



RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY

Established by Government of Central Provinces Education Department by Notification No. 513 dated the 1st of August, 1923 & presently a State University governed by Maharashtra Public Universities Act, 2016 (Mah. Act No. VI of 2017)

THE FACULTY OF SCIENCE AND TECHNOLOGY

DIRECTION NO. 38 OF 2022

ADMISSION AND EXAMINATIONS OF STUDENTS IN THE FULL TIME, SEMESTER PATTERN (CHOICE BASED CREDIT SYSTEM) PROGRAMMES LEADING TO THE AWARD OF THE DEGREE OF BACHELOR OF TECHNOLOGY (B.Tech.), DIRECTION, 2022.

Whereas, The Maharashtra Public Universities Act, 2016 (VI of 2017) has come into force from 1st March 2017;

AND

Whereas, Rashtrasant Tukadoji Maharaj Nagpur University (hereinafter "the University") is now being governed by the Maharashtra Public Universities Act, 2016 (VI of 2017) (hereinafter the Act);

AND

Whereas, the Board of Studies in Applied Science and Humanities and Ad-hoc Committee in General Engineering, in the Faculty of Science and Technology, at their meetings held on 11/12/2020 and 14/1/2021, keeping the guidelines of All India Council of Technical Education (AICTE) in mind have decided to make uniform guidelines to design new 160 credits curriculum for the Bachelor of Engineering (B.E.) and Bachelor of Technology (B.Tech.) Programmes leading to the award of degrees of Bachelor of

Engineering & Bachelor of Technology (Full time), in the Faculty of Science and Technology;

AND

Whereas, Hon'ble Vice-Chancellor in exercise of his powers under section 12(7) of the Act has on behalf of the Faculty of Science & Technology and also the Academic Council approved the structure of the Bachelor of Engineering (B.E.) and Bachelor of Technology (B.Tech.) programmes, having 160 credits and also the draft Direction in that regard, as required by the provisions of sections 35(d) and 33 (s) and (t) of the Act;

AND

Whereas, introduction of new academic programme requires making of an Ordinance as per the provisions of section 73(1) of the Act however, since Ordinance making is a time consuming process and there is urgency in introducing the new 160 credit based Full time Bachelor of Engineering and Bachelor of Technology programmes in the faculty of Science and Technology from the academic session 2020-21 a Direction by the Vice-Chancellor, as an interim measure was issued on as Direction no. 2 of 2021. The said Direction is now lapsed by virtue of provisions of the proviso to Section 12(8) of the M.P.U. Act 2016.

AND

Whereas, in the meetings of Board of Studies of various subject in the Engineering in its meeting dated 7.6.2022 have prepared and accepted the Guidelins for Honors (Major) and (Minor) for B.Tech. Programs, the said Guidelines are also accepted and approved in the meeting of the Faculty of Science and Technology on 23.06.2022 and approved by the Academic Council in its meetings dates 8.7.2022 respectively.

AND

Whereas the University has meanwhile issued a Direction no. 32/2021 regarding change of nomenclature of the erstwhile under graduate programme in Engineering,



Bachelor of Engineering (B.E.) to Bachelor of Technology (B.Tech.) the said changes are also required to be incorporated.

AND

Whereas, the issuance of an Ordinance is now therefore necessary, incorporating the new guidelines, change of nomenclature of the Degree and the provisions of the Direction no. 2/2021 so lapsed but issuance of an Ordinance is a time consuming process and there is an urgency with respect to admission and examination in the under graduate programmes of Engineering;

Now, therefore, I, **Dr. Subhash R. Chaudhari, Vice-Chancellor** of Rashtrasant Tukadoji Maharaj Nagpur University, in exercise of my powers under section 12(8) of the Act, do hereby issue the following Directions:-

1. This Direction shall be called "Admission and examinations of students in the full time, semester pattern (Choice Based Credit System) Programmes leading to the award of the Bachelor of technology (B. Tech.), Direction 2022."
2. This Direction shall come in to force from the date of its issuance.
3. This Direction shall be applicable from the academic session 2022-23 for first year of the program and progressively onwards.
4. In this Direction unless the context requires otherwise:-
 - a. "ATKT" means "Allowed to keep Term" in the higher semester, as per the rules herein.
 - b. "Board of Studies" means the Board of Studies in Applied Science and Humanities and General Engineering, in the Faculty of Science and Technology.
 - c. "Course" a unit by which the course work is measured. It determines the number of hours of instructions required per week. One credit is equivalent to one hour of teaching (lecture or tutorial) or two hours of practical work / field work per week.
 - d. "Credit" means the unit by which the course work is measured. It is measured in terms of weekly class hours assigned to a Course.



- e. **“Credit Point” (CP)** It is the product of grade point and number of credits for a course.
- f. **“Cumulative Grade Point Average (CGPA)”** It is a measure of overall cumulative performance of a student over all semesters. The CGPA is the ratio of total credit points secured by a student in various courses in all semesters and the sum of the total credits of all courses in all the semesters. It is expressed up to two decimal places.
- g. **“Degree”** means the Degrees of the Bachelor of Technology (B.Tech.) (full time) (Semester Pattern) (Choice Based Credit System).
- h. **“Letter Grade”** It is an index of the performance of the students in a said course. Grades are denoted by the letters O, A+, A, B+, B, C, P and F.
- i. **“Grade Point”** It is a numerical weight allotted to each letter grade on a 10-point scale..
- j. **“Programme”** means and includes both the Bachelor of Engineering(B.E.) and the Bachelor of Technology (B.Tech.) (Full time) (Semester Pattern) (Choice Based Credit System) programmes under this Direction **(for short the 160 credit programmes).**
- k. **“Student”** means a student admitted to the programme under this Direction.
- l. **“Semester Grade Point Average(SGPA)”** It is a measure of performance of work done in a semester. It is a ratio of total credit points secured by a student in various courses registered in a semester and the total course credits taken during that semester. It shall be expressed upto two decimal places.
- m. **“University”** means Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.

5. **Admission and eligibility to the Programmes:**

- (a) Subject to the compliance with the provisions of this Direction and other Ordinances/Directions, in force from time to time, an applicant for admission to Semester-I of the programme shall have passed 12th (Science)



examination with subjects specified in Director of Technical Education (Maharashtra)" s circulars issued from time to time

- (b) The students having Diploma in Technical Education and also the students who are B.Sc. graduates are eligible for the lateral entry in the second year of the programmes.
- (c) The minimum percentage of marks in the qualifying examination shall be as per the applicable governing rules Framed by Government of Maharashtra from time to time.
- (d) The students having Diploma of Board of Technical Education and taking lateral admission to direct B.E./B.Tech at second year level are not required to appear for any subjects of the first year of B.E./B.Tech of new 160 credit pattern. Their SGPA and CGPA will be considered from second year.
- (e) The students with B.Sc. degree taking admission to second year level shall have to appear, additionally, for theory and practical (if applicable) examination of Engineering Graphics-I, Basics of Civil and Mechanical Engineering, Basics of Electrical Engineering, Computational Skill and Engineering Mechanics of First year in new 160 credit pattern.

6. Duration of the Programmes:

- i. The B.Tech programme shall consist of 4 Years (Eight Semesters)

7. Medium of Instructions: The medium of instructions and examinations shall be English.

8. Structure of the Programmes:

- i. The detail structure of the B.Tech programmes shall be as given in Annexures A to H-xii.
- ii. The B.E. /B.Tech programme shall also be of two more types i.e. B.E./B.Tech with Minor and Major (Honor), Guidelines for Honors, Major

P.L. 

and Minor are given under Annexure -I

A) B.Tech Degree with a Minor/Major (Honor)

- a) A student who fulfills the requirements of the B.E./B.Tech. program of the discipline in which he/she is admitted, will be awarded with B.E./B.Tech. degree in that discipline. The flexibility is offered for students to successfully complete additional 18 to 20 credits by passing the courses through online mode from the specified platforms. Such students shall be awarded B.E./B.Tech Degree with Minor.
- b) If a student is unable to earn additional 18 to 20 credits along with all the prescribed credits of the program in which he/she is admitted within the stipulated allowed duration of the original program he/she will not be awarded Minor/Major (Honor) degree.

B) B.Tech. with Minor :

- a) Minor scheme aims for additional knowledge in any other branch for enhancement of employability. During the span of Four years (Three Years in case of lateral entry) on completion of 18 to 20 additional credits in another discipline, the B.Tech. degree with "Minor Specialization in -----" (concerned discipline/subject) will be awarded to the student on completion of final semester.

[The detailed guidelines for Honors (Major) and Minor for B.Tech. Programme are annexed herewith as Annexure "I"]

- b) A student having final CGPA of more than or equal to 7 in regular programme with no backlog in any semester, during the span of his/her degree will be eligible to get Degree with Minor.

C) B.Tech. with Major (Honor) :

- a) Honor (Major) scheme aims at growth of vertical knowledge of the



student in his/her parent branch which may have advance knowledge or research orientation. During the span of four years (Three Years in case of lateral entry) on completion of 18 to 20 additional credits, through online mode, in the same discipline, the B.Tech. degree with "Major in....."(concerned Discipline) or Honor " will be awarded to the student on completion of Final semester.

- b) A student having final CGPA of more than or equal to 7 and no backlog subjects, in any semester, during the span of his/her degree programme will be eligible to get Degree with "Honor", otherwise the student will be eligible to get Degree with "Major" specialization in the discipline, under this category.

The detailed guidelines for Honors (Major) and (Minor) for B.Tech. Programme are annexed herewith as Annexure "I"

Detailed curriculum of Major (Honor)/ Minor is available on RTMNU website.

9. Curriculum of the Programmes:-

The detail content of the courses prescribed for each semester of the B.Tech. programmes shall be as determined by the relevant Board of Studies and notified by the University from time to time.

10. Scheme of Examinations: -

- i) Subject to the provisions of the general rules of the University with respect to conduct of examinations and in particular the rules regarding payment of examination fees, award of grace marks, and the maximum and minimum passing marks and eligibility for getting exemption in any passing heads, as shown in the relevant Annexures herein, there shall be end semester examination to be conducted by the University as per the scheme and modalities to be notified from time to time.
- ii) An examinee who does not pass or who fails to present himself/herself for the



examination(s) shall be eligible for reappearing in the same examination on payment of a fresh fee and such other fees as may be prescribed from time to time. However, re-admission to the semester would be allowed only when a regular session is running for a particular semester.

iii) In the case of unsuccessful examinees, the marks obtained in the college assignment in the subjects, he/she has failed, shall be carried forward. However, the student has option to forgo the college assignment marks.

- I. **Annexure A: B.Tech 1st Semester Scheme of Examination**
- II. **Annexure B: B.Tech 2nd Semester Scheme of Examination**
- III. **Annexure C: B.Tech 3rd Semester Scheme of Examination.**
 - i. Civil Engineering 3rd Semester Scheme of Examination.
 - ii. Mechanical Engineering 3rd Semester Scheme of Examination.
 - iii. Electrical Engineering 3rd Semester Scheme of Examination.
 - iv. Electronics Engineering/ Electronics & Telecommunication Engineering/ Electronics & Communication Engineering 3rd Semester Scheme of Examination.
 - v. Chemical Engineering 3rd Semester Scheme of Examination.
 - vi. Chemical Technology 3rd Semester Scheme of Examination.
 - vii. Fire Engineering 3rd Semester Scheme of Examination.
 - viii. Artificial Intelligence & Data Science 3rd Semester Scheme of Examination.
 - ix. Artificial Intelligence 3rd Semester Scheme of Examination.
 - x. Robotics & Artificial Intelligence 3rd Semester Scheme of Examination.
 - xi. Industrial IOT 3rd Semester Scheme of Examination.
 - xii. Artificial Intelligence and Machine Learning 3rd Semester Scheme of Examination.
 - xiii. Information Technology 3rd Semester Scheme of Examination.
 - xiv. Computer Technology 3rd Semester Scheme of Examination.
 - xv. Computer Engineering 3rd Semester Scheme of Examination.
 - xvi. Computer Science Engineering 3rd Semester Scheme of Examination.
 - xvii. Bio-Technology 3rd Semester Scheme of Examination.
 - xviii. Aeronautical Engineering 3rd Semester Scheme of Examination.
- IV. **Annexure D: B.Tech 4th Semester Scheme of Examination**
 - i. Civil Engineering 4th Semester Scheme of Examination
 - ii. Mechanical Engineering 4th Semester Scheme of Examination
 - iii. Electrical Engineering 4th Semester Scheme of Examination
 - iv. Electronics Engineering/ Electronics & Telecommunication Engineering/ Electronics & Communication Engineering 4th Semester Scheme of Examination
 - v. Chemical Engineering 4th Semester Scheme of Examination



- vi. Chemical Technology 4th Semester Scheme of Examination
- vii. Fire Engineering 4th Semester Scheme of Examination
- viii. Artificial Intelligence & Data Science 4th Semester Scheme of Examination
- ix. Artificial Intelligence 4th Semester Scheme of Examination
- x. Robotics & Artificial Intelligence 4th Semester Scheme of Examination
- xi. Industrial IOT 4th Semester Scheme of Examination.
- xii. Artificial Intelligence and Machine Learning 4th Semester Scheme of Examination.
- xiii. Information Technology 4th Semester Scheme of Examination.
- xiv. Computer Technology 4th Semester Scheme of Examination.
- xv. Computer Engineering 4th Semester Scheme of Examination.
- xvi. Computer Science Engineering 4th Semester Scheme of Examination.
- xvii. Bio-Technology 4th Semester Scheme of Examination.
- xviii. Aeronautical Engineering 4th Semester Scheme of Examination.

V. Annexure E: B.Tech 5th Semester Scheme of Examination

- i. Civil Engineering 5th Semester Scheme of Examination
- ii. Mechanical Engineering 5th Semester Scheme of Examination
- iii. Electrical Engineering 5th Semester Scheme of Examination
- iv. Electronics Engineering/ Electronics & Telecommunication Engineering/ Electronics & Communication Engineering 5th Semester Scheme of Examination
- v. Chemical Engineering 5th Semester Scheme of Examination
- vi. Chemical Technology 5th Semester Scheme of Examination
- vii. Fire Engineering 5th Semester Scheme of Examination
- viii. Artificial Intelligence & Data Science 5th Semester Scheme of Examination
- ix. Artificial Intelligence 5th Semester Scheme of Examination
- x. Robotics & Artificial Intelligence 5th Semester Scheme of Examination
- xi. Industrial IOT 5th Semester Scheme of Examination.
- xii. Artificial Intelligence and Machine Learning 5th Semester Scheme of Examination.
- xiii. Information Technology 5th Semester Scheme of Examination.
- xiv. Computer Technology 5th Semester Scheme of Examination.
- xv. Computer Engineering 5th Semester Scheme of Examination.
- xvi. Computer Science Engineering 5th Semester Scheme of Examination.
- xvii. Bio-Technology 5th Semester Scheme of Examination.
- xviii. Aeronautical Engineering 5th Semester Scheme of Examination.

VI. Annexure F: B.Tech 6th Semester Scheme of Examination

- i. Civil Engineering 6th Semester Scheme of Examination
- ii. Mechanical Engineering 6th Semester Scheme of Examination
- iii. Electrical Engineering 6th Semester Scheme of Examination
- iv. Electronics Engineering/ Electronics & Telecommunication Engineering/ Electronics & Communication Engineering 6th Semester Scheme of Examination
- v. Chemical Engineering 6th Semester Scheme of Examination
- vi. Chemical Technology 6th Semester Scheme of Examination
- vii. Fire Engineering 6th Semester Scheme of Examination

- viii. Artificial Intelligence & Data Science 6th Semester Scheme of Examination
- ix. Artificial Intelligence 6th Semester Scheme of Examination
- x. Robotics & Artificial Intelligence 6th Semester Scheme of Examination
- xi. Industrial IOT 6th Semester Scheme of Examination.
- xii. Artificial Intelligence and Machine Learning 6th Semester Scheme of Examination.
- xiii. Information Technology 6th Semester Scheme of Examination.
- xiv. Computer Technology 6th Semester Scheme of Examination.
- xv. Computer Engineering 6th Semester Scheme of Examination.
- xvi. Computer Science Engineering 6th Semester Scheme of Examination.
- xvii. Bio-Technology 6th Semester Scheme of Examination.
- xviii. Aeronautical Engineering 6th Semester Scheme of Examination.

VII. Annexure G: B.Tech 7th Semester Scheme of Examination

- i. Civil Engineering 7th Semester Scheme of Examination
- ii. Mechanical Engineering 7th Semester Scheme of Examination
- iii. Electrical Engineering 7th Semester Scheme of Examination
- iv. Electronics Engineering/ Electronics & Telecommunication Engineering/ Electronics & Communication Engineering 7th Semester Scheme of Examination
- v. Chemical Engineering 7th Semester Scheme of Examination
- vi. Chemical Technology 7th Semester Scheme of Examination
- vii. Fire Engineering 7th Semester Scheme of Examination
- viii. Artificial Intelligence 7th Semester Scheme of Examination
- ix. Robotics & Artificial Intelligence 7th Semester Scheme of Examination
- x. Industrial IOT 7th Semester Scheme of Examination.
- xi. Artificial Intelligence and Machine Learning 7th Semester Scheme of Examination.
- xii. Bio-Technology 7th Semester Scheme of Examination.

VIII. Annexure H: B.Tech 8th Semester Scheme of Examination

- i. Civil Engineering 8th Semester Scheme of Examination
- ii. Mechanical Engineering 8th Semester Scheme of Examination
- iii. Electrical Engineering 8th Semester Scheme of Examination
- iv. Electronics Engineering/ Electronics & Telecommunication Engineering/ Electronics & Communication Engineering 8th Semester Scheme of Examination
- v. Chemical Engineering 8th Semester Scheme of Examination
- vi. Chemical Technology 8th Semester Scheme of Examination
- vii. Fire Engineering 8th Semester Scheme of Examination
- viii. Artificial Intelligence 8th Semester Scheme of Examination
- ix. Robotics & Artificial Intelligence 8th Semester Scheme of Examination
- x. Industrial IOT 8th Semester Scheme of Examination.
- xi. Artificial Intelligence and Machine Learning 8th Semester Scheme of Examination.
- xii. Bio-Technology 8th Semester Scheme of Examination.

