

ORDINANCES

For

MASTER OF SCIENCES (Session 2021-22)



**HARCOURT BUTLER TECHNICAL UNIVERSITY
KANPUR-208002 (UP) – INDIA**

First Ordinances

In pursuance of the provisions of Section 45 (1-3) of the Uttar Pradesh Harcourt Butler Technical University, Kanpur Act, 2016, these are the first Ordinances of Master of Sciences (M.Sc.) programmes for Harcourt Butler Technical University, Kanpur:

1. INTRODUCTION

Short Title, Commencement and Definitions

These Ordinances shall be called the First Ordinances, 2021 of M.Sc. programmes of Harcourt Butler Technical University, Kanpur.

They shall come into force from session 2021-22.

Anything contained in Ordinances in violation to provisions of Act shall be void, and the provisions of Act shall prevail.

In these Ordinances, unless the context otherwise requires,

- a) “Act” means the Uttar Pradesh Harcourt Butler Technical University Act, 2016 as amended from time to time.
- b) “Section” means a section of the Act.
- c) “Clause” means a clause of the Ordinances.
- d) “University” means the Harcourt Butler Technical University, Kanpur.

Words and expression used herein but not defined in the Act shall have the same meaning as assigned to them in the Act.

The admission of students, eligibility to various courses of study, qualifications, attendance, registration, course structure, grading system, award of degrees, certificates, medals and other academic distinctions are covered in these Ordinances.

- a) The “University” may start other Degree, Diploma, Certificate programmes and other academic distinctions as deemed necessary for fulfilling its objectives. The Ordinances for the same shall be as prescribed by the Academic Council and the Executive Council.
- b) The “Courses of Study” shall be as prescribed by the Academic Council and approved by the Executive Council.

Fellowships and Awards shall be instituted as per the requirements with approval of the Vice Chancellor under intimation to the Academic Council and the Executive Council.

2. ORDINANCES FOR M.Sc. PROGRAMMES

ADMISSIONS

University offers full time Master of Sciences (M.Sc.) Degree Programmes.

ADMISSION PROCEDURE

- 2.1** Admission to M.Sc. first year in Semester I shall be through the IIT JAM score. No written test shall be conducted for the JAM qualified candidates for their admission.
- 2.2** In the absences of candidates with valid JAM score, candidates without valid JAM score may be admitted on the basis of written test carried by the University.
- 2.3** The Academic Council of the University has the power to repeal or modify the eligibility criteria for admissions.
- 2.4** The reservation policy as prescribed by U.P. State Government or its directions from time to time shall be adhered to by the University.
- 2.5** Admission on migration of a candidate from any other University to Harcourt Butler Technical University is not permitted.
- 2.6** If at any time after admission, it is found that a candidate has not fulfilled all the requirements stipulated in the offer of admission or has resorted to some fraudulent means to obtain admission; the University reserves the right to cancel the admission of the candidate.

ELIGIBILITY

Qualifications for admission to M.Sc. programmes shall be as per the provisions of these Ordinances and decisions of the Academic Council / Admission Committee of the University.

(a) Minimum Eligibility Criteria:

Department	Program / Specialization	Intake	Qualifying Degree	Minimum marks	
				GEN	SC/ST/OBC/PwD
Physics	M.Sc. (Physics & Optoelectronics)	30	A bachelor's degree (at least 10+2+3) with Physics as a major/honours subject and Mathematics as one of the other subjects with : OR A bachelor's degree (at least 10+2+3) with Physics as a subject for at least two years / four semesters and mathematics for at least one year/ two semesters with:	a minimum of 55% marks or 6.0 CPI / CGPI in a scale of 10 in major/ honours subject without rounding off OR a minimum of 60% marks or 6.5 CPI / CGPI in a scale of 10, in aggregate, without rounding off.	a minimum of 50% marks or 5.5 CPI / CGPI in a scale of 10 in major/ honours subject without rounding off OR a minimum of 55% marks or 6.0 CPI / CGPI in a scale of 10, in aggregate, without rounding off.
Chemistry	M.Sc. (Chemical Sciences)	30	A bachelor's degree (at least 10+2+3) with Chemistry as a major/ honours subject with : OR A bachelor's degree (at least 10+2+3) with Chemistry as a subject for three years/ six semesters with :	a minimum of 55% marks or 6.0 CPI / CGPI in a scale of 10 in major/ honours subject without rounding off OR a minimum of 60% marks or 6.5 CPI / CGPI in a scale of 10, in aggregate, without rounding off.	a minimum of 50% marks or 5.5 CPI / CGPI in a scale of 10 in major/ honours subject without rounding off OR a minimum of 55% marks or 6.0 CPI / CGPI in a scale of 10, in aggregate, without rounding off.
Mathematics	M.Sc. (Mathematics and Data Science)	30	A bachelor's degree (at least 10+2+3) with major/ honours in Mathematics with: OR A bachelor's degree* (10+2+3) with Mathematics as a subject for two years / 4 semesters with (*including major/honours in Computer Science/Statistics / Information Technology)	a minimum of 55% marks or 6.0 CPI / CGPI in a scale of 10 in major/ honours subject without rounding off OR a minimum of 60% marks or 6.5 CPI / CGPI in a scale of 10, in aggregate, without rounding off.	a minimum of 50% marks or 5.5 CPI / CGPI in a scale of 10 in major/ honours subject without rounding off OR a minimum of 55% marks or 6.0 CPI / CGPI in a scale of 10, in aggregate, without rounding off.

