdi postage stamp and Shatabdi coin etc.

Since coming into force as a University in the year 2016, this institution has been striving for quality automation at various levels, for establishment of necessary infrastructure, infrastructural facilities and resources. From Academic Session 2021-2022, M.Sc. course in Mathematics and MBA course in Humanities department has been started by the University. For the purpose of promoting research by the university, it has also been decided to give research assistance amount of Rs. 15,000/- per month to each regular research scholar this year. The University organized more than 100 online workshops, training programs, and seminars, teacher development programs for students, staff and teachers by various departments/sections of the University in the centenary year. Under infrastructural development many construction works were completed namely, Chemical Engineering Department building, Women's Hostel, Vice-Chancellor's residence etc. giving impetus to the academic and research activities of the University. In 2020-21 reputed research papers have been published by the teachers of the University in national and international level journals, books & book chapters, conference publications, patents, funded research projects etc., which reflect the strong position of research and development in the University. In the year 2020-21, appointments have been completed in Civil Engineering and Electronics Department and the selected teachers joined the University. The interviews for all other departments have also completed from May 5-15, 2022 and a total of 44 new faculty have joined the University. With the arrival of new teachers, there will be progress in teaching and research in the University with new energy. University has remarkable placement statistics with good employment package.

Concluding Remarks :

The University, since inception (2016), is sowing the seeds of curiosity, experimentation, skill and innovation in its graduates to make the country a knowledge super power as per the target of the National Education Policy-2020 (NEP-2020). From Academic Session, 2022-2023, as per NEP-2020, University has implemented the system of major and minor degree, more choices and multiple exits along with the introduction of a large bucket of elective courses which can also be done through online platforms. An application was submitted by the University to UGC, New Delhi to get the status of 12B. Accordingly, the Expert Committee of UGC visited the University on April 25-26, 2022 and recommended to grant 12B status to the University. Accordingly, a letter has been received by the University from UGC stating that the University will get status of 12B automatically along with NAAC (National Assessment and Accreditation Council) accreditation. The Expert Committee of the National Board of Accreditation (NBA) had visited the University on 6th August, 2022. Thereafter, accreditation has been granted to 07 programmes of the University for 03 years (till 30/06/2025). With the intention of ensuring excellence in education and research as per the national standards, preparations were started from September 2021 by the University to obtain grading from NAAC as per the expectation of Honorable Chancellor, U.P. In the last 01 year, as a result of many reviews and guidance of

Honorable Chancellor Madam, the IIQA was submitted by the University on 20.11.2022 and after few clarifications, was accepted on 10.12.2022, following which the 45 days window for Self Study Report (SSR) submission has opened and the University is in the process of SSR submission on the NAAC online portal. From the current session M.Sc. in “Chemical Science” by Chemistry Department and B.B.A. programmes in Humanities Department have been started. The recruitment process of 44 teachers in the University has been successfully completed and all the faculties have joined the University in the month of June, 2022 onwards. With the arrival of new teachers, progress in teaching and research is inevitable.