11. Calculation of SGPA and CGPA

Degree will be based on SGPA and CGPA calculations since First Semester (Third semester in case of lateral entry students)

- a) SGPA and CGPA will be calculated on the basis of the grades as detailed below
- i) Conversion of Marks to Grades and Grade Points using Absolute Grading system.
- For each course taken, the student will be assigned with a grade based on the combined performance in all the assessments.
 - Table -1 shows the various grades, grade points awarded to students with mark range as indicated. Table-1: Award of Grades and Grade Points for Theory Courses

(a) Course/Subject carrying maximum 100 marks

Marks Range)	Grade	Grade Point	Performance
$X \geq 91$	O	10	Outstanding
$91 > X \geq 85$	A+	9	Excellent
$85 > X \geq 76$	A	8	Very Good
$76 > X \geq 66$	B+	7	Good
$66 > X \geq 56$	B	6	Average
$56 > X \geq 45$	P	5	Pass
$X < 45$	F	0	Fail
Absent	AB	0	Absent

X = Marks obtained out of 100

(b) : Course/Subject carrying maximum 50 marks

Marks Range(for Max 50 marks)	Grade	Grade Point	Performance
$X \geq 46$	O	10	Outstanding
$46 > X \geq 42$	A+	9	Excellent
$42 > X \geq 38$	A	8	Very Good
$38 > X \geq 33$	B+	7	Good
$33 > X \geq 28$	B	6	Average
$28 > X \geq 23$	P	5	Pass
$X < 23$	F	0	Fail
Absent	AB	0	Absent



X = Marks obtained out of 50

(c) : Award of Grades and Grade Points for Practical Courses

Marks Range (for Max 50 marks)	Grade	Grade Point	Performance
$X \geq 46$	O	10	Outstanding
$46 > X \geq 42$	A+	9	Excellent
$42 > X \geq 38$	A	8	Very Good
$38 > X \geq 34$	B+	7	Good
$34 > X \geq 30$	B	6	Average
$30 > X \geq 25$	P	5	Pass
$X < 25$	F	0	Fail
Absent	AB	0	Absent

X = Marks obtained out of 50

- Audit Course does not carry any credit, hence, will not be considered in the SGPA/CGPA calculation. But the grade card will reflect "Audit course" and will be awarded with grade as in Table-I(a or b or c). However, the student will have to pass the course with minimum required attendance and evaluation result to clear the semester.

ii) Obtaining Grade Point

- The academic performance of a student will be graded on Ten pointscale.
- The qualitative assessment of student's performance will be indicated by these grades.
- Each grade is associated with a grade point as listed in Table-I.

iii) Calculating SGPA and CGPA

- The grades upto "P" awarded to student in all the courses shall be converted into a Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA).
- The SGPA is the ratio of sum of the product of the number of credits with the grade points scored by a student in all the courses taken by a student and the sum of the number of credits of all the courses undergone by a student, i.e.

$$SGPA (S_i) = \frac{\sum(C_i \times G_i)}{\sum C_i}$$

Where C_i is the number of Credits of the i th course and G_i is the Grade point scored by the



student in the i th course.

- The CGPA is also calculated in the same manner taking into account all the courses undergone by a student over all the semesters of a programme, i.e.

$$CGPA = \frac{\sum(C_i \times S_i)}{\sum C_i}$$

Where S_i is the SGPA of the i th semester and C_i is the Total number of credits in that semester.

- The SGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts.
- iv) Incentive credits to the students participating in NCC/NSS/ Games & Sports/Cultural Activities/Curricular and Co-curricular Activities will be awarded as per the University prevailing ordinance"

12. Class/Division

The class/division in academic performance of the student for the complete duration of program to be classified as follows:

- a. First Class with distinction: CGPA 7.5 and above,
- b. First Class: CGPA 6.0 and above, but less than 7.5, and
- c. Second Class: CGPA less than 6.0

As per requirements, the conversion of the performance index CGPA into equivalent percentage of marks, the formula shall be used is-

$$\text{Percent marks} = (CGPA) \times 10.$$

13. Award of Merit Ranks

The students admitted to the programmes governed by this Direction on successful completion of the programme shall be eligible to be awarded a merit rank as per the general rules of the University in this regard.

14. Exit Policy for Failure/Dropout Students:

i). Student who wish to exit before the completion of the program duration, may be issued Certificate/Diploma/Advance Diploma as per their acquired levels of learning with additional skill as mentioned below.

Table-3: Additional online/off line Courses required to qualify

Award	Year of Completion	Additional online/offline courses required.
Certificate	Certificate on exit after First year	1 Certificate course of 30 hours duration (2 Credits)
Diploma	Diploma on exit after Second year	1 Diploma Course of 60 hours duration. (4 Credits) in specialized area.
Advance Diploma	Advance-Diploma on exit after Third year	1 Diploma Course of 90 hours duration (6 credits) in specialized area

Note:- Students may opt for MOOC or specified platforms for online courses with prior permission of University

ii). Student who wish to exit without completing First year and who is not eligible for award of "certificate/Diploma/Adv Diploma" should undergo hands on training for getting Certificate.



Exit Policy for Failure Students		: Hands on Training
i	Orientation	<ul style="list-style-type: none"> - Engineering Based - Skill Development based - Atmanirbhar - Self employable
ii	Duration	6 Months
iii	Areas of Training	Automobile Workshop, Machine Shop, Welding Shop, Motor Winding, Electric Fittings, TV Repairing, Mobile Repairing, Hardware Repairing, Networking, Road constructions, building constructions, Physician Course, X Ray Technician, Biomedical Instrumentation, etc (Skill Development Courses from Jivan Shikshan Abhiyan, NSQF)
iv	Credits	10-15
v	Nature of award	Certificate
<p>a) Institute and University should have a joint MOU with workshops/Shops/Service Providers/Contractors/Entrepreneurs etc. at local level</p> <p>b) Certificate to be issued on the basis of regular monitoring and handson training report from concerned agency after 6 month.</p> <p>c) In case student is not interested to undertake any above mentioned training then certificate to be issued on the basis of credits earned.</p> <p>d) Students must earn 20credits and above out of subjects he/she has to pass in First year. This can be provided with credit certification for multidisciplinary entry.</p>		

15 A.T.K.T Rules

- i.) For calculation of passing heads, any decimal fraction should be rounded off to lower digit.
- ii) Passing the semester shall include all the credit and audit subject heads.
- iii) For getting promotion in the higher class (under ATKT) a student must obtain minimum 40% credits prescribed for a particular year, comprising two semesters.

16. ABSORPTION SCHEME

- i. After introduction of the 160 credit programmes under this Direction existing B.E. and B.Tech. programmes shall be discontinued in a phase-wise (progressive) manner and the failure students of the said programmes shall be provided maximum five attempts to clear all the courses/subject(s) of the said programmes after which they shall be absorbed in the 160 credit programmes under this Direction as per the absorption scheme hereunder.
- ii. The students of the existing programmes shall also be entitled to join the 160 credit programmes as per the absorption schemes provided by relevant Board of Studies. However, student will have to appear for the examinations under new 160 Credit Scheme for the matchable subjects in which student has not cleared the subject in the existing programmes.
- iii.a) A student having passed in particular course/subject heads of the existing programme at any semester level shall be exempted from such subject heads at any level (lower/higher) of the new 160 Credit programme. If any course/subject is named with a new nomenclature but is having similar contents it shall also be exempted. The respective Board of Studies shall prepare and notify the list of such subjects. Wherever a student is absorbed in the new 160 credit course with benefit of exemption in courses/subjects, in any semester, proportionate marks/grades shall be awarded in the concerned course/subject heads.
- b) Wherever a new course/subject has been introduced in the new 160 Credit programme in any semester which was not to be found in the existing programmes the internal marks shall be awarded in proportion to the marks/grades earned by a student in the university/external examination in the concerned new course/subject head.



- c) Student being absorbed in new 160 Credit Pattern shall be exempted from the subject/s which he/she has cleared in the existing semester pattern as per the absorption scheme provided by the concern B.O.S. However the subject/s which he/she has not cleared in the old semester pattern and having no equivalent subject at any level of new 160 Credit Pattern shall not be considered during the absorption irrespective of the status of the result of that subject.

17. If any difficulty in implementation of the scheme of this Direction is encountered or any doubt regarding interpretation of any provision of this Direction arises the matter shall be referred for decision of the Vice- Chancellor whose decision shall be final and binding on all the concerned people.

Nagpur

Date: 14/09/2022



(Dr. Subhash R. Chaudhari)
Vice-Chancellor



Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
Four Years B.E. Course

Scheme of Examination B.E. First year (All Branches of Engineering)

First Semester

Sub Code	Subjects	Workload in hrs			Credits	Marks					Minimum Passing Marks	
		L	T/A	P		Theory		Practical		Total	Theory	Practical
						Internal	Uni	Internal	Uni			
BSE1-1T	Mathematics-I	3	1	-	4	30	70	-	-	100	45	-
BSE1-2T	Applied Physics	3	2	-	4	30	70	-	-	100	45	-
BSE1-3T	Energy and Environment	2	2	-	3	30	70	-	-	100	45	-
BSE1-4T	Communication Skills	2	-	-	2	15	35	-	-	50	23	-
BSE1-5T	Engineering Graphics	1	-	-	1	15	35	-	-	50	23	-
BSE1-6T	Basics of Civil & Mechanical Engineering	4			Audit	50	-	-		Audit	-	-
BSE1-2P	Applied Physics Lab	-	-	3	1.5			25	25	50	-	25
BSE1-3P	Energy and Environment Lab	-	-	2	1			25	25	50	-	25
BSE1-4P	Communication Skills Lab	-	-	2	1			25	25	50	-	25
BSE1-5P	Engineering Graphics Lab	-	-	4	2			25	25	50	-	25
Three weeks Induction Program												
Total		15	11		19.5	120*	280	100	100	600		

- L- Lecture , P-Practical, T- Tutorial , A- Activity (Half Credit per Hour)

Scheme of Examination B.E. First year (All Branches of Engineering)

Second Semester

Sub Code	Subjects	Workload in hrs			Credits	Marks					Minimum Passing Marks		
		L	T/A	P		Theory		Practical		Total	Theory	Practical	
						Internal	Uni	Internal	Uni				
BSE2-1T	Mathematics-II	3	1	-	4	30	70	-	-	100	45	-	
BSE2-2T	Advanced Engineering Materials	2	2	-	3	30	70	-	-	100	45	-	
BSE2-3T	Applied Chemistry	3	2	-	4	30	70	-	-	100	45	-	
BSE2-4T	Computational Skills	2	-	-	2	15	35	-	-	50	23	-	
BSE2-6T	Basics of Electrical Engineering	2	-	-	2	15	35	-	-	50	23	-	
BSE2-7T	Engineering Mechanics	2	-	-	2	15	35	-	-	50	23	-	
BSE2-8T	Indian Culture & Constitution	2	-	-	Audit	50	-	-	-	Audit	-	-	
BSE1-5P	Workshop Practices	-	-	4	2	-	-	50	50	100	-	50	
BSE2-2P	Advanced Engineering Materials	-	-	2	1	-	-	25	25	50	-	25	
BSE2-3P	Applied Chemistry			3	1.5	-	-	25	25	50	-	25	
BSE2-4P	Computational Skills			2	1	-	-	25	25	50	-	25	
Three weeks Induction Program													
Total		16	5	11	22.5	135*	315	125	125	700			

- L- Lecture , P-Practical, T- Tutorial, A- Activity (Half Credit per Hour)

* Audit course marks are not counted in total marks

Guidelines

- Energy and Environment shall be taught by faculty of Chemistry and will come under board of Applied Science and Humanities (only by Chemistry Dept)
- Advance Engineering Materials shall be taught by faculty of Physics and will come under board of Applied Science and Humanities (only by Physics Dept)

RASHTRASANT TUKDOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
FACULTY OF SCIENCE & TECHNOLOGY
SCHEME OF EXAMINATION & EVALUATION
B. TECH CIVIL ENGINEERING (CHOICE BASED CREDIT SYSTEM)
SEMESTER: THIRD

Sr. No	Subject Code	Subject	Workload in Hours			Credit				Marks					Minimum passing marks	
			L	T/A	P	L	T/A	P	Total	Theory		Practical		Total	Theory	Practical
										Int	Uni	Int	Uni			
1	BTCVE301T	Mathematics-III	3	1	0	3	1	0	4	30	70	--	--	100	45	--
2	BTCVE302T	Fluid Mechanics	3	0	0	3	0	0	3	30	70	--	--	100	45	--
3	BTCVE302P	Fluid Mechanics (Practical)	0	0	2	0	0	1	1	--	--	25	25	50	--	25
4	BTCVE303T	Solid Mechanics	3	1	0	3	1	0	4	30	70	--	--	100	45	--
5	BTCVE303P	Solid Mechanics (Practical)	0	0	2	0	0	1	1	--	--	25	25	50	--	25
6	BTCVE304T	Geotechnical Engineering	3	0	0	3	0	0	3	30	70	--	--	100	45	--
7	BTCVE304P	Geotechnical Engineering (Practical)	0	0	2	0	0	1	1	--	--	25	25	50	--	25
8	BTCVE305T	Building Construction & Elementary Building Drawing	2	0	0	2	0	0	2	30	70	--	--	100	45	--
9	BTCVE305P	Building Construction & Elementary Building Drawing (Practical)	0	0	2	0	0	1	1	--	--	25	25	50	--	25
10	BTCVE306T	Effective Technical Communication	2	0	0	2	0	0	2	15	35	--	--	50	23	--
Total			16	2	8	16	2	4	22	165	385	100	100	750		

- L- Lecture , P-Practical, T- Tutorial , A- Activity (Half Credit per Hour)

Signature
Chaitanya G. Shinde

Signature
 (Dr. A.N. Dabade)
 BOS Member

Signature
 (Dr. Avinash N. Shrikhande)
 BOS (Civil Engg) Chairman

Rashtrasant Tukdoji Maharaj Nagpur University, Nagpur
Faculty of Science & Technology
Course and Examination Scheme of Bachelor of Engineering (Mechanical Engineering)
III Semester B. Tech (Mechanical Engineering)

Sr No	Course Code	Category	Course Title	Teaching Scheme (Hours/Week)			Credits	Examination Scheme								
				L	T	P		Theory				Practical				
								Duration of Exam (Hrs)	Max. Marks College Assessment	Max. Marks University Assessment	Total Marks	Min. Passing Marks	Max. Marks College Assessment	Max. Marks University Assessment	Total Marks	Min. Passing Marks
1	BEME301T	Basic Science course	Applied Mathematics – III	3	1	-	4	3	30	70	100	45	-	-	-	-
2	BEME302T	Professional core courses	Manufacturing Processes	2	-	-	2	3	30	70	100	45	-	-	-	-
3	BEME302P	Professional core courses	Manufacturing Processes Lab	-	-	2	4	-	-	-	-	-	25	25	50	25
4	BEME303T	Professional core courses	Engineering Thermodynamics	3	1	-	4	3	30	70	100	45	-	-	-	-
5	BEME304T	Professional year courses	Kinematics of Machines	3	1	-	4	3	30	70	100	45	-	-	-	-
6	BEME305P	Professional core courses	Machine Drawing & Solid Modelling	-	1	2	2	-	-	-	-	-	50	50	100	50
7	BEME306P	Professional core courses	Computer Programming	-	1	2	2	-	-	-	-	-	50	50	100	50
8	BEME307P	Mandatory Course	Sports / Yoga / NSS/NCC	-	-	2	Audit (0)	College Assessment or Grades O, A, B, C (Evaluation guidelines mentioned in the syllabus of concerned course)								
Total				12	5	9	-	-	120	280	400	-	125	125	250	-
Semester Total				26			20	Marks 650								

Sd/-
Dr. S. K. Chaudhary
Chairman
B.O.S.
Mechanical Engg.

RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR

Faculty of Science & Technology

Course Scheme of Bachelor of Engineering (Mechanical Engineering)

Sr. No	Course Category	CREDITS								TOTAL
		SEM I	SEM II	SEM III	SEM IV	SEM V	SEM VI	SEM VII	SEM VIII	
1	Humanities, Social Sciences & Management courses	3			3	3				9
2	Basic Science courses	9	9	4						22
3	Engineering Science courses including workshop, drawing, basics of electrical/mechanical/computer etc	7	13							20
4	Professional core courses			16	17	14	15			62
5	Professional Elective courses relevant to chosen specialization/branch						6	7	7	20
6	Open Electives: Courses from other technical and/or emerging subjects					3		6	3	12
7	Project work, seminar and internship in industry or elsewhere, Industry Training and Skill Development					1	2	6	6	15
8	Mandatory Courses [Environmental Sciences, Induction training, Indian Constitution, Essence of Indian Knowledge Tradition]									0
	TOTAL	19	22	20	20	21	23	19	16	160
	TOTAL MARKS	600	600	650	650	650	700	500	550	4900

Dr. S. H. Khosla
Chairman B.O.S. Mechanical Engg

RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR

B.TECH. (Electrical Engineering)(CBCS)
SCHEME OF EXAMINATION

THIRD SEMESTER

Board	Subject Code	Subject	Teaching Scheme				Credit	MARKS					Minimum Passing Marks	
			L	P	T/A	Total		Theory		Practical		Total	Theory	Practical
								Internal	Uni.	Internal	Uni.			
GS	BTCHEE301T	Electrical Engineering Mathematics	3	-	1T	4	4	30	70	-	-	100	45	
EE	BTCHEE302T	Network Analysis	3	-	1A	4	4	30	70	-	-	100	45	
EE	BTCHEE303T	Electrical Measurement & Instrumentation	3	-	1A	4	4	30	70	-	-	100	45	
EE	BTCHEE304T	Analog Devices & Circuits	3	-	1A	4	4	30	70	-	-	100	45	
EE	BTCHEE305T	Renewable Energy studies	3	-	-	3	3	30	70	-	-	100	45	
EE	BTCHEE306T	Introduction to Python programming	1	-	-	1	1	15	35	-	-	50	23	
	BTCHEE307T	Environmental studies	1	-	1A	1	Audit	50*	-	-	-	Audit	-	
EE	BTCHEE302P	Network Analysis Lab	-	2	-	2	1	-	-	25	25	50		25
EE	BTCHEE303P	Electrical measurement & instrumentation Lab	-	2	-	2	1	-	-	25	25	50		25
EE	BTCHEE304P	Analog Devices & circuits Lab	-	2	-	2	1	-	-	25	25	50		25
EE	BTCHEE306P	Introduction to Python programming Lab	-	2	-	2	1	-	-	25	25	50		25
		Total	17	8	1T+4A	29	24	165	385	100	100	750		25

- L- Lecture, P-Practical(Half Credit per Hour), T- Tutorial, A- Activity, * indicates noncredit subject
- For Internal 30 marks, 15 marks for activity and 15 marks for CIA (continues internal assessment)

27.7.22
(Dr. S.M. Kelkar)