- (b)** Candidates appearing for the final degree examination can also apply. Such candidates, if selected, will be admitted provisionally. They have to complete all the requirements of the qualifying degree at the time of joining the course.

Specific details regarding eligibility criteria for admission to M.Sc. Programmes shall be as prescribed by the University from time to time.

3. PROGRAMMES DURATION

The duration of the M.Sc. programmes shall be two academic years (four semesters).

Each semester shall have a minimum of 90 working days (including the days of examinations) or as prescribed by AICTE / UGC from time to time.

There are two regular semesters in an academic year. The semester that begins in July (July to November / December) is known as the Odd Semester and the semester that begins in December / January (December / January to May) is known as the Even Semester.

Maximum time allowed for completion of the programmes shall be four years. If a student is unable to complete the course in stipulated maximum duration, his / her admission may be cancelled

4. ATTENDANCE

4.1 Students are required to attend all the classes - lectures, tutorials, practicals and other prescribed curricular and co-curricular activities. However, a condonation of 25 per cent in attendance in a subject may be granted in normal course during the semester.

4.2 A further relaxation of 15 percent can be granted by the Vice Chancellor on specific recommendations of the concerned Head of the Department and Dean of School, provided that the student has been absent on medical grounds and / or due to any exigencies beyond the control of the student. However, such absence will require prior permission from the concerned Head of the Department and the Dean of School. In case of medical exigencies, the student is required to report immediately after the medical fitness issued by the hospital.

4.3 No student shall be allowed to appear in the Mid Semester / End Semester Examination of a subject, if he / she does not have requisite 75 percent (or requisite 60% after availing relaxation as per the provisions of **Clause 4.2**) in that subject. Students not allowed to appear in the examination due to poor attendance shall be awarded "U" grade. Such candidates shall have to fulfill the eligibility of minimum attendance by registering afresh in that subject in subsequent years to clear the subject.

4.4 Attendance shall be counted from the date of start of academic session or the actual date of admission / registration. The commencement of classes shall begin one day after the date of registration.

5. (A) CURRICULUM STRUCTURE

The University follows a Credit Based Evaluation System. M.Sc. programmes will have a specific curriculum for all semesters (semester I to semester IV) consisting of theory, practical

and industrial project work, etc., as given in Table 1.

Table 1: Courses, Credits and Disciplines

S.N.	Discipline	Minimum Credits
1.	Programmes Core Courses (PCC)	44
2.	Programmes Elective Courses (PEC)	08
3.	Engineering Sciences Courses (ESC)	16
4.	Internship /Seminar Course (ISC)	02
5.	Project	10
	Total Credits	80

Each course is assigned a credits weightage depending upon the academic work load for a subject per week. One hour lecture / tutorial is equivalent to one credit while 2-3 hours practical work is equivalent to one credit. The curriculum for M.Sc. programmes of study has a total academic work load of 80 credits.