27/7/22
(Dr. A. Shrivastava)

27/07/22
Dr. J.B. Fulzele

R.T.M. Nagpur University, Nagpur

SCHEME OF EXAMINATION

B.E. ELECTRONICS & TELECOMMUNICATION / ELECTRONICS & COMMUNICATION ENGINEERING/ ELECTRONICS ENGINEERING (SEMESTER – III)

Code	Subject	Teaching Scheme				Credit				MARKS				
										Theory		Practical		Total Marks
		L	Practical	Tutorial / Activity	Total	L	P	T/A	Total	Internal	Univ.	Internal	Univ.	
BEETC-301	Applied Maths-III	3	-	1T	4	3	-	1	4	30	70	-	-	100
BEETC-302T	Components for Electronic circuit design	3	-		3	3	-	-	3	30	70	-	-	100
BEETC-302P	Components for Electronic circuit design Lab	-	2	-	2	-	1	-	1	-	-	25	25	50
BEETC-303T	Digital System Design	3	-	1T	4	3	-	1	4	30	70	-	-	100
BEETC-303P	Digital System Design Lab	-	2	-	2	-	1	-	1	-	-	25	25	50
BEETC-304P	Network Theory	3	-	-	3	3	-	-	3	30	70	-	-	100
BEETC-305T	Signal & System	3	-	-	3	3	-	-	3	30	70	-	-	100
BEETC-306T	Measurement and Instrumentation	3	-	-	3	3	-	-	3	30	70	-	-	100
BEETC-307P	Electronics Workshop I Lab	-	2	-	2	-	1	-	1	-	-	25	25	50
BEETC-308T	Consumer affairs	2	-		2							-	-	Audit
	Total	20	6	2T	28	18	3	2	23	180	420	75	75	750

**SCHEME OF EXAMINATION
RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
THIRD SEMESTER B. TECH (CHEMICAL ENGINEERING)**

Sr No.	Code	Subject	Board	Work Load Hrs				Credit				Marks				Total Marks	Min. % of Marks Required for Passing
												Theory		Practical			
				L	P	T	Total	L	P	T	Total	College Assessment	University	College Assessment	University		
1	CE-PCC-301T	Material & Energy Balance Computations	BCE	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
2	CE-PCC-302T	Particle & Fluid Particle Processing	BCE	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
3	CE-PCC-303T	Thermodynamics - II	BCE	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
4	CE-GES-304T	Material Science	BGE	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
5	CE-BS-305T	Maths - III	BGE	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
6	CE-BS-306T	Elementary Molecular Approach	BGE	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
7	CE-GES-307P	Material Science Laboratory	BGE	0	2	0	2	0	1	0	1	-	-	25	25	50	50%
8	CE-BS-308P	Elementary Molecular Approach - Laboratory	BGE	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
9	CE-GES-309P	Engineering workshop	BGE	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
10	CE-PCC-310P	Particle & Fluid Particle Processing Lab	BCE	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
		Total		18	11	3	32	18	5.5	3	26.5	180	420	100	100	800	-

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**SCHEME OF EXAMINATION
RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
THIRD SEMESTER B. TECH (CHEMICAL TECHNOLOGY)**

Sr. No.	Code		Subject	Board	Work Load Hrs				Credit				Marks				Total Marks	Min. % of Marks Required for Passing
	Theory (T)	Practical (P)			L	P	T	Total	L	P	T	Total	Theory		Practical			
	College Assessment												University	College Assessment	University			
																College Assessment		
1	CT-PCC-301T		Material & Energy Balance Computations	BCE	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
2	CT-PCC-302T		Particle & Fluid Particle Processing	BCE	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
3	CT-PCC-303T		Thermodynamics - II	BCE	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
4	CT-GES-304T		Material Science	BGE	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
5	CT-BS-305T		Maths - III	BGE	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
6	CT-BS-306T		Elementary Molecular Approach	BGE	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
7	CT-GES-307P		Material Science Laboratory	BGE	0	2	0	2	0	1	0	1	-	-	25	25	50	50%
8	CT-BS-308P		Elementary Molecular Approach - Laboratory	BGE	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
9	CT-PCC-309P		Particle & Fluid Particle Processing Lab	BCE	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
			Total		18	8	3	29	18	4	3	25	180	420	75	75	750	-

Shinde

Semester – III (Second Year)

Branch: Fire Engineering

Third Semester:

Subject Code	Subjects	Work Load (Hours)			Credits	Marks					Minimum Passing Marks	
		L	T/A	P		Theory		Practical		Total	Theory	Practical
						Int	Uni	Int	Uni			
ESC-FE-201	Fluid Mechanics	2	1	–	3	30	70	–	–	100	45	–
ESC-FE-202	Advanced Electrical Systems	2	1	–	3	30	70	–	–	100	45	–
ESC-FE-203	Structural Mechanics	3	1	–	4	30	70	–	–	100	45	–
ESC-FE-204	Engineering Thermodynamics	3	1	–	4	30	70	–	–	100	45	–
HSMC-FE-201	Universal Human Values – II	2	1	–	3	30	70	–	–	100	45	–
ESC-FE-201(P)	Fluid Mechanics Laboratory	–	–	2	1	–	–	25	25	50	–	25
ESC-FE-202(P)	Advanced Electrical Systems Laboratory	–	–	2	1	–	–	25	25	50	–	25
ESC-FE-203(P)	Structural Mechanics Laboratory	–	–	2	1	–	–	25	25	50	–	25
PCC-FE-201(P)	Fire Ground Operations – III	–	–	5	2.5	–	–	25	25	50	–	25
Total		12	5	11	22.5	150	350	100	100	700		

* L- Lecture, P- Practical, T- Tutorial, A- Activity (Half Credit Per Hour)

gswab *[Signature]*

B.E. SCHEME OF EXAMINATION 2021-22

Scheme of Teaching & Examination of Bachelor of Engineering III Semester B.E. (Artificial Intelligence& Data Science)

Sr. No.	Course Code	Category	Course Name	Hours/Week			Credits	Maximum Marks					Minimum Passing Marks	
				L	T	P		Theory		Practical		Total	Theory	Practical
								Internal	University	Internal	University			
1	BEAI&DS301T	Basic Science Course	Discrete Mathematics and Graph Theory	3	1	0	4.00	30	70	-	-	100	45	
2	BEAI&DS302T	Professional core courses	Operating Systems	3	1	0	4.00	30	70	-	-	100	45	
3	BEAI&DS303T	Professional core courses	Computer Architecture & Organization	3	0	0	3.00	30	70	-	-	100	45	
4	BEAI&DS304T	Professional core courses	Data Structures	3	1	0	4.00	30	70	-	-	100	45	
5	BEAI&DS304P	Professional core courses	Data Structures LAB	0	0	2	1.00	-	-	25	25	50		25
6	BEAI&DS305T	Professional core courses	Digital Circuits & Fundamentals of Microprocessor	3	0	0	3.00	30	70			100	45	
7	BEAI&DS305P	Professional core courses	Digital Circuits & Fundamentals of Microprocessor Lab	0	0	2	1.00	-	-	25	25	50		25
8	BEAI&DS306P	Engineering Sciences	Professional Skills I (Core Python)	0	0	2	1.00			25	25	50		25
9	BEAI&DS307T	HSMC	Universal Human Values	2	0	0	2.00	15	35			50	23	
10	BEAI&DS308T	Mandatory Course	Environmental Science	2	0	0	Audit	-	-	-	-	Audit	-	
Total				19	3	6	23.00	165	385	75	75	700		

B.Tech. SCHEME OF EXAMINATION 2021-22
Scheme of Teaching & Examination of Bachelor of Technology III Semester B.TECH. (Artificial Intelligence)

Sr. No.	Course Code	Category	Course Name	Hours/ Week			Credits	Maximum Marks					Minimum Passing Marks	
				L	T	P		Theory		Practical		Total	Theory	Practical
								Internal	University	Internal	University			
1	BTECHAI301T	Basic Science Course	Discrete Mathematics and Graph Theory	3	1	0	4.00	30	70	-	-	100	45	
2	BTECHAI302T	Professional core courses	Operating Systems	3	1	0	4.00	30	70	-	-	100	45	
3	BTECHAI303T	Professional core courses	Computer Architecture & Organization	3	0	0	3.00	30	70	-	-	100	45	
4	BTECHAI304T	Professional core courses	Data Structures	3	1	0	4.00	30	70	-	-	100	45	
5	BTECHAI304P	Professional core courses	Data Structures LAB	0	0	2	1.00	-	-	25	25	50		25
6	BTECHAI305T	Engineering	Digital Circuits & Fundamentals of Microprocessor	3	0	0	3.00	30	70			100	45	
7	BTECHAI305P	Engineering	Digital Circuits & Fundamentals of Microprocessor Lab	0	0	2	1.00	-	-	25	25	50		25
8	BTECHAI306P	Engineering Sciences	Professional Skills I (Core Python)	0	0	2	1.00			25	25	50		25
9	BTECHAI307T	HSMC	Universal Human Values	2	0	0	2.00	15	35			50	23	
10	BTECHAI308T	Mandatory Course	Environmental Science	2	0	0	Audit	College assessment in grades O, A,B,C						
Total				19	3	6	23.00	165	385	75	75	700		

RASHTRASANTUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR

Scheme of Teaching & Examination of Bachelor of Technology

III Semester B.Tech. (Robotics & Artificial Intelligence)

Sr. No.	Course Code	Category	Course Name	Hours/Week			Credits	Maximum Marks					Minimum Passing Marks			
				L	T	P		Theory		Practical		Total	Theory	Practical		
								Internal	University	Internal	University					
1	BTechRAI301T	Basic Science Course	Discrete Mathematics and Graph Theory	3	1	0	4.00	30	70	-	-	100	45			
2	BTechRAI302T	Professional core courses	Operating Systems	3	0	0	3.00	30	70	-	-	100	45			
3	BTechRAI303T	Professional core courses	Principles of Robotics	3	0	0	3.00	30	70	-	-	100	45			
4	B.TechRAI304T	Professional core courses	Data Structures Algorithms	3	1	0	4.00	30	70	-	-	100	45			
5	BTechRAI304P	Professional core courses	Data Structures Algorithms Lab	0	0	2	1.00	-	-	25	25	50		25		
6	BTechRAI305T	Engineering Sciences	Analog and Digital Circuit	3	1	0	4.00	30	70			100	45			
7	BTechRAI305P	Engineering Sciences	Analog and Digital Circuit Lab	0	0	2	1.00	-	-	25	25	50		25		
8	BTechRAI306P	Professional core courses	Professional Skills (Python)	0	0	2	1.00			25	25	50		25		
9	BTechRAI307T	HSMC	Universal Human Values	2	0	0	2.00	15	35			50	23			
10	BTechRAI308T	Mandatory Audit Course	Environmental Science	2	0	0	Audit	College assessment in grades O, A,B,C								
Total				19	3	6	23.00	165	385	75	75	700				

RASHTRASANTUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR

Scheme of Teaching & Examination of Bachelor of Technology

III Semester B.Tech. (Industrial IOT)

Sr. No.	Course Code	Category	Course Name	Hours/Week			Credits	Maximum Marks					Minimum Passing Marks	
				L	T	P		Theory		Practical		Total	Theory	Practical
								Internal	University	Internal	University			
1	BTechIOT301T	Basic Science Course	Discrete Mathematics and Graph Theory	3	1	0	4.00	30	70	-	-	100	45	
2	BTechIOT302T	Professional core courses	Operating Systems	3	0	0	3.00	30	70	-	-	100	45	
3	BTechIOT303T	Professional core courses	Sensors and Actuators	3	0	0	3.00	30	70	-	-	100	45	
4	BTechIOT303P	Professional core courses	Sensors and Actuators lab	0	0	2	1.00	-	-	25	25	50		25
5	BTechIOT304T	Professional core courses	Data Structures & Algorithm Design	3	0	0	3.00	30	70	-	-	100	45	
6	BTechIOT304P	Professional core courses	Data Structures & Algorithm Design Lab	0	0	2	1.00	-	-	25	25	50		25
7	BTechIOT305T	Engineering Sciences	Logic Design and Microcontroller	3	0	0	3.00	30	70			100	45	
8	BTechIOT305P	Engineering Sciences	Logic Design and Microcontroller Lab	0	0	2	1.00	-	-	25	25	50		25
9	BTechIOT306P	Engineering Sciences	Professional Skills (Core Python)	0	0	2	1.00			25	25	50		25
10	BTechIOT307T	HSMC	Universal Human Values	2	0	0	2.00	15	35			50	23	
11	BTechIOT308T	Mandatory Course	Environmental Science	2	0	0	Audit	College assessment in grades O, A,B,C						
Total				19	1	8	22.00	165	385	100	100	750		

B.Tech. SCHEME OF EXAMINATION 2022-23

Scheme of Teaching & Examination of Bachelor of Engineering III Semester B.Tech. (Artificial Intelligence & Machine Learning)

Sr. No.	Course Code	Category	Course Name	Hours/Week			Credits	Maximum Marks				Minimum Passing Marks		
				L	T	P		Theory		Practical		Total	Theory	Practical
								Internal	University	Internal	University			
1	BTAI&ML301T	Basic Science Course	Discrete Mathematics and Graph Theory	3	1	0	4	30	70	-	-	100	45	
2	BTAI&ML302T	Professional core courses	Operating Systems	3	1	0	4	30	70	-	-	100	45	
3	BTAI&ML303T	Professional core courses	Computer Architecture & Organization	3		0	3	30	70	-	-	100	45	
4	BTAI&ML304T	Professional core courses	Data Structures	3	1	0	4	30	70	-	-	100	45	
5	BTAI&ML304P	Professional core courses	Data Structure Lab	0	0	2	1	-	-	25	25	50		25
6	BTAI&ML305T	Professional core courses	Digital Circuits & Microprocessor	3	0	0	3	30	70			100	45	
7	BTAI&ML305P	Professional core courses	Digital Circuits & Microprocessor Lab	0	0	2	1	-	-	25	25	50		25
8	BTAI&ML306P	Professional core courses	Professional Skills I (Core Python)	0	0	2	1			25	25	50		25
9	BTAI&ML307T	HSMC	Universal Human Values	2	0	0	2	15	35			50	23	
10	BTAI&ML308T	Environmental Science Courses	Environmental Science	2	0	0	Audit Course	College assessment in grades O, A,B,C						
Total				19	3	6	23	165	385	75	75	700		

Handwritten signatures and marks at the bottom of the page, including a large signature on the left and several smaller ones in the center and right.

**RASHTRASANT TUKADOJI MAHARAJ NAGPUR
UNIVERSITY, NAGPUR
FOUR YEAR BACHELOR OF TECHNOLOGY (B. TECH.) DEGREE COURSE
SEMESTER: THIRD [C.B.C.S]
BRANCH: INFORMATION TECHNOLOGY**

Sl. No.	Subject Code	Subject	WorkLoad				Credit				Marks				Min Passing	
			Lecture	Practical	Tutorial/ Activity	Total	L	P	T/A	Total	Theory		Practical			Total Marks
											Internal	University	Internal	Univ		
1	BTIT301T	Applied Mathematics-III	3		1	4	3		1	4	30	70			100	45
2	BTIT302T	Programming Logic & Design using 'C'	3			3	3			3	30	70			100	45
3	BTIT302P	Programming Logic & Design using 'C'		2		2		1		1			25	25	50	25
4	BTIT303T	Digital Electronics and Fundamental of Microprocessor	3		1	4	3		1	4	30	70			100	45
	BTIT303P	Digital Electronics and Fundamental of Microprocessor		2		2		1		1			25	25	50	25
	BTIT304T	Emerging Trends in Information Technology	3			3	3			3	30	70			100	45
	BTIT305T	System Programming	3			3	3			3	30	70			100	45
	BTIT306P	Software Lab -I		2		2		1		1			25	25	50	25
	BTIT307T	Universal Human Values	2			2	2			2	15	35			50	23
	BTIT308T	Environmental Science (Audit)	2			2	-	-	-	-						
		Total	19	6	2	27	17	3	2	22	165	385	75	75	700	

Date
Dr. Dalish Malik
Ad. Charman, STC

R.T.M. Nagpur University, Nagpur
Four Year B.TECH. Course
(Revised Curriculum as per AICTE Model Curriculum)

B.Tech. III Semester (Computer Technology) Scheme

Code No.	Subject	Teaching Scheme			Evaluation Scheme			Credits	Min Passing
		L	T	P	CA	UE	Total		
BTCT301T	Mathematics III (TH)	3	1	0	30	70	100	4	45
BTCT302T	Problem Solving using Python (TH)	3	0	0	30	70	100	3	45
BTCT302P	Problem solving using Python (PR)	0	0	2	25	25	50	1	25
BTCT303T	Digital Design and Fundamentals of Microprocessor (TH)	3	0	0	30	70	100	3	45
BTCT303P	Digital Design and Fundamentals of Microprocessor (PR)	0	0	2	25	25	50	1	25
BTCT304T	Computer Architecture and Organization (TH)	3	1	0	30	70	100	4	45
BTCT305T	Theoretical Foundations of Computer Science	3	1	0	30	70	100	4	45
BTCT306T	Universal Human Values (TH)	2	0	0	15	35	50	2	25
BTCT307P	Computer Workshop-I (Web Technologies) (PR)	0	0	2	25	25	50	1	25
BTCT308T	Consumer Affairs	2	-	-	-	-	-	-	
Total		19	3	06	240	460	700	23	

delet
Dr delet Malik

RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
FOUR YEAR BACHELOR OF TECHNOLOGY (B.Tech.) DEGREE COURSE

SEMESTER: 3rd (C.B.C.S.)

BRANCH: COMPUTER ENGINEERING

Third Semester:-

S N	Subject Code	Subject	Teaching Scheme			Evaluation Scheme			Credits	Minimum Passing
			L	T	P	CA	UE	Total		
1	BTCME301T	Mathematics – III	4	-	-	30	70	100	4	45
2	BTCME302T	Digital Circuits and Fundamentals of Microprocessor	3	1	-	30	70	100	4	45
3	BTCME303T	Object Oriented Programming	3	1	-	30	70	100	4	45
4	BTCME304T	Theory of Computation	3	-	-	30	70	100	3	45
5	BTCME305T	Introduction to Computer Networks	3	-	-	30	70	100	3	45
6	BTCME306T	Universal Human Values	2	-	-	15	35	50	2	23
7	BTCME302P	Digital Circuits and Fundamentals of Microprocessor Lab	-	-	2	25	25	50	1	25
8	BTCME303P	Object Oriented Programming (Lab)	-	-	2	25	25	50	1	25
9	BTCME307P	Computer Workshop- I(Lab)	-	-	2	25	25	50	1	25
10	BTCME308T	Environmental Science	2	-	-	-	-	-	Audit	
		Total	20	02	06	240	460	700	23	

L: Lectures T: Tutorials P: Practical

Dr. Dilesh Malik
Dr. Dilesh Malik
 Adhoc Chairman STC

R.T. M. Nagpur University, Nagpur

FOUR YEAR B.TECH. COURSE

B.Tech. SCHEME OF EXAMINATION wef: 2021-22

Scheme of Teaching & Examination of Bachelor of Technology III Semester B.Tech. (Computer Science and Engineering)

Sr. No.	Course Code	Category	Course Name	Hours/Week			Credits	Maximum Marks				Min Passing		
				L	T	P		Theory		Practical		Total	Theory	Practical
								Internal	University	Internal	University			
1	BTECHCSE301T	Basic Sciences courses	Applied Mathematics – III	3	1	-	4	30	70	-	-	100	45	
2	BTECHCSE302T	Professional core courses	Object Oriented Programming with Java	3	1	-	4	30	70	-	-	100	45	
3	BTECHCSE303T	Professional core courses	Operating System	3	-	-	3	30	70	-	-	100	45	
4	BTECHCSE304T	Professional core courses	Computer Architecture & Digital System	3	1	-	4	30	70	-	-	100	45	
5	BTECHCSE305T	Professional core courses	Ethics in IT	3	-	-	3	30	70	-	-	100	45	
6	BTECHCSE306T	Humanities	Universal Human Values	2	-	-	2	15	35	-	-	50	23	
7	BTECHCSE307T	Mandatory Course	Environment Science (Audit)	2	-	-	0	-	-	-	-	-	-	
8	BTECHCSE302P	Professional core courses	Object Oriented Programming with Java	-	-	2	1	-	-	25	25	50		25
9	BTECHCSE303P	Professional core courses	Operating System	-	-	2	1	-	-	25	25	50		25
10	BTECHCSE308P	Professional core courses	Computer Workshop-I	-	-	2	1	-	-	25	25	50		25
Total				19	3	6	23	165	385	75	75	700		

Dr. Dilesh Malik
Adhoc chairman STC

PROPOSED SCHEME OF EXAMINATION FOR B. TECH (BIOTECHNOLOGY)

THIRD SEMESTER B. TECH (BIOTECHNOLOGY)

Sr. No.	Code Theory (T) Practical (P)	Subject	Board	Work Load (Hours)				Credit				Marks				Total Marks	Min. % Marks Required for passing
				L	P	T	Total	L	P	T	Total	Theory		Practical			
												College Assess- ment	Univer- sity	College Assess- ment	University		
1	BT -HS -301T	Effective Technical Communication	BGE	2	0	0	2	2	0	0	2	15	35	-	-	50	45%
2	BT - BS -302 T	Biochemistry	BBT	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
3	BT - BS -303 T	Microbiology	BBT	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
4	BT -PC -304 T	Bioprocess Calculations	BBT	2	0	1	3	2	0	1	3	30	70	-	-	100	45%
5	BT -PC -305 T	Analytical Techniques	BBT	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
6	BT -BS -306 P	Biochemistry Laboratory	BBT	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
7	BT - BS -307 P	Microbiology Laboratory	BBT	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
8	BT - PC -308 P	Analytical Techniques Laboratory	BBT	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
9	BT- PS - 309 P	Technical Seminar	BBT	0	2	0	2	0	1	0	1	-	-	100	-	100	50%
		Total		13	10	1	24	13	5	1	19.5	135	315	175	75	700	

Rashtrasant Tukdoji Maharaj Nagpur University, Nagpur
Faculty of Engineering & Technology
Course and Examination Scheme Bachelor of Technology-Aeronautical Engineering
III Semester B. Tech. (CBCS)

	Subject	Teaching Scheme				Examination Scheme								
		Hours per week			No. of Credits	Theory					Practical			
		L	T	P		Duration of Paper (Hrs)	Max Marks University Assessment	Max Marks College Assessment	Total Marks	Min. Passing Marks	Max Marks University Assessment	Max Marks College Assessment	Total Marks	Min. Passing Marks
BTAE 301T	Applied Mathematics -III	3	-	-	3	03	70	30	100	45	-	-	-	-
BTAE 302T	Aero-Thermodynamics	3	-	-	3	03	70	30	100	45	-	-	-	-
BTAE 302P	Aero-Thermodynamics	-	-	2	1	-	-	-	-	-	25	25	50	25
BTAE 303T	Fluid Mechanics & Machinery	3	-	-	3	03	70	30	100	45	-	-	-	-
BTAE 303P	Fluid Mechanics & Machinery	-	-	2	1	-	-	-	-	-	25	25	50	25
BTAE 304T	Avionics -I	3	-	-	3	03	70	30	100	45	-	-	-	-
BTAE 305P	Computer Programming	-	1	2	2	-	-	-	-	-	25	25	50	25
BTAE 306T	Elements of Aeronautics	3	-	-	3	03	70	30	100	45	-	-	-	-
BTAE 307T	Aerodynamics-I	3	-	-	3	03	70	30	100	45	-	-	-	-
BTAE 308T	Essence of Indian Traditional Knowledge	2	-	-	-	College assessment in Grades as O,A,B,C (Evaluation mentioned in the Syllabus of concern subject)								
Total		20	1	6	22	-	420	180	600	-	75	75	150	-
Semester Total		27			22	Marks 750								

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RASHTRASANT TUKDOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
FACULTY OF SCIENCE & TECHNOLOGY
SCHEME OF EXAMINATION & EVALUATION
B. TECH CIVIL ENGINEERING (CHOICE BASED CREDIT SYSTEM)
SEMESTER: FOURTH

Sr. No	Subject Code	Subject	Workload in Hours			Credit				Marks					Minimum passing marks	
			L	T/A	P	L	T	P	Total	Theory		Practical		Total	Theory	Practical
										Int	Uni	Int	Uni			
1	BTCVE401T	Concrete Technology	3	0	0	3	0	0	3	30	70	--	--	100	45	--
2	BTCVE402T	Structural Analysis	3	1	0	3	1	0	4	30	70	--	--	100	45	--
3	BTCVE402P	Structural Analysis (Practical)	0	0	2	0	0	1	1	--	--	25	25	50	--	25
4	BTCVE403T	Environmental Engineering	3	0	0	3	0	0	3	30	70	--	--	100	45	--
5	BTCVE403P	Environmental Engineering(Practical)	0	0	2	0	0	1	1	--	--	25	25	50	--	25
6	BTCVE404T	Transportation Engineering	3	0	0	3	0	0	3	30	70	--	--	100	45	--
7	BTCVE404P	Transportation Engineering (Practical)	0	0	2	0	0	1	1	--	--	25	25	50	--	25
8	BTCVE405T	Surveying & Geomatics	3	0	0	3	0	0	3	30	70	--	--	100	45	--
9	BTCVE405P	Surveying & Geomatics (Practical)	0	0	4	0	0	2	2	--	--	25	25	50	--	25
10	BTCVE406P	Mini Project (Practical)	0	0	2	0	0	1	1	--	--	25	25	50	--	25
TOTAL			15	1	12	15	1	6	22	150	350	125	125	750		

- L- Lecture , P-Practical, T- Tutorial , A- Activity (Half Credit per Hour)

Note: In Summer vacation after 4th Semester, students have to complete 2 to 3 weeks industrial / Government / NGO / MSME / Rural Internship / Innovation / Entrepreneurship training. In the beginning of 5th semester, students have to submit detailed report of summer vacation training to department.

Signature
Chairman

Signature
 (Dr. A.N. Dabhade)
 BOS Member

Signature
 (Dr. Avinash N. Shrikhande)
 BOS (Govt Engg) Chairman

Rashtrasant Tukdoji Maharaj Nagpur University, Nagpur
Faculty of Science & Technology
Course and Examination Scheme of Bachelor of Engineering (Mechanical Engineering)
IV Semester B. Tech (Mechanical Engineering)

Sr. No.	Course Code	Category	Course Title	Teaching Scheme (Hours/Week)			Credits	Examination Scheme								
				L	T	P		Theory				Practical				
								Duration of Exams (Hrs)	Max. Marks College Assessment	Max. Marks University Assessment	Total Marks	Min. Passing Marks	Max. Marks College Assessment	Max. Marks University Assessment	Total Marks	Min. Passing Marks
1.	BEME401T	Professional core courses	Machining Processes	3	-	-	3	3	30	70	100	45	-	-	-	-
2.	BEME401P	Professional core courses	Machining Processes Lab	-	-	2	1	-	-	-	-	-	25	25	50	25
3.	BEME402T	Professional core courses	Fluid Mechanics & Hydraulic Machines	3	1	-	4	3	30	70	100	45	-	-	-	-
4.	BEME402P	Professional core courses	Fluid Mechanics & Hydraulic Machines Lab	-	-	2	1	-	-	-	-	-	25	25	50	25
5.	BEME403T	Professional core courses	Material Science & Engineering	3	-	-	3	3	30	70	100	45	-	-	-	-
6.	BEME404T	Professional core courses	Mechanics of Materials	3	1	-	4	3	30	70	100	45	-	-	-	-
7.	BEME404P	Professional core courses	Materials Testing Lab	-	-	2	1	-	-	-	-	-	25	25	50	25
8.	BEME405I	Humanities & Social Science	Professional Ethics	3	-	-	2	2	30	70	100	45	-	-	-	-
9.	BEME406P	Mandatory Course	Sports/Yoga/NSS/NCC	-	-	3	Audit (0)	College Assessment in Grades O, A, B, C (Evaluation guidelines mentioned in the syllabus of concerned course)								
TOTAL				15	2	9	-	-	150	350	500	-	75	75	150	-
Semester Total				26			20	Marks 650								

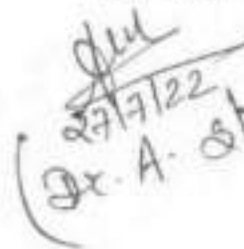
Sr. H. S. K. Chaudhary
 Chairman
 B.O.S.
 Mechanical Engg.

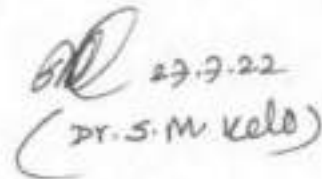
RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
B.TECH. (Electrical Engineering) (CBCS)
SCHEME OF EXAMINATION

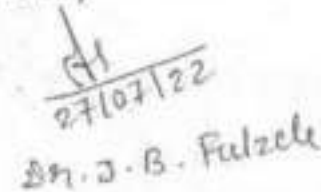
FOURTH SEMESTER

Board	Subject Code	Subject	Teaching Scheme				Credit	MARKS					Minimum Passing Marks	
			L	P	T/A	Total		Theory		Practical		Total	Theory	Practical
								Internal	Uni.	Internal	Uni.			
EE	BTCHEE401T	Signal & Systems	3	-	1T	4	4	30	70	-	-	100	45	
EE	BTCHEE402T	Digital Electronics	3	-	-	3	3	30	70	-	-	100	45	
EE	BTCHEE403T	Electrical machines-I	3	-	-	3	3	30	70	-	-	100	45	
EE	BTCHEE404T	Power System	3	-	-	3	3	30	70	-	-	100	45	
EE	BTCHEE405T	Electromagnetic Fields	3	-	1T	4	4	30	70	-	-	100	45	
EE	BTCHEE406T	Simulation & Programming Techniques	3	-	-	3	3	30	70	-	-	100	45	
		Internship (2 to 3 weeks) (After III semester break)	-	-	1A	1	1	-	-	50	-	50		
EE	BTCHEE402P	Digital Electronics lab	-	2	-	2	1	-	-	25	25	50		25
EE	BTCHEE403P	Electrical machines-I Lab	-	2	-	2	1	-	-	25	25	50		25
EE	BTCHEE406P	Simulation & Programming Techniques Lab	-	2	-	2	1	-	-	25	25	50		25
		Total	18	6	2T+1A	27	24	180	420	125	75	800		

- L- Lecture, P-Practical(Half Credit per Hour), T- Tutorial, A- Activity
- Internship:- a) Student shall be allowed to undergo internship after III semester break
b) Internal marks for internship of IV semester may be awarded after successful completion of internship
c) 50 internal marks given for internship shall be given as-
i) 25 marks based on detailed report about internship along with certificate provided by company/industry
ii) 25 marks based on presentation by student about what he/she learned during internship


 27/7/22
 (Dr. A. Shubhali)


 27.7.22
 (Dr. S. M. Kelo)


 27/07/22
 Dr. J. B. Fulzele

SCHEME OF EXAMINATION FOR
B.TECH. ELECTRONICS & TELECOMMUNICATION / ELECTRONICS & COMMUNICATION ENGINEERING/ ELECTRONICS ENGINEERING
(SEMESTER – IV)

Code	Subject	Teaching Scheme				Credit				MARKS					Minimum Passing Marks	
										Theory		Practical		Total Marks	Theory	Practical
		L	Practical	Tutorial/Activity	Total	L	P	T/A	Total	Internal	University	Internal	Univ.			
BEETC-401T	Microcontrollers & Applications	3	-	1T	4	3	-	1	4	30	70	-	-	100	45	
BEETC-401P	Microcontrollers & Applications Lab	-	2	-	2	-	1	-	1	-	-	25	25	50		25
BEETC-402T	Analog & Digital Communications	3	-	1T	4	3	-	1	4	30	70	-	-	100	45	
BEETC-403P	Analog and Digital Electronics Lab	-	2	-	2	-	1	-	1	-	-	25	25	50		25
BEETC-404T	Analog System Design	3	-	1T	4	3	-	1	4	30	70	-	-	100	45	
BEETC-405T	Data structure & Algorithm	3	-	-	3	3	-	-	3	30	70	-	-	100	45	
BEETC-406T	HSC: Numerical Mathematics and Probability Using MATLAB	3	-	-	3	3	-	-	3	30	70	-	-	100	45	
BEETC-407T	Programming for problem solving	2	-	-	2	2	-	-	2	15	35	-	-	50	23	
BEETC-407P	Programming for problem solving Lab	-	4	-	4	-	2	-	2			25	25	50		25
BEETC-408I	Internship								1			50	-	50		25
BEETC-409A	Audit Course HSC: Universal human values	1			1									AUDIT		
	Total	18	8	3T	28	16	4	3	24	165	385	125	75	750		

- L- Lecture , P-Practical, T- Tutorial , A- Activity
- Audit course marks are not counted in total marks

Handwritten signature: S. B. Bagale

Handwritten signature: N. G. BAWALE

Handwritten signature: R. D. Patil 25/10/22

Handwritten signature: Dr. V. K. Takasambhi 29/10/22

Handwritten signature: Dr. J. S. Gawani 28/10/22

Handwritten signature: Dr. H. K. Rajurkar 28/10/22

SCHEME OF EXAMINATION
RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
FOURTH SEMESTER B. TECH (CHEMICAL ENGINEERING)

Sr No.	Code	Subject	Board	Work Load Hrs				Credit				Marks				Total Marks	Min. % of Marks Required for Passing
	Theory (T)			L	P	T	Total	L	P	T	Total	Theory		Practical			
	Practical (P)											College Assessment	University	College Assessment	University		
1	CE-PCC-401T	Process Technology & Economics	BCE	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
2	CE-PCC-402T	Mass Transfer I	BCE	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
3	CE-PCC-403T	Fluid Mechanics	BCE	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
4	CE-PCC-404T	Numerical Methods in Chemical Engineering	BCE	2	0	0	2	2	0	0	2	15	35	-	-	50	45%
5	CE-BS-405T	Inorganic Process Technology	BGE	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
6	CE-HSMC-HS-406T	HANS II: Functional English	BGE	2	0	0	2	2	0	0	2	15	35	-	-	50	45%
7	CE-PCC-407P	Fluid Mechanics Lab	BCE	0	2	0	2	0	1	0	1	-	-	25	25	50	50%
8	CE-PCC-408P	Numerical Methods in Chemical Engineering Lab	BCE	0	2	0	2	0	1	0	1	-	-	25	25	50	50%
9	CE-BS-409P	Inorganic Process Technology Laboratory	BGE	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
10	MC	Environmental Sciences	BCE	2	0	0	2	0	0	0	0	-	-	-	-	-	Audit Course S/SF**
		Total		18	7	2	27	16	3.5	2	21.5	150	380	75	75	650	-

** S/SF Grade for Audit Course S – Satisfactory or SF – Not Satisfactory



SCHEME OF EXAMINATION
RASHTRASANTU KADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
FOURTH SEMESTER B. TECH (CHEMICAL TECHNOLOGY)

Sl. No.	Code		Subject	Board	Work Load Hrs				Credit				Marks				Total Marks	Min. % of Marks Required for Passing
	Theory (T)				L	P	T	Total	L	P	T	Total	Theory		Practical			
	Practical (P)												College Assessment	University	College Assessment	University		
1	CT-PCC-401T		Process Technology & Economics	BCE	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
2	CT-CS-402T		*Special Technology I	BCHT	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
3	CT-PCC-403T		Fluid Mechanics	BCE	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
4	CT-PCC-404T		Numerical Methods in Chemical Engineering	BCE	2	0	0	2	2	0	0	2	15	35	-	-	50	45%
5	CT-BS-405 T		Inorganic Process Technology	BGE	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
6	CT-(HSMC)-(HS-406 T		HASS (I) Functional English	BGE	2	0	0	2	2	0	0	2	15	35	-	-	50	45%
7	CT-PCC-407P		Fluid Mechanics Lab	BCE	0	2	0	2	0	1	0	1	-	-	25	25	50	45%
8	CT-PCC-408P		Numerical Methods in Chemical Engineering Lab	BCE	0	2	0	2	0	1	0	1	-	-	25	25	50	50%
9	CT-BS-409 P		Inorganic Process Technology Laboratory	BGE	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
10	CT-GES-410 P		Engineering Workshop	BGE	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
11	MC		Environmental Sciences	BCE	2	0	0	0	0	0	0	-	-	-	-	-	-	Audit Course S/SF**
Total					16	10	2	28	16	5	2	23	150	350	100	100	700	-

** S/SF Grade for Audit Course S – Satisfactory or SF – Not Satisfactory

- *Food Technology
- *Oil Technology
- *Petrochemical Technology
- *Pulp and Paper Technology
- *Plastic and Polymer Technology
- *Surface Coating Technology