(B) SEMESTER WISE COURSE STRUCTURE & EVALUATION SCHEME

MASTER OF SCIENCES

(SCHOOL OF BASIC AND APPLIED SCIENCES)

SEMESTER I

Sr. No.	Course Type	Subject Code	Course Title	Credits	L-T-P	Sessional Marks				ESM	Total Marks
						MSE	TA	Lab	Total		
1.	PCC			4	3-1-0	30	20		50	50	100
2.	PCC			4	3-0-2	15	20	15	50	50	100
3.	PCC			4	3-0-2	15	20	15	50	50	100
4.	PCC			4	3-0-2	15	20	15	50	50	100
5.	ESC			4	3-0-2	15	20	15	50	50	100
Total Credits				20							

SEMESTER II

Sr. No.	Course Type	Subject Code	Course Title	Credits	L-T-P	Sessional Marks				ESM	Total Marks
						MSE	TA	Lab	Total		
1.	PCC			4	3-1-0	30	20		50	50	100
2.	PCC			4	3-1-0	30	20		50	50	100
3.	ESC			4	3-0-2	15	20	15	50	50	100
4.	PCC			4	3-0-2	15	20	15	50	50	100
5.	PCC			4	3-0-2	15	20	15	50	50	100
Total Credits				20							

SEMESTER III

Sr. No.	Course Type	Subject Code	Course Title	Credits	L-T-P	Sessional Marks				ESM	Total Marks
						MSE	TA	Lab	Total		
1.	PCC			4	3-1-0	30	20		50	50	100
2.	PCC			4	3-1-0	30	20		50	50	100
3.	ESC			4	3-0-2	15	20	15	50	50	100
4.	ISC			2	0-0-4	-	50	-	50	50	100
5.	PEC			4	3-0-2	15	20	15	50	50	100
6.	PCC		Project	2	0-0-4	-	50	-	50	50	100
Total Credits				20							

SEMESTER IV

Sr. No.	Course Type	Subject Code	Course Title	Credits	L-T-P	Sessional Marks				ESM	Total Marks
						MSE	TA	Lab	Total		
1.	PCC			4	3-1-0	30	20		50	50	100
2.	ESC			4	3-0-2	15	20	15	50	50	100
3.	PEC			4	3-0-2	15	20	15	50	50	100
4.	PCC		Capstone Project	8	0-0-16	-	50	-	50	50	100
Total Credits				20							

6. GRADING SYSTEM AND EVALUATION SCHEME

Grading System

Students are evaluated of a maximum of 100 marks in each subject. On the basis of marks obtained by the student in the subject, grades shall be awarded as per the Grading Scheme presented in Table 2. On the basis of performance of the student in all the subjects offered during the Semester, Semester Grade Point Average (SGPA) is calculated.

Table 2: Grading System

Marks (in percentage)	Grades	Grade Points	Description
90 and above	A+	10	Outstanding
80 and above	A	9	Excellent
70 and above	B+	8	Good
60 and above	B	7	Average
50 and above	P	6	Pass
Less than 50	F	0	Fail
	W	-	Withdrawn
	U	-	Short Attendance
	I	-	Incomplete
	S	-	Satisfactory in USAC Activities

Evaluation Scheme

The evaluation of performance shall comprise of continuous assessment throughout the Semester in the Mid Semester Examinations, End Semester Examinations and Teachers' Assessment through class work and tutorials. Evaluation scheme is presented in Table 3 for different type of courses.

Irrespective to marks/grade obtained by the student in a particular subject, it mandatory to secure 50% marks in total (sessional and end semester examination) to pass that particular subject. Out of which minimum 30% (15 marks) in theory subject in end semester is essential "I" grade shall be given to the students who leaves the course midway during the semester. "W" grade shall be given to the students who withdraw from a course during the semester. Students not allowed to appear in the examinations due to poor attendance shall be awarded "U" grade.

Calculation of SGPA and CGPA

The performance of a student shall be evaluated in terms of two indices: the Semester Grade Point Average (SGPA) which is Grade Point Average for a semester and Cumulative Grade Point Average (CGPA) is the Grade Point Average for all the completed semesters.

Semester Grade Point Average (SGPA)

$$\text{SGPA} = \frac{\sum (\text{Credit weight of a subject} \times \text{Grade point earned in the subject})}{\text{Total credits offered during Semester}}$$

Yearly Grade Point Average (YGPA)

$$\text{YGPA} = \frac{(\text{SGPA of Odd Semester} \times \text{Total Credits of Odd Semester}) + (\text{SGPA of Even Semester} \times \text{Total Credits of Even Semester})}{\text{Total Credits offered during the current year (odd \& even Semester)}}$$

Cumulative Grade Point Average (CGPA)

$$\text{CGPA} = \frac{\sum (\text{SGPA} \times \text{Semester total Credits of all Semesters})}{\text{Total Credits of four Semesters}}$$

The CGPA is calculated on the basis of all passed courses in 'P or above grades' except in courses where 'S' grades in awarded.