Sanjay

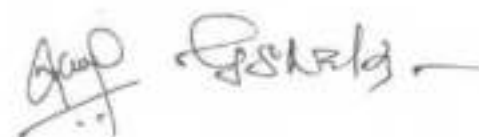
Semester – IV (Second Year)

Branch: Fire Engineering

Fourth Semester:

Subject Code	Subjects	Work Load (Hours)			Credits	Marks					Minimum Passing Marks	
		L	T/A	P		Theory		Practical		Total	Theory	Practical
						Int	Uni	Int	Uni			
PCC-FE-202	Fire Service Hydraulics	2	1	–	3	30	70	–	–	100	45	–
ESC-FE-205	Heat and Mass Transfer	3	1	–	4	30	70	–	–	100	45	–
ESC-FE-206	Basic Electronics and Communication	3	1	–	4	30	70	–	–	100	45	–
PCC-FE-203	Fundamentals of Fire Engineering	3	–	–	3	30	70	–	–	100	45	–
PCC-FE-204	Structural Fire Protection	3	–	–	3	30	70	–	–	100	45	–
PCC-FE-202(P)	Fire Service Hydraulics Laboratory	–	–	2	1	–	–	25	25	50	–	25
ESC-FE-205(P)	Heat and Mass Transfer Laboratory	–	–	2	1	–	–	25	25	50	–	25
ESC-FE-206(P)	Basic Electronics and Communication Laboratory	–	–	2	1	–	–	25	25	50	–	25
PCC-FE-205(P)	Fire Ground Operations – IV	–	–	5	2.5	–	–	25	25	50	–	25
Total		14	3	11	22.5	150	350	100	100	700		

* L- Lecture, P- Practical, T- Tutorial, A- Activity (Half Credit Per Hour)



B.E. SCHEME OF EXAMINATION 2021-22

Scheme of Teaching & Examination of Bachelor of Engineering IV Semester B.E. (Artificial Intelligence& Data Science)

Sr. No.	Course Code	Category	Course Name	Hours/Week			Credits	Maximum Marks					Minimum Passing Marks	
				L	T	P		Theory		Practical		Total		
								Internal	University	Internal	University		Theory	Practical
1	BEAI&DS401T	Professional core courses	Introduction to AI	3	0	0	3.00	30	70	-	-	100	45	
2	BEAI&DS402T	Professional core courses	Theory of Computation	3	1	0	4.00	30	70	-	-	100	45	
3	BEAI&DS403T	Basic Science Courses	Mathematical Foundation for Data Science	3	0	0	3.00	30	70	-	-	100	45	
4	BEAI&DS404T	Professional core courses	Object Oriented Programming with JAVA	3	0	0	3.00	30	70	-	-	100	45	
5	BEAI&DS404P	Professional core courses	Professional Skills II (Java)	0	0	2	1.00	-	-	25	25	50		25
6	BEAI&DS405T	Professional core courses	Database Management Systems	3	0	0	3.00	30	70			100	45	
7	BEAI&DS405P	Professional core courses	Database Management Systems Lab	0	0	2	1.00	-	-	25	25	50		25
8	BEAI&DS406T	Engineering Sciences	Microcontroller & Embedded System	3	1	0	4.00	30	70	-	-	100	45	
9	BEAI&DS406P	Engineering Sciences	Microcontroller & Embedded System Lab	0	0	2	1.00	-	-	25	25	50	-	25
10	BEAI&DS407T	Project Work/Internship	Internship	0	0	2	1.00			50		50		
Total				18	2	8	24.00	180	420	125	75	800		

B.Tech. SCHEME OF EXAMINATION 2021-22
Scheme of Teaching & Examination of Bachelor of Technology IV Semester B.TECH. (Artificial Intelligence)

Sr. No.	Course Code	Category	Course Name	Hours/Week			Credits	Maximum Marks				Minimum Passing Marks		
				L	T	P		Theory		Practical		Total	Theory	Practical
								Internal	University	Internal	University			
1	BTECHAI401T	Professional core courses	Introduction to Artificial Intelligence	3	0	0	3.00	30	70	-	-	100	45	
2	BTECHAI402T	Professional core courses	Theory of Computation	3	1	0	4.00	30	70	-	-	100	45	
3	BTECHAI403T	Basic Science Courses	Mathematical foundation for Artificial Intelligence	3	0	0	3.00	30	70	-	-	100	45	
4	BTECHAI404T	Professional core courses	Object Oriented Programming with JAVA	3	0	0	3.00	30	70	-	-	100	45	
5	BTECHAI404P	Engineering Sciences	Professional Skills II (Java)	0	0	2	1.00	-	-	25	25	50		25
6	BTECHAI405T	Professional core courses	Database Management Systems	3	0	0	3.00	30	70			100	45	
7	BTECHAI405P	Professional core courses	Database Management Systems Lab	0	0	2	1.00	-	-	25	25	50		25
8	BTECHAI406T	Engineering Sciences	Microcontroller & Embedded System	3	1	0	4.00	30	70	-	-	100	45	
9	BTECHAI406P	Engineering Sciences	Microcontroller & Embedded System Lab	0	0	2	1.00	-	-	25	25	50		25
10	BTECHAI407T	Project/ Internship	Internship	0	0	2	1.00			50		50		25
Total				16	4	8	24.00	180	420	125	75	800		

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RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR

Scheme of Teaching & Examination of Bachelor of Technology

IV Semester B.Tech. (Robotics & Artificial Intelligence)

Sr. No.	Course Code	Category	Course Name	Hours/Week			Credit ^s	Maximum Marks						Minimum Passing Marks	
				L	T	P		Theory		Practical		Total	Theory	Practical	
								Internal	University	Internal	University				
1	BTechRAI401T	Professional core courses	Introduction to AI	3	0	0	3.00	30	70	-	-	100	45		
2	BTechRAI402T	Professional Core courses	Computer Networks	3	0	0	3.00	30	70	-	-	100	45		
3	BTechRAI403T	Professional Core courses	Robotics Sensor Technology	3	0	0	3.00	30	70	-	-	100	45		
4	B.TechRAI404T	Professional core courses	Object Oriented Programming	3	0	0	3.00	30	70	-	-	100	45		
5	BTechRAI404P	Professional core courses	Object Oriented Programming Lab	0	0	2	1.00	-	-	25	25	50		25	
6	BTechRAI405T	Professional core courses	Robot Kinematics	3	0	0	3.00	30	70	-	-	100	45		
7	BTechRAI405P	Professional Core courses	Robot Kinematics Lab	0	0	2	1.00	-	-	25	25	50		25	
8	BTechRAI406T	Professional Core courses	Intelligent Embedded System	3	1	0	4.00	30	70	-	-	100	45		
9	BTechRAI406P	Professional Core courses	Intelligent Embedded System Lab	0	0	2	1.00	-	-	25	25	50	-	25	
10	BTechRAI407P	Project Work/Internship	Internship	0	0	2	1.00			50	--	50		25	
Total				18	1	8	23.00	180	420	125	75	800			

RASHTRASANTUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
Scheme of Teaching & Examination of Bachelor of Technology

IV Semester B.Tech. (Industrial IOT)

Sr. No.	Course Code	Category	Course Name	Hours/Week			Credits	Maximum Marks						Minimum Passing Marks	
				L	T	P		Theory		Practical		Total	Theory	Practical	
								Internal	University	Internal	University				
1	BTechIOT 401T	Professional core courses	Embedded System for IOT	3	0	0	3.00	30	70	-	-	100	45		
2	BTechIOT 401P	Professional core courses	Embedded System for IOT	0	0	2	1.00	-	-	25	25	50		25	
3	BTechIOT 402T	Professional Core courses	Introduction to Artificial Intelligence	3	0	0	3.00	30	70	-	-	100	45		
4	BTechIOT 403T	Professional Core courses	Computer Networks	3	0	0	3.00	30	70	-	-	100	45		
5	BTechIOT 404T	Professional core courses	Object oriented programming	3	0	0	3.00	30	70	-	-	100	45		
6	BTechIOT404P	Professional core courses	Object oriented programming	0	0	2	1.00	-	-	25	25	50		25	
7	BTechIOT 405T	Professional core courses	Database Management Systems	3	0	0	3.00	30	70	-	-	100	45		
8	BTechIOT 405P	Professional core courses	Database Management Systems Lab	0	0	2	1.00	-	-	25	25	50		25	
9	BTechIOT 406T	Engineering Sciences	Analog and Digital Communication	3	0	0	3.00	30	70	-	-	100	45		
10	BTechIOT 406P	Engineering Sciences	Analog and Digital Communication lab	0	0	2	1.00	-	-	25	25	50	-	25	
11	BTechIOT 407P	Project Work/Internship	Internship	0	0	2	1.00			50	--	50		25	
Total				18	0	10	23.00	180	420	150	100	850			



Scheme of Teaching & Examination of Bachelor of Engineering IV Semester B.Tech. (Artificial Intelligence & Machine Learning)

Sr. No.	Course Code	Category	Course Name	Hours/Week			Credits	Maximum Marks				Minimum Passing Marks		
				L	T	P		Theory		Practical		Total	Theory	Practical
								Internal	University	Internal	University			
1	BTAI&ML 401T	Basic Science Course	Mathematical Foundation for AI&ML	3	0	0	3	30	70			100		
2	BTAI&ML 402T	Professional core courses	Introduction to AI	3	0	0	3	30	70			100	45	
3	BTAI&ML 403T	Professional core courses	Database Management System	3	0	0	3	30	70	-	-	100	45	
4	BTAI&ML 403P	Professional core courses	Database Management System Lab	0	0	2	1					50		25
5	BTAI&ML 404T	Professional core courses	Theory of Computation	3	1	0	4	30	70	-	-	100	45	
6	BTAI&ML 405T	Professional core courses	Object Oriented Programming with JAVA	3	0	0	3	30	70	-	-	100	45	
7	BTAI&ML 405P	Professional core courses	Object Oriented Programming with JAVA Lab	0	0	2	1	-	-	25	25	50		25
8	BTAI&ML 406T	Professional core courses	Micro controller and Embedded System	3	1	0	4	30	70	-	-	100	45	
9	BTAI&ML 406P	Professional core courses	Micro controller and Embedded System Lab	0	0	2	1	-	-	25	25	50	-	25
10	BTAI&ML 407P		Internship	0	0	2	1			50	--	50		25
Total				18	2	8	24	180	420			800		

**RASHTRASANT TUKADOJI MAHARAJ NAGPUR
UNIVERSITY, NAGPUR
SCHEME OF EXAMINATION FOR**

FOUR YEAR BACHELOR OF TECHNOLOGY (B. TECH.) DEGREE COURSE

SEMESTER: FOURTH [C.B.C.S]

BRANCH: INFORMATION TECHNOLOGY

Sr. No.	Subject Code	Subject	WorkLoad				Credit				Marks				Min Passing	
			Lectur e	Practi cal	Tutorial/ Activity	Total	L	P	T/A	Total	Theory		Practical			Total Marks
											Intern al	Univer sity	Inter nal	Univ.		
	BTIT401T	Discrete Mathematics and Graph Theory	3		1	4	3		1	4	30	70			100	45
	BTIT402T	Data Structure and Program Design	3			3	3			3	30	70			100	45
	BTIT402P	Data Structure and Program Design		2		2		1		1			25	25	50	25
	BTIT403T	Object Oriented Programming System	3			3	3			3	30	70			100	45
	BTIT403P	Object Oriented Programming System		2		2		1		1			25	25	50	25
	BTIT404T	Computer Architecture Organization	3			3	3			3	30	70			100	45
	BTIT405T	Introduction to Computer Network	3			3	3			3	30	70			100	45
	BTIT406T	Operating Systems	3			3	3			3	30	70			100	45
	BTIT407P	Software Lab -2		2		2		1		1			25	25	50	25
	BTIT408T	Consumer Affairs (Audit)	2			2										
	BTIT409P	Internship		2		2		1		1			50		50	25
		Total	20	8	1	29	18	4	1	23	180	420	125	75	800	

B.Tech. IV Semester(Computer Technology) Scheme

R.T.M. Nagpur University, Nagpur

Four Year B.Tech. Course

(Revised Curriculum as per AICTE Model Curriculum)

Code No.	Subject	Teaching Scheme			Evaluation Scheme			Credits	Min Passing Marks
		L	T	P	CA	UE	Total		
BTCT401T	Discrete Mathematics and Graph Theory (TH)	3	1	0	30	70	100	4	45
BTCT402T	Social Ethics in Information Technology (TH)	2	0	0	15	35	50	2	23
BTCT403T	Object Oriented Programming using Java (TH)	3	0	0	30	70	100	3	45
BTCT403P	Object Oriented Programming using Java (P)	0	0	2	25	25	50	1	25
BTCT404T	Data Structures and Program Design (TH)	3	0	0	30	70	100	3	45
BTCT404P	Data Structures and Program Design(P)	0	0	2	25	25	50	1	25
BTCT405T	Computer Networks (TH)	3	1	0	30	70	100	4	45
BTCT406T	Operating Systems (TH)	3	1	0	30	70	100	4	45
BTCT407P	Computer Workshop-II (PR)	0	0	2	25	25	50	1	25
BTCT408T	Environmental Science	2	0	0	0	0	0	Audit	
BTCT409P	Internship	0	0	2	50	-	50	1	25
	Total	19	03	06	290	460	750	24	

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RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
FOUR YEAR BACHELOR OF TECHNOLOGY (B.Tech.) DEGREE COURSE
SEMESTER: 4th (C.B.C.S.)
BRANCH: COMPUTER ENGINEERING

Fourth Semester:-

S N	Subject Code	Subject	Teaching Scheme			Evaluation Scheme			Credits	Min Passing Marks
			L	T	P	CA	UE	Total		
1	BTCME401T	Discrete Mathematics and Graph Theory	3	1	-	30	70	100	4	45
2	BTCME402T	Web Technology	3	-	-	30	70	100	3	45
3	BTCME403T	Operating System	3	-	-	30	70	100	3	45
4	BTCME404T	Data Structures	3	1	-	30	70	100	4	45
5	BTCME405T	Computer Architecture and Organization	3	-	-	30	70	100	3	45
6	BTCME406T	System Programming	3	-	-	30	70	100	3	45
7	BTCME402P	Web Technology-Lab	-	-	2	25	25	50	1	25
8	BTCME403P	Operating System- Lab	-	-	2	25	25	50	1	25
9	BTCME404P	Data Structure-Lab	-	-	2	25	25	50	1	25
10	BTCME407T	Consumer Affairs	2	-	-	-	-	-	Audit	
11	BTCME408P	Internship (Min. 4 Weeks)	-	-	2	50		50	1	25
		Total	20	02	08	305	495	800	24	

L: Lectures T: Tutorial P: Practical

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RTMNU B.TECH. SCHEME OF EXAMINATION 2021-22

Scheme of Teaching & Examination of Bachelor of Technology IV Semester B.Tech. (Computer Science and Engineering)

Sr. No.	Course Code	Category	Course Name	Hours/ Week			Credits	Maximum Marks				Min Passing Marks		
				L	T	P		Theory		Practical		Total	Theory	Practical
								Internal	University	Internal	University			
1	BTEHCSE401 T	Basic sciences	Discrete Mathematics and Graph Theory	3	0	0	3	30	70	-	-	100	45	
2	BTEHCSE402 T	Professional core courses	Data Structure and Program Design	3	1	0	4	30	70	-	-	100	45	
3	BTEHCSE402 P	Professional core courses	Data Structure and Program Design Lab	0	0	2	1	-	-	25	25	50		25
4	BTEHCSE403 T	Professional core courses	Database Managements Systems	3	0	0	3	30	70	-	-	100	45	
5	BTEHCSE403 P	Professional core courses	Database Managements Systems Lab	0	0	2	1	-	-	25	25	50		25
6	BTEHCSE404 T	Professional core courses	Computer Networks	3	0	0	3	30	70			100	45	
7	BTEHCSE405 T	Professional core courses	Theory of Computation	3	1	0	4	30	70	-	-	100	45	
8	BTEHCSE406 T	Professional core courses	System Programming	3	0	0	3	30	70			100	45	
9	BTEHCSE407 P	Professional core courses	Computer Workshop-II (Python)	0	0	2	1	-	-	25	25	50		25
10	BTEHCSE408	Project-CS	Internship	0	0	2	1	-	-	50	-	50		25
Total				18	2	8	24	180	420	125	75	800		

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PROPOSED SCHEME OF EXAMINATION FOR B. TECH (BIOTECHNOLOGY)
FOURTH SEMESTER B. TECH (BIOTECHNOLOGY)

Sr. No.	Code Theory (T) Practical (P)	Subject	Boa rd	Work Load (Hours)				Credit				Marks				Total Marks	Min. % Marks Required for passing
				L	P	T	Tot al	L	P	T	Total	Theory		Practical			
												College Assess- ment	University	College Assessm- ent	University		
1	BT -BS - 401 T	Cell and molecular biology	BBT	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
2	BT-PC - 402 T	Green Biotechnology and Pollution Abetment	BBT	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
3	BT -BS - 403 T	Biochemistry Metabolism	BBT	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
4	BT -PC - 404 T	Bioinformatics and Computational Biology	BBT	2	0	1	3	2	0	1	3	30	70	-	-	100	45%
5	BT -AU - 405 T	Environmental Science	BBT	2	0	0	2	0	0	0	Audit	50	-	-	-	50	-
6	BT -HS - 406 T	Engineering Economics	BGE	2	0	0	2	2	0	0	2	15	35	-	-	50	45%
7	BT -BS - 407 P	Cell and molecular biology Laboratory	BBT	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
8	BT -BS - 408 P	Biochemistry Metabolism Laboratory	BBT	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
9	BT -PC - 409 P	Bioinformatics and Computational Biology Laboratory	BBT	0	2	0	2	0	1	0	1	-	-	25	25	50	50%
		Total		15	8	1	24	13	4	1	18	185	315	75	75	650	

Rashtrasant Tukdoji Maharaj Nagpur University, Nagpur
Faculty of Engineering & Technology
Course and Examination Scheme Bachelor of Technology-Aeronautical Engineering
IV Semester B. Tech. (CBCS)

Subject Code	Subject	Teaching Scheme				Examination Scheme								
		Hours per week			No. of Credits	Theory					Practical			
		L	T	P		Duration of Paper (Hrs)	Max Marks University Assessment	Max Marks College Assessment	Total Marks	Min. Passing Marks	Max Marks University Assessment	Max Marks College Assessment	Total Marks	Min. Passing Marks
BTAE 401T	Manufacturing Process- I	3	-	-	3	03	70	30	100	45	-	-	-	-
BTAE 401P	Manufacturing Process Lab.	-	-	2	1	-	-	-	-	-	25	25	50	25
BTAE 402T	Aircraft Structure- I	3	1	-	4	03	70	30	100	45	-	-	-	-
BTAE 402P	Aircraft Structure- I	-	-	2	1	-	-	-	-	-	25	25	50	25
BTAE 403T	Aerodynamics-II	3	-	-	3	03	70	30	100	45	-	-	-	-
BTAE 403P	Aerodynamics Lab	-	-	2	1	-	-	-	-	-	25	25	50	25
-BTAE 404T	Propulsion- I	3	-	-	3	03	70	30	100	45	-	-	-	-
BTAE 405T	Aircraft Flight Mechanics	3	1	-	4	03	70	30	100	45	-	-	-	-
BTAE 406T	Professional Ethics	2			2	02	35	15	50	25				
BTAE 407P	Mini Project -I : (Internship/Case Study)	-	-	4	2	-	-	-	-	-	25	25	50	25
BTAE 408T	Environmental Studies	3	-	-	-	College assessment in Grades as O,A,B,C (Evaluation mentioned in the Syllabus of concern subject)								
Total		20	2	10	24	-	385	165	550	-	100	100	200	-
Semester Total		32			24	Marks 750								

m.p.singh

RASHTRASANT TUKDOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
FACULTY OF SCIENCE & TECHNOLOGY
SCHEME OF EXAMINATION & EVALUATION
B. TECH CIVIL ENGINEERING (CHOICE BASED CREDIT SYSTEM)
SEMESTER: FIFTH

Sr. No	Subject Code	Subject	Workload in Hours			Credit				Marks					Minimum passing marks	
			L	T/A	P	L	T	P	Total	Theory		Practical		Total	Theory	Practical
										Int	Uni	Int	Uni			
1	BTCVE501T	Hydraulic Engineering	3	0	0	3	0	0	3	30	70	--	--	100	45	--
2	BTCVE501P	Hydraulic Engineering (Practical)	0	0	2	0	0	1	1	--	--	25	25	50	--	25
3	BTCVE502T	Reinforced Cement Concrete (RCC) designs	3	1	0	3	1	0	4	30	70	--	--	100	45	--
4	BTCVE503T	Civil Engineering Materials, Testing & Evaluation	3	0	0	3	0	0	3	30	70	--	--	100	45	--
5	BTCVE503P	Civil Engineering Materials, Testing & Evaluation (Practical)	0	0	2	0	0	1	1	--	--	25	25	50	--	25
6	BTCVE504T	Professional Practice, Law & Ethics	3	0	0	3	0	0	3	30	70	--	--	100	45	--
7	BTCVE505T	Elective-I	3	0	0	3	0	0	3	30	70	--	--	100	45	--
8	BTCVE506T	Elective-II	3	0	0	3	0	0	3	30	70	--	--	100	45	--
9	BTCVE507P	Industrial Training (Already done in summer vacation after 4 th sem) & Professional Skill Training (Software Applications in Civil Engineering)	0	0	2	0	0	1	1	--	--	50	50	100	--	50
10	BTCVE508AU	Organizational Behavior	2	0	0	0	0	0	0	--	--	50	Audit	50	--	--
TOTAL			20	1	6	18	1	3	22	180	420	150	100	850		

- L- Lecture , P-Practical, T- Tutorial , A- Activity (Half Credit per Hour)

Signature
Dr. A. N. Dabhadre

Signature
 (Dr. A. N. Dabhadre)
 BOS Member

Signature
 (Dr. Avinash N. Shrikhande,
 BOS (Civil Engg.) Chairman

Rashtrasant Tulaji Maharaj Nagpur University, Nagpur
Faculty of Science & Technology
Course and Examination Scheme of Bachelor of Engineering (Mechanical Engineering)
V Semester B. Tech (Mechanical Engineering)

Sr No	Course Code	Category	Course Title	Teaching Scheme (Hours/Week)			Credits	Examination Scheme								
				L	T	P		Theory				Practical				
								Duration of Exam (Hrs)	Max. Marks College Assessment	Max. Marks University Assessment	Total Marks	Min. Passing Marks	Max. Marks College Assessment	Max. Marks University Assessment	Total Marks	Min. Passing Marks
1	BEMC501T	Professional core courses	Heat Transfer	3	1	-	4	3	30	70	100	45				
2	BEMC501P	Professional core courses	Heat Transfer Lab	-	-	2	1		-	-	-	-	25	25	50	25
3	BEME502T	Professional core courses	Energy Conversion-I	3	1	-	4	3	30	70	100	45	-	-	-	-
4	BEME503T	Professional core courses	Design of Machine Elements	3	1	-	4	3	30	70	100	45	-	-	-	-
5	BEME503P	Professional core courses	Design of Machine Elements Lab	-	-	2	1		-	-	-	-	25	25	50	25
6	BEME504T	Humanities, Social Sciences & Management courses	Industrial Economics and Management	3	-	-	3	3	30	70	100	45	-	-	-	-
7	BEME505T	Open Elective Course	Open Elective -1	3	-	-	3	3	30	70	100	45	-	-	-	-
8	BEME506P	Project work, seminar and internship in industry or elsewhere	Industrial Visit*	-	-	2	1		-	-	-	-	20	-	50	25
9	BEME507P	Mandatory Course	Performing Art	-	-	3	Audit (0)	College Assessment in Grades O, A, B, C (Evaluation guidelines mentioned in the syllabus of concerned course)								
TOTAL				15	3	9	-	-	150	350	500	-	100	50	150	-
Semester Total				27			21	Marks 650								

Sl
Dr. S. H. Chaudhary
Chairman
B.O.S.
Mech. Engg

RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR

**B.TECH. (Electrical Engineering) (CBCS)
SCHEME OF EXAMINATION**

FIFTH SEMESTER

Board	Subject Code	Subject	Teaching Scheme				Credit	MARKS					Minimum Passing Marks	
			L	P	T/A	Total		Theory		Practical		Total	Theory	Practical
								Internal	Uni.	Internal	Uni.			
EE	BTCHEE501T	Microprocessor & Microcontroller	3	-	-	3	3	30	70	-	-	100	45	
EE	BTCHEE502T	Control systems	3	-	1A	4	4	30	70	-	-	100	45	
EE	BTCHEE503T	Power electronics	3	-	1T	4	4	30	70	-	-	100	45	
EE	BTCHEE504T	Advanced Electrical Power System	3	-	-	3	3	30	70	-	-	100	45	
EE	BTCHEE505T	Professional elective-I	3	-	-	3	3	30	70	-	-	100	45	
EE	BTCHEE501P	Microprocessor & Microcontroller lab	-	2	-	2	1	-	-	25	25	50		25
EE	BTCHEE502P	Control systems lab	-	2	-	2	1	-	-	25	25	50		25
EE	BTCHEE503P	Power Electronics lab	-	2	-	2	1	-	-	25	25	50		25
		Total	15	6	1A+1T	23	20	150	350	75	75	650		

• L- Lecture, P-Practical(Half Credit per Hour), T- Tutorial, A- Activity

Professional Elective-I
1. Electrical Machine – II
2. Power Station Practice
3. Electrical Power Utilization

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27/7/22
(Dr. A. Shrivastava)

[Signature]
27.7.22
(Dr. S.M. Kelo)

[Signature]
27/07/22
Dr. J.B. Fulele

**SCHEME OF EXAMINATION FOR
B.TECH ELECTRONICS & TELECOMMUNICATION / ELECTRONICS & COMMUNICATION ENGINEERING
(SEMESTER - V)**

Code	Subject	Teaching Scheme				Credits				MARKS					Minimum Passing Marks	
										Theory		Theory		Practical	Theory	Practical
		L	P	T/A	Total	L	P	T/A	Total	Internal	Univ.	Internal	Univ.			
EETC01T	Embedded System Design	2	-	1T	3	2	-	1	3	30	70	-	-	100	45	
EETC01P	Embedded System Design Lab	-	2	-	2	-	1	-	1	-	-	25	25	50		25
EETC02T	Electromagnetic Waves	3	-	1T	4	3	-	1	4	30	70	-	-	100	45	
EETC03T	Digital Signal Processing	3	-	-	3	3	-	-	3	30	70	-	-	100	45	
EETC03P	Digital Signal Processing Lab	-	2	-	2	-	1	-	1	-	-	25	25	50		25
EETC04OT	HSC: IEED(Economics)	2	-	1A	3	2	-	1	3	30	70	-	-	100	45	
EETC05PE	PEC-I	2	-	1T	3	2	-	1	3	30	70	-	-	100	45	
EETC06P	Electronic Workshop II	-	2	-	2	-	1	-	1	-	-	25	25	50		25
EETC507A	Audit Course	2	0	0	2	0	0	0	0	-	-	-	-	Audit Course S/NS**		
Total		14	6	3T+1A	24	12	3	4	19	150	350	75	75	650		

Audit Course S/NS** : S- Satisfactory / NS - Not Satisfactory

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Dr. V.K. Takur

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Dr. P.B. Paul

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S.C. Bhowmik

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Dr. J.S. Ghosh

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(MMK) 11-10-22

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Dr. R.D. Paul
11/10/22

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A.A. Khuntia

SCHEME OF EXAMINATION
RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
FIFTH SEMESTER B. TECH (CHEMICAL ENGINEERING)

Sr. No.	Code	Subject	Board	Work Load Hrs				Credits				Marks				Total Marks	Min. % of Marks Required for Passing
												Theory		Practical			
				L	P	T	Total	L	P	T	Total	College Assessment	University	College Assessment	University		
1	CE-PCC-501T	Heat Transfer	BCE	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
2	CE-PCC-502T	Chemical Reaction Engineering I	BCE	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
3	CE-PCC-503T	Mass Transfer II	BCE	4	0	1	5	4	0	1	5	30	70	-	-	100	45%
4	CE-CEL-504T	Core Elective I	BCE	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
5	CE-EOI-505T	Open Elective I	BCE	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
6	CE-HSMC-IIS-506T	HASS III: Industrial Economics & Project Management	BCE	2	0	0	2	2	0	0	2	15	35	-	-	50	45%
7	CE-PCC-507P	Chemical Reaction Engineering I Lab	BCE	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
8	CE-PCC-508P	Mass Transfer Lab	BCE	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
9	CE-PCC-509P	Heat Transfer Lab	BCE	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
10	MC	Constitution of India/ Essence of Indian Traditional Knowledge		2	0	0	2	0	0	0	0	-	-	-	-	-	Audit Course S/SF**
Total				20	9	3	32	18	4.5	3	25.5	165	385	75	75	700	-

** S/SF Grade for Audit Course S – Satisfactory or SF – Not Satisfactory

Elective	Subject Name		
	BOARD		
	BCE		
Core Elective I	Statistical Design of Experiments	Non-Newtonian Flow and Rheology	Chemical Process Synthesis and Design
Open Elective I	Environmental Pollution and Control	Renewable Energy	Energy Conservation and Recycling

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SCHEME OF EXAMINATION
RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
FIFTH SEMESTER B. TECH (CHEMICAL TECHNOLOGY)

Sr. No.	Code	Subject	Board	Work Load Hrs				Credit				Marks				Total Marks	Min. % of Marks Required for Passing
												Theory		Practical			
				L	P	T	Total	L	P	T	Total	College Assessment	University	College Assessment	University		
1	CT-PCC-501T	Heat Transfer	BCE	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
2	CT-PCC-502T	Chemical Reaction Engineering I	BCE	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
3	CT-PCC-503T	Mass Transfer I	BCE	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
4	CT-CS-504T	*Special Technology II	BCHT	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
5	CT-OEL-505T	Open Elective I	BCE	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
6	CT-ISMCM- HS-506T	HASS III Industrial Economics & Project Management	BCE	2	0	0	2	2	0	0	2	15	35	-	-	50	45%
7	CT-PCC-507P	Chemical Reaction Engineering I Lab	BCE	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
8	CT-CS-508P	*Special Technology I Lab	BCHT	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
9	CT-PCC-509P	Heat Transfer Lab	BCE	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
10	MC	Constitution of India/ Essence of Indian Traditional Knowledge		2	0	0	2	0	0	0	0	-	-	-	-	-	Audit Course S/SF**
Total				19	9	2	30	17	4.5	2	23.5	165	385	75	75	700	-

** S/SF Grade for Audit Course S – Satisfactory or SF – Not Satisfactory

Elective	Subject Name		
	BOARD		
	BCE		
Open Elective I	Environmental Pollution and Control	Renewable Energy	Energy Conservation and Recycling

*Food Technology, *Oil Technology, *Petrochemical Technology, *Pulp and Paper Technology,
 *Plastic and Polymer Technology, *Surface Coating Technology

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Semester – V (Third Year)

Branch: Fire Engineering

Fifth Semester:

Subject Code	Subjects	Work Load (Hours)			Credits	Marks					Minimum Passing Marks	
		L	T/A	P		Theory		Practical		Total	Theory	Practical
						Int	Uni	Int	Uni			
PCC-FE-301	Fire Dynamics	2	1	–	3	30	70	–	–	100	45	–
ESC-FE-301	Automobile Engineering	3	–	–	3	30	70	–	–	100	45	–
ESC-FE-302	Instrumentation and Control	2	1	–	3	30	70	–	–	100	45	–
PCC-FE-302	Fire Protection	2	1	–	3	30	70	–	–	100	45	–
HSMC-FE-301	Fundamentals of Management	3	–	–	3	30	70	–	–	100	45	–
PCC-FE-303	Fire Laws	2	–	–	2	30	70	–	–	100	45	–
PCC-FE-301 (P)	Fire Dynamics Laboratory	–	–	2	1	–	–	25	25	50	–	25
ESC-FE-301 (P)	Automobile Engineering Laboratory	–	–	2	1	–	–	25	25	50	–	25
ESC-FE-302 (P)	Instrumentation and Control Laboratory	–	–	2	1	–	–	25	25	50	–	25
PCC-FE-304 (P)	Fire Ground Operations – V	–	–	5	2.5	–	–	25	25	50	–	25
Total		14	3	11	22.5	180	420	100	100	800		

* L- Lecture, P- Practical , T- Tutorial, A- Activity (Half Credit Per Hour)

B.TECH SCHEME OF EXAMINATION 2021-22

Scheme of Teaching & Examination of Bachelor of Technology V Semester B.TECH(Artificial Intelligence & Data Science)

Sr. No.	Course Code	Category	Course Name	Hours/Week			Credits	Maximum Marks					Minimum Passing Marks	
				L	T	P		Theory		Practical		Total	Theory	Practical
								Internal	University	Internal	University			
1	BTECH_AI&DS-501T	Professional core courses	Data Mining	3	0	0	3.00	30	70			100	45	
2	BTECH_AI&DS-502T	Professional core courses	Design and Analysis of Algorithms	3	0	0	3.00	30	70	-	-	100	45	
3	BTECH_AI&DS-502P	Professional core courses	Design and Analysis of Algorithms lab	0	0	2	1.00			25	25	50	45	25
4	BTECH_AI&DS-503T	Professional core courses	Machine Learning Techniques	3	0	0	3.00	30	70	-	-	100	45	
5	BTECH_AI&DS-504T	Engineering Sciences	Internet of Things and its Application	3	0	0	3.00	30	70	-	-	100	45	
6	BTECH_AI&DS-504P	Engineering Sciences	Internet of Things -Lab	0	0	2	1.00	-	-	25	25	50		25
7	BTECH_AI&DS-505T	Professional Elective Course	Elective- I	3	0	0	3.00	30	70			100	45	
8	BTECH_AI&DS-506P	Professional core courses	Professional Skills-III	0	0	2	1.00			25	25	50	45	25
9	BTECH_AI&DS-507T	HSMC	Effective Technical Communication	2	0	0	2.00	15	35			50	23	
Total				17	0	6	20	165	385	75	75	700		

Elective I- 1. NoSQL 2. Information Security 3. Wireless Communication Technologies 4. ARM Processor & its Essentials

B.Tech. SCHEME OF EXAMINATION 2021-22

Scheme of Teaching & Examination of Bachelor of Technology V Semester B.Tech. (Artificial Intelligence)

Sr. No.	Course Code	Category	Course Name	Hours/Week			Credits	Maximum Marks				Minimum Passing Marks			
				L	T	P		Theory		Practical		Total	Theory	Practical	
								Internal	University	Internal	University				
1	BTECHAI501 T	Professional core courses	Computer Communication Network	3	0	0	3.00	30	70			50	45		
2	BTECHAI502 T	Professional core courses	Design and Analysis of Algorithms	4	0	0	4.00	30	70	-	-	100	45		
3	BTECHAI502 P	Professional core courses	Design and Analysis of Algorithms lab	0	0	2	1.00			25	25	100	45	25	
4	BTECHAI503 T	Professional core courses	Machine Learning Techniques	3	0	0	3.00	30	70	-	-	100	45		
5	BTECHAI503 P	Professional core courses	Machine Learning Techniques Lab	0	0	2	1.00			25	25	100	45	25	
6	BTECHAI504 T	Engineering Sciences	Internet of Things and Robotics	3	0	0	3.00	30	70	-	-	100	45		
7	BTECHAI504 P	Engineering Sciences	Internet of Things and Robotics Lab	0	0	2	1.00	-	-	25	25	50		25	
8	BTECHAI505 T	Professional Elective Course	Elective- 1	3	0	0	3.00	30	70			100	45		
9	BTECHAI506 P	HSMC	Organizational Behaviour	2	0	0	Audit	College assessment in grades O, A,B,C							
Total				18	0	8	19	150	350	75	75	650			

Elective 1- 1. NoSQL 2. Information Security 3. Wireless Communication Technologies 4. ARM Processor & its Essentials

RASHTRASANTUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR

Scheme of Teaching & Examination of Bachelor of Technology

V Semester B.Tech. (Robotics & Artificial Intelligence)

Sr. No.	Course Code	Category	Course Name	Hours/Week			Credits	Maximum Marks					Minimum Passing Marks	
				L	T	P		Theory		Practical		Total	Theory	Practical
								Internal	University	Internal	University			
1	BTechRA1501T	Professional Core courses	Robot Dynamics	3	0	0	3.00	30	70			100	45	
2	BTechRA1501P	Professional core courses	Robot Dynamics	0	0	2	1.00			25	25	50	45	25
3	BTechRA1502T	Professional Core courses	Machine Learning Algorithms	3	1	0	4.00	30	70	-	-	100	45	
4	BTechRA1502P	Professional core courses	Machine Learning Algorithms lab	0	0	2	1.00			25	25	50	45	25
6	BTechRA1503T	Professional core courses	Robotic Drive System	3	0	0	3.00	30	70	-	-	100	45	
7	BTechRA1504T	Engineering Sciences	Internet of Things and its Application	3	0	0	3.00	30	70	-	-	100	45	
8	BTechRA1504P	Engineering Sciences	Internet of Things and its Application	0	0	2	1.00	-	-	25	25	50		25
9	BTechRA1505T	Professional Elective Course	Elective-I	3	0	0	3.00	30	70			100	45	
10	BTechRA1506T	HSMC	Effective Technical Communication	2	0	0	2.00	15	35			50	23	
Total				17	1	6	21	165	385	75	75	700		