Award of Division (CGPA)

CGPA of 7.500 or above	First Division with Honors
CGPA of 6.500 or above	First Division
Below a CGPA of 6.500	Second Division

Conversion of CGPA to Absolute Percentage

$$\text{CGPA} \times 10 = \text{Absolute Percentage}$$

Table 3: Evaluation Scheme for various Courses

S.N.	Course Title	Credits	Sessional Marks				ESM	Total Marks
			MSE	TA	Lab	Total		
1	Theory Courses	4(3-1-0)	30	20	-	50	50	100
2	Theory cum Lab Courses	4(3-0-2)	15	20	15	50	50	100
3	Project	2(0-0-4)	-	50	-	50	50	100
4	Capstone Project/ Lab	8	-	50	-	50	50	100

Make-up Examination

Students who are not able to appear in Mid Semester Examination for genuine reasons such as hospitalization or representing the University in sports / conference etc. are required to seek prior permission from their Head of Departments and Dean of the concerned school for grant of make-up examination. They may be permitted only one Make up examination. This examination will be conducted one week before the End Semester Examination and shall cover the whole syllabus till date.

7. CARRYOVER EXAMINATION

Student with “F” grade in any subject will be required to appear in the Carryover Examination in the subsequent years. However, the Sessional Marks obtained by these students will remain the same as earned in the first attempt.

8. ACADEMIC CRITERIA FOR CONTINUATION (RE-ADMISSION & EXSTUDENTSHIP)

8.1 A candidate may be allowed Re-admission provided he / she satisfies one of the following conditions:

- (a) A student must secure a minimum YGPA of 4.500 in current year in order to be promoted to the next year. If a student fails to fulfill this requirement of 4.500 YGPA, he/ she shall be considered “Fail” and have to repeat the year by taking Re-admission in the same class paying full annual fee or opting for Ex-student status as per clause 8.2.
- (b) A candidate who failed to appear in a semester examination / or he / she was not granted permission to appear in the examination.
- (c) A candidate who was detained by the University and subsequently was permitted to take Re-admission.

8.2 Students having a minimum 75% attendance (60% with medical / academic leave) in last semester shall be allowed to get registered as Ex-student with following conditions:

- (a) A candidate opting for Ex-student will be required to register by paying examination fee within 15 days from the start of new session.
- (b) A candidate opting for Ex-student shall appear in all the theory and practical subjects in

the End Semester Examination of both semesters of the academic year. However, Sessional Marks of Industrial Training, Seminar etc. shall remain the same as obtained earlier.

9. AWARD OF DIVISION, RANK AND MEDALS

A candidate who completes the course requirements for M.Sc. programmes securing “P” and above grades in all the courses in the stipulated maximum duration for the M.Sc. programmes shall be declared qualified for the award of degree subject to the fulfillment of the requirements of Clause 8.

A candidate who qualifies for the award of the degree securing “P” or above grades in all the subjects in his / her first attempt in four consecutive semesters and secures a CGPA of 7.500 or above shall be awarded FIRST DIVISION WITH HONORS.

A candidate who qualifies for the award of the degree by securing “P” or above grades in all the subjects in the stipulated maximum duration for the M.Sc. programmes and secures a CGPA of 6.500 and / or above shall be awarded FIRST DIVISION.

All other candidates who qualify for the award of degree by securing “P” or above grades in all subjects in the stipulated maximum duration for the M.Sc. programmes and secures a CGPA less than 6.500 shall be awarded SECOND DIVISION.

Following Medals shall be awarded annually by the University to the passing out students, subject to completion of his / her degree programme within stipulated two years from the date of admission without any carryover.

Vice-Chancellor’s Medal

Students securing First, Second and Third highest CGPA at the end of four semesters in M.Sc. in first attempt will be awarded Vice-Chancellor’s Gold, Silver and Bronze Medal, respectively.

10. REGISTRATION AND ENROLMENT

The students must register at the beginning of each semester on the prescribed dates announced in the Academic Calendar till she / he completes the programmes. If a student does not register in a particular semester, her / his studentship is liable to be cancelled. Any academic activity undertaken by a student without registration shall not be considered towards the fulfillment of requirements of degree.

Registration should be carried out by the student himself / herself on stipulated dates. A student is allowed registration for 10 working days including the date of registration with a fine of Rs.100 per day. Registration will not be allowed after stipulated date. In that case the students will have to register at the start of next academic session.

Every student admitted to University shall be provided a unique Roll Number. The Roll Number shall have nine digits. First two digit shall indicate the year of admission; next two the degree programmes; next two the branch of study, and last three digits the serial number of students. Every student shall be identified by this Roll Number throughout his/her stay in the University.

Students with outstanding dues to the University or hostel etc. shall be permitted to register only after clearing the outstanding dues.

In-absentia registration may be allowed only in rare cases at the discretion of the Vice Chancellor of the University in case of serious illness / natural calamities / unavoidable circumstances upon the recommendation of Dean of Academic Affairs.

Every student admitted and registered in the University shall be required to submit the Enrolment Form within one month of registration for getting enrolled with the University.

11. TEMPORARY DISCONTINUATION FOR PROMOTION TO STARTUP / ENTREPRENEURIAL ACTIVITY

This facility will be available to the students of the University to promote startup/entrepreneurial activities. Maximum period of **discontinuation shall be limited to one year for M.Sc. Programs** Such students on completion of Degree shall be allowed by the University for Campus Placement provided that she / he shall apply through the Head of Department, Dean of concerned School and Dean of Academic Affairs to the Vice Chancellor in advance and obtain a written order to this effect. Clause 3 shall be relaxed to those students who opts this facility.

12. USE OF UNFAIR MEANS

12.1 If a student is found possessing unfair means (in form of written document, mobile phone, electronic gadget like Bluetooth device, programmable calculators) or using them in the Mid Semester Examination and the material recovered is relevant to the subject / paper, his / her

entire Mid Semester Examination of all subjects of that semester will be cancelled and 'zero' marks will be awarded in Mid Semester Exams of all subjects of that Semester.

12.2 If a student is found possessing unfair means (in form of written document, mobile phone, electronic gadget like Bluetooth device, programmable calculators) or using them in the End Semester Examination and the material recovered is relevant to the subject / paper, his/her entire End Semester Examination of all subjects of that semester will be cancelled and 'zero' marks will be awarded in all the subjects of that Semester.

12.3 In addition to either of the above charges at 12.1 or 12.2, if a student is found misbehaving with the teachers / staff or creating indiscipline in the examination premises, such students will be suspended for one year.

For all other cases not covered in Clauses 12.1 to 12.3, the Chairman, Board of Examinations will recommend punishment on case to case basis and obtain approval of Vice Chancellor in accordance with the Clause 37.8 of the University Act.

13. GENERAL ELIGIBILITY FOR AWARD OF M.Sc. DEGREE

A student shall be declared eligible for award of the M.Sc. Degree if he / she has:

Registered and successfully passed with "P and above grades" in all the courses and all other requirements of the programmes as prescribed in the Ordinances or as prescribed by the University from time to time.

Has no dues to the University, Hostels, Library and USAC etc., and no disciplinary action is pending against the student.

14. STUDENT DISCIPLINE

All the students of the University shall have to abide by the discipline norms of the University and follow conduct or discipline rules / anti ragging measures in the University. In case of any act of indiscipline demonstrated by the students, the student shall be liable for punishment. On the recommendation of Proctorial Board, the punishment may include suspension for the semester, expulsion from the hostel, barring from the placement facility and / or termination from the University. The decision of the Vice Chancellor shall be final and binding.

15. POWER TO MODIFY

Notwithstanding all that has been stated above, the Academic Council of the University has the right to modify partly or completely the provisions of above Ordinances with the approval of the Executive Council. Under extreme exceptional circumstances arising out of certain inconsistency in the Ordinance or otherwise, the Vice-Chancellor can take suitable decision in deference to the laid down provisions, provided standard of evaluation is not compromised and the same shall be reported to the ensuing Academic Council/Executive Council with suitable justification. Such

actions of the Vice Chancellor shall not be treated as precedence under any circumstance.

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