Elective-I-1.Field and Service Robotics 2.Information Security 3.Wireless Communication Technologies 4.ARM Processor & its Essentials 5.Drone & Automation System

RASHTRASANTUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR

Scheme of Teaching & Examination of Bachelor of Technology

V Semester B.Tech . (Industrial IOT)

Sr. No.	Course Code	Category	Course Name	Hours/Week			Credits	Maximum Marks					Minimum Passing Marks	
				L	T	P		Theory		Practical		Total	Theory	Practical
								Internal University	Internal University	Internal University	Internal University			
1	BTechIOT501T	Professional core courses	IOT Architecture & Protocols	3	0	0	3.00	30	70			100	45	
2	BTechIOT501P	Professional core courses	IOT Architecture & Protocols Lab	0	0	2	1.00			25	25	50		25
3	BTechIOT502T	Professional Core courses	Machine Learning	3	0	0	3.00	30	70	-	-	100	45	
4	BTechIOT502P	Professional core courses	Machine Learning Lab	0	0	2	1.00			25	25	50	45	25
5	BTechIOT503T	Professional core courses	Cloud & FOG Computing	3	0	0	3.00	30	70	-	-	100	45	
6	BTechIOT504T	Professional Core course	Advanced Signal Processing	3	1	0	4.00	30	70	-	-	100	45	
7	BTechIOT504P	Professional Core course	Advanced Signal Processing Lab	0	0	2	1.00	-	-	25	25	50		25
8	BTechIOT505T	Professional Elective Course	Elective- I	3	0	0	3.00	30	70			100	45	
9	BTechIOT506T	HSMC	Effective Technical Communication	2	0	0	2.00	15	35			50	23	
Total				17	1	6	21	165	385	75	75	700		

Elective I- 1.Computer Graphics for Virtual Reality 2.Data Visualisation
3. Wireless Communication Technologies 4. Industrial & Medical IOT

Scheme of Teaching & Examination of Bachelor of Engineering V Semester B.Tech. (Artificial Intelligence & Machine Learning)

Sr. No.	Course Code	Category	Course Name	Hours /Week			Credits	Maximum Marks					Minimum Passing Marks	
				L	T	P		Theory		Practical		Total	Theory	Practical
								Internal	University	Internal	University			
1	BTAI&ML501T	Professional core courses	Computer Communication Networks	3	0	0	3	30	70			100	45	
2	BTAI&ML502T	Professional core courses	Data Analytics & Machine Learning	3	0	0	3	30	70	-	-	100	45	
3	BTAI&ML502P	Professional core courses	Data Analytics & Machine Learning Lab	0	0	2	1			25	25	50		25
4	BTAI&ML503T	Professional core courses	Design and Analysis of Algorithms	3	0	0	3	30	70	-	-	100	45	
5	BTAI&ML503P	Professional core courses	Design and Analysis of Algorithms Lab		0	2	1			25	25	50		25
6	BTAI&ML504T	Professional core courses	Internet of Things & Cloud Computing	3	0	0	3	30	70	-	-	100	45	
7	BTAI&ML504P	Professional core courses	Internet of Things & Cloud Computing	0	0	2	1			25	25	50		25
8	BTAI&ML505T	Professional Elective	Elective-1	3	0	0	3	30	70			100	45	
9	BTAI&ML506T	HSMC	Effective Technical Communication	2	0	0	2	15	35			50	23	
Total				17	0	6	20	165	385	75	75	700		

Elective-1:

ARM Processors and Its Essentials , Distributed Computing , Robotics, Web and Social Media Analytics

RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
FOUR YEAR BACHELOR OF TECHNOLOGY (B. TECH.) DEGREE COURSE
SCHEME OF EXAMINATION FOR
SEMESTER: FIFTH [C.B.C.S] BRANCH: INFORMATION TECHNOLOGY

Sr. No.	Subject Code	Subject	Workload				Credits	Marks				Total Marks	Min Marks
			Lecture	Practical	Tutorial/Activity	Total		Theory		Practical			
								Internal	University	Internal	University		
1	BTIT501T	Software Engineering & Project Management	3			3	3	30	70			100	45
2	BTIT501P	Software Engineering & Project Management		2		2	1			25	25	50	25
3	BTIT502T	Design and Analysis of Algorithms	2		1	3	3	30	70			100	45
4	BTIT503T	JAVA Programming	3			3	3	30	70			100	45
5	BTIT503P	JAVA Programming Lab		2		2	1			25	25	50	25
6	BTIT504T	Theory of Computation	2		1	3	3	30	70			100	45
7	BTIT505T	Elective-1	3			3	3	30	70			100	45
8	BTIT506P	Software Lab (Basics of AR & VR / Web Technology)		2		2	1			25	25	50	25
9	BTIT507T	Effective Technical Communication	2			2	2	15	35			50	23
10	BTIT508T	Yoga & Meditation (Audit)	2			2	2	15	35			50	23
		Total	17	06	2	25	20	100	400	75	75	650	

Elective -I (BTIT505T)

1. Gaming Architecture & Programming (BTIT505T.1)
2. High Performance Computer Architecture (BTIT505T.2)

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R.T.M. Nagpur University, Nagpur
Four Year B.TECH. Course
(Revised Curriculum as per AICTE Model Curriculum)

B.TECH. V Semester(Computer Technology) Scheme

Code.	Subject	Teaching Scheme			Evaluation Scheme			Credits	Min Passing
		L	T	P	CA	UE	Total		
BTCT501T	Design and Analysis of Algorithms (TH)	3	0	0	30	70	100	3	45
BTCT501P	Design and Analysis of Algorithms Lab (PR)	0	0	2	25	25	50	1	25
BTCT502T	Database Management System(TH)	3	0	0	30	70	100	3	45
BTCT502P	Database Management System(PR)	0	0	2	25	25	50	1	25
BTCT503T	Software Engineering and Project Management (TH)	3	0	0	30	70	100	3	45
BTCT504T	Effective Technical Communication (TH)	2	0	0	30	70	100	2	45
BTCT505T	Artificial Intelligence (TH)	3	0	0	30	70	100	3	45
BTCT506T	Elective -1	3	0	0	30	70	100	3	45
BTCT507T	Professional Ethics (Audit Course)	2	0	0	0	0	0	0	Audit
Total		17	5	6	175	475	650	19	

Elective – 1 : BTCT506T

BTCT506T.1 TCP/IP

BTCT506T.2 Computer Graphics

BTCT506T.3 System Software & Device Drivers

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RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
FOUR YEAR BACHELOR OF TECHNOLOGY (B.Tech.) DEGREE COURSE
SEMESTER: 5th (C.B.C.S.)
BRANCH: COMPUTER ENGINEERING

Fifth Semester:-

S. N.	Subject Code	Subject	Teaching Scheme			Evaluation Scheme			Credits	Min Passing
			L	T	P	CA	UE	Total		
1	BTCME501T	Database Management System	3	1	-	30	70	100	4	45
2	BTCME502T	Computer Graphics	3	-	-	30	70	100	3	45
3	BTCME503T	Java Programming	3	-	-	30	70	100	3	45
4	BTCME504T	Elective-I	3	-	-	30	70	100	3	45
5	BTCME501P	Database Management System - Lab	-	-	2	25	25	50	1	25
6	BTCME502P	Computer Graphics – Lab	-	-	2	25	25	50	1	25
7	BTCME503P	Java Programming -Lab	-	-	2	25	25	50	1	25
8	BTCME505T	Humanities - II Effective Technical Communication	2	1	-	15	35	50	3	23
9	BTCME506T	Yoga & Meditation	-	-	2	-	-	-	Audit	
10		Total	14	02	08			600	19	

Elective-I:

1. Microcontrollers & Applications,
2. Artificial Intelligence,
3. Software Engineering

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RTMNU B.TECH. SCHEME OF EXAMINATION 2021-22

Scheme of Teaching & Examination of Bachelor of Technology V Semester B.Tech. (Computer Science and Engineering)

S. N.	Course Code	Category	Subject	Hours/Week			Credits	Maximum Marks					Min Passing Marks	
				L	T	P		Theory		Practical		Total	Theory	Practical
								Internal	University	Internal	University			
1	BTECHCSE501 T	Professional core courses	Artificial Intelligence	3	1	-	4	30	70	-	-	100	45	-
2	BTECHCSE502 T	Professional core courses	Software Engineering & Project Management	3	-	-	3	30	70	-	-	100	45	-
3	BTECHCSE503 T	Humanities Social and Management Courses	Effective Technical Communication	2	-	-	2	15	35	-	-	50	23	-
4	BTECHCSE504 T	Professional core courses	Design & Analysis of Algorithms	3	1	-	4	30	70	-	-	100	45	-
5	BTECHCSE505 T	Professional core courses	Elective-I	3	-	-	3	30	70	-	-	100	45	-
6	BTECHCSE501 P	Professional core courses	Artificial Intelligence - Lab	-	-	2	1	-	-	25	25	50	-	25
7	BTECHCSE504 P	Professional core courses	Design & Analysis of Algorithms -Lab	-	-	2	1	-	-	25	25	50	-	25
8	BTECHCSE506 P	Professional core courses	Professional Skill Lab -1	-	-	2	1	-	-	25	25	50	-	25
10	BTECHCSE507 T	Mandatory Course	Yoga & Meditation (Audit Course)	2	-	-	Audit	-	-	-	-	-	-	-
			Total	16	2	06	19	135	315	75	75	600		

Elective-I: 1. TCP/IP

2. Design Patterns

3. Data Warehousing & Mining

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**PROPOSED SCHEME OF EXAMINATION FOR B. TECH (BIOTECHNOLOGY)
FIFTH SEMESTER B. TECH (BIOTECHNOLOGY)**

Sr. No	Code Theory (T) Practical (P)	Subject	Board	Work Load (Hours)				Credit				Marks				Total Marks	Min. % Marks Required for passing
				L	P	T	Total	L	P	T	Total	Theory		Practical			
												College Assessment	University	College Assessment	University		
1	BT -HS - 501 T	Entrepreneurship and Startups	BGE	1	0	1	2	1	0	1	2	15	35	-	-	50	45%
2	BT -PC - 502 T	Immunology & Immunotechnology	BBT	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
3	BT -PC - 503 T	Genetic Engineering and rDNA Technology	BBT	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
4	BT -PC - 504 T	Fluid Mechanics and Solid Handling	BBT	2	0	1	3	2	0	1	3	30	70	-	-	100	45%
5	BT -PE - 505 T	Professional Elective-I	BBT	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
6	BT -OS - 506 T	Open Subject-I	BBT	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
7	BT -AU - 507 T	Indian Constitution	BGE	2	0	0	2	0	0	0	Audit	50	-	-	-	50	-
8	BT -PC - 504 T	Immunology & Immunotechnology Laboratory	BBT	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
9	BT -PC - 504 T	Genetics & rDNA Technology Laboratory	BBT	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
Total				17	6	4	27	16	3	4	22	160	440	50	50	700	

Professional Elective-I

List of available courses under Professional Elective – I	
S. No.	Course
1	Big Data Analytics
2	Advanced Bioprocess Control
3	Biosimilars Technology

Open Subject-I

List of available courses under Open Subject – I	
S. No.	Course Title
1	3D Printing & Design
2	Internet of Things
3	Cheminformatics & Medicinal Chemistry
4	Biomaterials
5	Green Economy and Sustainability

Rashtrasant Tukdoji Maharaj Nagpur University, Nagpur
Faculty of Engineering & Technology
Course and Examination Scheme of Bachelor of Technology-Aeronautical Engineering
V Semester B. Tech. (CBCS)

Subject Code	Subject	Teaching Scheme				Examination Scheme									
		Hours per week			No. of Credits	Theory					Practical				
		L	T	P		Duration of Paper (Hrs)	Max Marks University Assessment	Max Marks College Assessment	Total Marks	Min. Passing Marks	Max Marks University Assessment	Max Marks College Assessment	Total Marks	Min. Passing Marks	
BTAE 501T	Propulsion- II	3	-	-	3	03	70	30	100	45	-	-	-	-	
BTAE 501P	Propulsion- II Lab	-	-	2	1	-	-	-	-	-	25	25	50	25	
BTAE 502T	Aircraft System & Instrumentation	3	-	-	3	03	70	30	100	45	-	-	-	-	
BTAE 502P	Aircraft Systems & Instrumentation Lab	-	-	2	1	-	-	-	-	-	25	25	50	25	
BTAE 503T	Aircraft Structure- II	3	1	-	4	03	70	30	100	45	-	-	-	-	
BTAE 503P	Aircraft Structure- II Lab	-	-	2	1	-	-	-	-	-	25	25	50	25	
BTAE 504T(OE)	Open Elective-I	3	-	-	3	03	70	30	100	45	-	-	-	-	
BTAE 505T(E)	Elective-I	3	-	-	3	03	70	30	100	45	-	-	-	-	
BTAE 506T	Introduction to Aeromodelling	2	-	-	-	College assessment in Grades as O,A,B,C (Evaluation mentioned in the Syllabus of concerned subject)									
Total		17	1	6	19	-	350	150	500	-	75	75	150	-	
Semester Total		24				Marks 650									

Open Elective-I		Elective-I	
Course Code	Course Name	Course Code	Course Name
BTAE 504T(OE) - 1	Intellectual Property Rights	BTAE 505T(E) -1	Heat and Mass Transfer
BTAE 504T(OE) - 2	Gender Sensitization	BTAE 505T(E) -2	Smart materials and Introduction to composites
BTAE 504T(OE) - 3	Organizational Behavior and Entrepreneurship Development	BTAE 505T(E) -3	Airworthiness and Certification
BTAE 504T(OE) - 4	Industrial Economics and Management	BTAE 505T(E) -4	Introduction to Helicopter Dynamics

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RASHTRASANT TUKDOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
FACULTY OF SCIENCE & TECHNOLOGY
SCHEME OF EXAMINATION & EVALUATION
B. TECH CIVIL ENGINEERING (CHOICE BASED CREDIT SYSTEM)
SEMESTER: SIXTH

Sr. No	Subject Code	Subject	Workload in Hours			Credit				Marks					Minimum passing marks	
			L	T/A	P	L	T	P	Total	Theory		Practical		Total	Theory	Practical
										Int	Uni	Int	Uni			
1	BTCVE601T	Estimating & Costing	3	1	0	3	1	0	4	30	70	--	--	100	45	--
2	BTCVE601P	Estimating & Costing (Practical)	0	0	2	0	0	1	1	--	--	25	25	50	--	25
3	BTCVE602T	Construction Engineering & Management	2	1	0	2	1	0	3	30	70	--	--	100	45	--
4	BTCVE603T	Water Resource Engineering	3	0	0	3	0	0	3	30	70	--	--	100	45	--
5	BTCVE604T	Elective-III	3	0	0	3	0	0	3	30	70	--	--	100	45	--
6	BTCVE605T	Open Elective-I	3	0	0	3	0	0	3	30	70	--	--	100	45	--
7	BTCVE606P	Computer Aided Civil Engineering Drawing (Practical)	0	0	2	0	0	1	1	--	--	50	50	100	--	50
TOTAL			14	2	4	14	2	2	18	150	350	75	75	650	--	--

- L- Lecture , P-Practical, T- Tutorial , A- Activity (Half Credit per Hour)

Note: In summer vacation after 6th Semester, student have to complete 3 to 4 weeks industrial / Government / NGO / MSME / Rural Internship / Innovation / Entrepreneurship training. In the beginning of 7th semester, student have to submit detailed report of summer vacation training to department.

(Signature)
Chairman

(Signature)
 (Dr. A.N. Dabade)
 Ras Member

(Signature)
 (Dr. Avinash N. Shrikhande,
 BOS (Civil Engg) Chairman

Rashtrasant Tukdoji Maharaj Nagpur University, Nagpur
 Faculty of Science & Technology
 Course and Examination Scheme of Bachelor of Engineering (Mechanical Engineering)
 VI Semester B, Tech. (Mechanical Engineering)

Sr No	Course Code	Category	Course Title	Teaching Scheme (Hours/Week)			Credits	Examination Scheme									
				L	T	P		Theory					Practical				
								Duration of Exam (Hrs)	Max. Marks College Assessment	Max. Marks University Assessment	Total Marks	Min. Passing Marks	Max. Marks College Assessment	Max. Marks University Assessment	Total Marks	Min. Passing Marks	
1	BEME601T	Professional core courses	Automation in Production	3	1	-	4	3	30	70	100	45	-	-	-	-	
2	BEME601P	Professional core courses	Automation in Production Lab	-	-	2	1	-	-	-	-	-	25	25	30	25	
3	BEME602T	Professional core courses	Energy Conversion-II	5	1	-	4	3	30	70	100	45	-	-	-	-	
4	BEME602P	Professional core courses	Energy Conversion Lab	-	-	2	1	-	-	-	-	-	25	25	50	25	
5	BEME603T	Professional core courses	Dynamics of Machines	3	1	-	4	3	30	70	100	45	-	-	-	-	
6	BEME603P	Professional core courses	Dynamics of Machines Lab	-	-	2	1	-	-	-	-	-	25	25	30	25	
7	BEME604T	Professional Elective courses	Elective - I	3	-	-	3	3	30	70	100	45	-	-	-	-	
8	BEME605T	Professional Elective courses	Elective - II	3	-	-	3	3	30	70	100	45	-	-	-	-	
9	BEME606P	Project work, seminar and internship in industry or elsewhere	Skill Development*	-	-	4	2	-	-	-	-	-	30	-	50	25	
10	BEME607P	Project work, seminar and internship in industry or elsewhere	Summer Internship**	During Summer Vacation			Audit (0)	-	-	-	-	-	-	-	-	-	
11	BEME608P	Mandatory Course	Environment Science	-	-	2	Audit (0)	College Assessment in Grades O, A, B, C (Evaluation guidelines mentioned in the syllabus of concerned course)									
TOTAL				15	3	13	-	-	150	350	500	-	125	75	200	-	
Semester Total				31			23	Marks 700									

Sd/-
 C. Dr. S. K. Choudhary
 Chairman
 B.O.S.
 Mechanical Engg

RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
B.TECH. (Electrical Engineering) (CBCS)
SCHEME OF EXAMINATION

SIXTH SEMESTER

Board	Subject Code	Subject	Teaching Scheme				Credit	MARKS					Minimum Passing Marks	
			L	P	T/A	Total		Theory		Practical		Total	Theory	Practical
								Internal	Uni.	Internal	Uni.			
GS	BTCHEE601T	Engineering Economics & Management	3	-	-	3	3	30	70	-	-	100	45	
EE	BTCHEE602T	Computer Applications in power system	3	-	1T	4	4	30	70	-	-	100	45	
EE	BTCHEE603T	Switch gear & protection	3	-	1T	4	4	30	70	-	-	100	45	
	BTCHEE604T	Open electives-I	3	-	-	3	3	30	70	-	-	100	45	
EE	BTCHEE605T	Professional elective-II	3	-	-	3	3	30	70	-	-	100	45	
	BTCHEE606T	Yoga & Meditation	-	2	-	2	Audit	-	-	25*	-	25*		
EE	BTCHEE602P	Computer Applications in power system lab	-	2	-	2	1	-	-	25	25	50		25
EE	BTCHEE603P	Switch gear & protection lab	-	2	-	2	1	-	-	25	25	50		25
EE	BTCHEE607P	Internship 3 to 4 weeks (After 4 th or 5 th semester break) / Mini Project	-	-	2A	2	2	-	-	50	-	50		
Total			15	6	2A+2T	25	21	150	350	100	50	650		

• L- Lecture, P-Practical(Half Credit per Hour), T- Tutorial, A- Activity, * indicates noncredit subject

Open Electives -I	Professional Elective-II
1. PLC and SCADA systems	1. Advanced control System
2. Solar PV Systems	2. Optimization technique
3. Organizational behavior	3. Electric Drives and their control
4. Numerical Mathematics & Probability using MATLAB	4. -----

- Internship:- a) Student shall be allowed to undergo internship after 4th or 5th semester break
 b) Internal marks for internship of VIth semester may be awarded after successful completion of internship
 c) 50 internal marks for internship shall be given as-
- 25 marks based on detailed report about internship along with certificate provided by company/industry
 - 25 marks based on presentation by student about what he/she learned during internship

Dr. A. Shinde
 15/7/22

23-3-22

10/7/22
Fulke

**SCHEME OF EXAMINATION FOR
B.TECH ELECTRONICS & TELECOMMUNICATION / ELECTRONICS & COMMUNICATION ENGINEERING
(SEMESTER – VI)**

Code	Subject	Teaching Scheme				Credit				MARKS					Minimum Passing Marks	
		L	P	T/A	Total	L	P	T/A	Total	Theory		Practical		Total Marks	Theory	Practical
										Internal	Univ.	Internal	Univ.			
ETC-01T	Computer Communication Network	2	-	-	2	2	-	-	2	30	70	-	-	100	45	
ETC-01P	Computer Communication Network Lab	-	2	-	2	-	1	-	1	-	-	25	25	50		25
ETC-02T	Internet of Things (IOT)	2	-	-	2	2	-	-	2	30	70	-	-	100	45	
ETC-02P	IOT Lab	-	2	-	2	-	1	-	1	-	-	25	25	50		25
ETC-03T	Wireless Sensor Network	2	-	-	2	2	-	-	2	30	70	-	-	100	45	
ETC-03P	Wireless Sensor Network Lab	-	2	-	2	-	1	-	1	-	-	25	25	50		25
ETC-04PE	PEC-II	2	-	1T	3	2	-	1	3	30	70	-	-	100	45	
ETC-05OE	OE-I	2	-	1A	3	2	-	1	3	30	70	-	-	100	45	
ETC-06T	HSC: Effective Technical Communication	-	-	3A	3	-	-	3	3	-	-	50	-	50	23	
ETC-07I	Mini Project(Internship)	-	-	3A	3	-	-	3	3	-	-	25	25	50		25
ETC-08A	Audit Course	2	0	0	2	0	0	0	0	-	-	-	-	Audit Course S/NS**		
Total		12	6	1T+7A	26	10	3	8	21	150	350	150	100	750		

Audit Course S/NS** : S- Satisfactory / NS - Not Satisfactory

Dr. P. S. Pulle
(Dr. P. S. Pulle)

Dr. P. S. Pulle
Dr. P. S. Pulle
S.C. B. D. P. S.

Dr. J. S. Grewal
Dr. J. S. Grewal

Dr. R. D. Raut
Dr. R. D. Raut
11/10/22

A. A. Khan
A. A. Khan

SCHEME OF EXAMINATION
RASHTRASANTUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
SIXTH SEMESTER B. TECH (CHEMICAL ENGINEERING)

Sr. No.	Code	Subject	Board	Work Load Hrs				Credit				Marks				Total Marks	Min. % of Marks Required for Passing
												Theory		Practical			
												College Assessment	University	College Assessment	University		
				L	P	T	Total	L	P	T	Total						
1	CE-PCC-601T	Chemical Reaction Engineering II	BCE	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
2	CE-PCC-602T	Process Equipment Design	BCE	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
3	CE-PCC-603T	Process Dynamics & Control	BCE	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
4	CE-CTE-604T	Core Elective-II	BCE	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
5	CE-OLE-605T	Open Elective-II	BCE	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
6	CE-HSMC-HS-606T	HASS IV Industrial organization & Entrepreneurship Development	BCE	2	0	0	2	2	0	0	2	15	35	-	-	50	45%
7	CE-PCC-607P	Chemical Reaction Engineering II Lab	BCE	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
8	CE-PCC-608P	Process Equipment Design & Drawing Lab	BCE	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
9	CE-PCC-609P	Process Dynamics & Control Lab	BCE	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
10	CE-PCC-610P	Summer internship (3-4 weeks) (to be evaluated in seventh semester)	BCE	0	0	0	0	0	0	0	0	-	-	-	-	-	-
Total				17	9	3	29	17	4.5	3	24.5	165	385	75	75	700	-

Elective	Subject Name		
	BOARD		
	BCE		
Core Elective II	Advanced Separation Processes	Computational Fluid Dynamics	Process Intensification
Open Elective II	Polymer Science and Engineering	Chemical Processing for Microelectronics	Membrane Technology

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**SCHEME OF EXAMINATION
RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
SIXTH SEMESTER B. TECH (CHEMICAL TECHNOLOGY)**

Sr. No.	Code		Subject	Board	Work Load Hrs				Credit				Marks				Total Marks	Min. % of Marks Required for Passing
	Theory (T)	Practical (P)			L	P	T	Total	L	P	T	Total	Theory		Practical			
													College Assessment	University	College Assessment	University		
1	CT-PCC-601T		Chemical Reaction Engineering II	BCE	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
2	CT-PCC-602T		Process Equipment Design	BCE	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
3	CT-PCC-603T		Process Dynamics & Control	BCE	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
4	CT-CS-604T		*Special Technology III	BCIT	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
5	CT-CS-605T		*Special Technology IV	BCIT	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
6	CT-HSMC-HS-606T		HASS IV Industrial organization & Entrepreneurship Development	BCE	2	0	0	2	2	0	0	2	15	35	-	-	50	45%
7	CT-PCC-607P		Chemical Reaction Engineering I Lab	BCIT	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
8	CT-PCC-608P		Process Equipment Design & Drawing Lab	BCE	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
9	CT-PCC-609P		Process Dynamics & Control Lab	BCE	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
10	CT-CS-610P		*Special Technology II Lab	BCIT	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
11	CT-CS-611P		Summer Internship (3-4 weeks) (to be evaluated in seventh semester)	BCIT	0	0	0	0	0	0	0	0	-	-	-	-	-	-
Total					17	12	3	32	17	6	3	26	165	385	100	100	750	-

*Food Technology, *Oil Technology, *Petrochemical Technology, *Pulp and Paper Technology,
*Plastic and Polymer Technology, *Surface Coating Technology

Monday

Semester – VI (Third Year)

Branch: Fire Engineering

Sixth Semester:

Subject Code	Subjects	Work Load (Hours)			Credits	Marks					Minimum Passing Marks	
		L	T/A	P		Theory		Practical		Total	Theory	Practical
						Int	Uni	Int	Uni			
PCC-FE-305	Fixed Fire Fighting Installations	2	1	–	3	30	70	–	–	100	45	–
PCC-FE-306	Paramedics	2	1	–	3	30	70	–	–	100	45	–
PCC-FE-307	Fire Modelling	2	1	–	3	30	70	–	–	100	45	–
PCC-FE-308	Fundamentals of Industrial Safety and Health	2	1	–	3	30	70	–	–	100	45	–
PCC-FE-309	Fire Codes and Standards	3	–	–	3	30	70	–	–	100	45	–
PCC-FE-310	Fire and Life Safety Audit	2	–	–	2	30	70	–	–	100	45	–
PCC-FE-305 (P)	Fixed Fire Fighting Installations Laboratory	–	–	2	1	–	–	25	25	50	–	25
PCC-FE-306 (P)	Paramedics Laboratory	–	–	2	1	–	–	25	25	50	–	25
PCC-FE-307 (P)	Fire Modelling Laboratory	–	–	2	1	–	–	25	25	50	–	25
PCC-FE-311 (P)	Fire Ground Operations – VI	–	–	5	2.5	–	–	25	25	50	–	25
Total		13	4	11	22.5	180	420	100	100	800		

* L- Lecture, P- Practical, T- Tutorial, A- Activity (Half Credit Per Hour)

P. Shetty — *[Signature]*

B.TECH SCHEME OF EXAMINATION 2021-22

Scheme of Teaching & Examination of Bachelor of Technology VI Semester B.TECH(Artificial Intelligence & Data Science)

Sr. No.	Course Code	Category	Course Name	Hours/Week			Credits	Maximum Marks					Minimum Passing Marks	
				L	T	P		Theory		Practical		Total	Theory	Practical
								Internal	University	Internal	University			
1	BTECH_AI&DS-601T	Professional core courses	Deep Learning	3	0	0	3.00	30	70	-	-	100	45	
2	BTECH_AI&DS-601P	Professional core courses	Deep Learning Lab	0	0	2	1.00			25	25	50		25
3	BTECH_AI&DS-602T	Engineering Sciences	Computer Communication Network	3	0	0	3.00	30	70	-	-	100	45	
	BTECH_AI&DS-603T	Professional core courses	Digital System Design using Verilog	3	0	0	3.00	30	70	-	-	100	45	
4	BTECH_AI&DS-603P	Professional core courses	DSD-Lab	0	0	2	1.00	-	-	25	25	50		25
5	BTECH_AI&DS-604T	Professional Elective Course	Elective-II	3	0	0	3.00	30	70			100	45	
6	BTECH_AI&DS-605T	Open Elective	Open Elective-1	3	0	0	3.00	30	70			100	45	
7	BTECH_AI&DS-606P	Professional core courses	Professional Skills-IV	0	0	2	1.00	-	-	25	25	50		25
8	BTECH_AI&DS-607T	Mandatory course	Intellectual Property Rights	2	0	0	Audit	College assessment in grades O, A,B,C						
10	BTECH_AI&DS-608P	Project Work/Internship	Mini Project /Internship	0	0	6	3.00	-	-	25	25	50	-	25
Total				17	0	12	21.00	150	350	100	100	700		

Elective II: 1. Web and Social Media Analytics 2. Block Chain and Cyber Security 3. Intelligent Sensor & Instrumentation 4. Robotics and Intelligent Systems

**Scheme of Teaching & Examination of Bachelor of Technology VI Semester B.Tech. (Artificial Intelligence)
B.Tech. SCHEME OF EXAMINATION 2021-22**

Sr. No.	CourseCode	Category	Course Name	Hours/Week			Credits	Maximum Marks					Minimum Passing Marks		
				L	T	P		Theory		Practical		Total	Theory	Practical	
								Internal	University	Internal	University				
1	BTECHAI601T	Professional core courses	Deep Learning	4	0	0	4.00	30	70	-	-	100	45		
2	BTECHAI601P	Professional core courses	Deep Learning Lab	0	0	2	1.00			25	25	50		25	
3	BTECHAI602T	Professional core courses	AI in Natural Language Processing	3	0	0	3.00	30	70	-	-	100	45		
4	BTECHAI602P	Professional core courses	AI in Natural Language Processing Lab	0	0	2	1.00			25	25	50		25	
5	BTECHAI603T	Engineering Sciences	Digital System Design using Verilog	3	0	0	3.00	30	70	-	-	100	45		
6	BTECHAI603P	Engineering Sciences	Digital System Design Lab	0	0	2	1.00	-	-	25	25	50		25	
7	BTECHAI604T	Professional Elective Course	Elective 2	3	0	0	3.00	30	70			100	45		
8	BTECHAI605T	Open Elective	Open Elective-I	3	0	0	3.00	30	70			100	45		
10	BTECHAI606P	Mandatory Course	Intellectual Property Rights	2	0			College assessment in grades O, A,B,C							
11	BTECHAI607P	Project/ Internship	Mini Project /Internship	-	0	6	3.00	-	-	25	25	50	-	25	
Total				18	0	12	22.00	150	350	125	75	700			

Elective II: 1. Web and Social Media Analytics 2. Block Chain and Cyber Security 3. Intelligent Sensor & Instrumentation 4. Intelligent Transport Systems

RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR

Scheme of Teaching & Examination of Bachelor of Technology

VI Semester B.Tech. (Robotics & Artificial Intelligence)

Sr. No	Course Code	Category	Course Name	Hours/Week			Credits	Maximum Marks					Minimum Passing Marks	
				L	T	P		Theory		Practical		Total	Theory	Practical
								Internal	University	Internal	University			
1	BTechRA1601T	Professional Core courses	Computer Vision & Deep Learning	3	0	0	3.00	30	70	-	-	100	45	
2	BTechRA1601P	Professional Core courses	Computer Vision & Deep Learning Lab	0	0	2	1.00			25	25	50		25
3	BTechRA1602T	Professional core courses	Automation System Design	3	0	0	3.00	30	70	-	-	100	45	
4	BTechRA1602P	Professional Core courses	Automation System Design lab	0	0	2	1.00			25	25	50		25
5	BTechRA1603T	Professional Core courses	Big Data Analytics for Business Intelligence	3	0	0	3.00	30	70	-	-	100	45	
6	BTechRA1603P	Professional Core courses	Big Data Analytics for Business Intelligence Lab	0	0	2	1.00	-	-	25	25	50		25
7	BTechRA1604T	Professional Elective course	Elective 2	3	0	0	3.00	30	70			100	45	
8	BTechRA1605T	Open Elective course	Open Elective-1	3	0	0	3.00	30	70			100	45	
9	BTechRA1606T	HSMC	Organizational Behavior	2	0		Audit	College assessment in grades O, A,B,C						
10	BTechRA1607P	Project Work/Internship	Mini Project/Internship	0	0	6	3.00	-	-	25	25	50	-	25
Total				17	0	12	21.00	150	350	100	100	700		

Elective II: 1. Computer Integrated Manufacturing Systems 2. Block Chain Technologies. 3. Intelligent Sensor & Instrumentation 4. Robotics and Intelligent Systems 5. Robotic Process Automation

RASHTRASANTUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR

Scheme of Teaching & Examination of Bachelor of Technology

VI Semester B.Tech. (Industrial IOT)

Sr. No.	Course Code	Category	Course Name	Hours / Week			Credits	Maximum Marks					Minimum Passing Marks	
				L	T	P		Theory		Practical		Total	Theory	Practical
								Internal	University	Internal	University			
1	BTechIOT601T	Professional core courses	Mobile & Web Application Development	3	0	0	3.00	30	70	-	-	100	45	
2	BTechIOT601P	Professional core courses	Mobile & Web Application Development Lab	0	0	2	1.00			25	25	50		25
3	BTechIOT602T	Professional Core courses	Digital modelling and SOC	3	1	0	4.00	30	70	-	-	100	45	
4	BTechIOT602P	Professional core courses	Digital modeling and SOC Lab	0	0	2	1.00			25	25	50		25
5	BTechIOT603T	Professional core courses	Big data Analytics & Business Intelligence	3	0	0	3.00	30	70	-	-	100	45	
6	BTechIOT603P	Professional core courses	Big data Analytics & Business Intelligence	0	0	2	1.00	-	-	25	25	50		25
7	BTechIOT604T	Professional Elective Course	Elective- 2	3	0	0	3.00	30	70			100	45	
8	BTechIOT605T	Open Elective	Open Elective-1	3	0	0	3.00	30	70			100	45	
9	BTechIOT606T	HSMC	Organizational Behaviour	2	0	0	Audit Course	College assessment in grades O, A,B,C						
10	BTechIOT607P	Project Work /Internship	Mini Project /Internship	0	0	6	3.00	-	-	25	25	50	-	25
Total				17	1	12	22.00	150	350	100	100	700		

Elective II: 1. Web and Social Media Analytics 2. Linux and shell programming 3. Intelligent Sensor & Instrumentation 4. Robotics and Intelligent Systems 5. Block Chain & Cyber Security

Scheme of Teaching & Examination of Bachelor of Engineering VI Semester B.Tech. (Artificial Intelligence& Machine Learning)

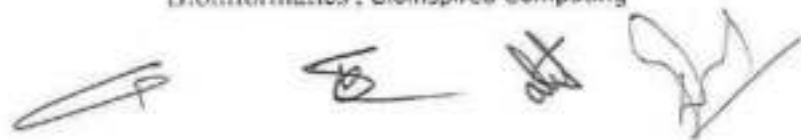
Sr. No.	Course Code	Category	Course Name	Hours/Week			Credits	Maximum Marks					Minimum Passing Marks	
				L	T	P		Theory		Practical		Total	Theory	Practical
								Internal	University	Internal	University			
1	BTAI&ML601T	Professional core courses	Language Processor	3	0	0	3	30	70	-	-	100	45	
2	BTAI&ML601P	Professional core courses	Language Processor Lab	0	0	2	1			25	25	50		25
3	BTAI&ML602T	Professional core courses	Introduction to Cryptography and Blockchain	3	0	0	3	30	70	-	-	100	45	
4	BTAI&ML602P	Professional core courses	Introduction to Cryptography and Blockchain Lab	0	0	2	1			25	25	50		
5	BTAI&ML603T	Professional core courses	Digital system Design using Verilog	3	0	0	3	30	70			100	45	
6	BTAI&ML603P	Professional core courses	Digital system Design using Verilog Lab	0	0	2	1			25	25	50		25
7	BTAI&ML604T	Open Elective courses	Open Elective -1	3	0	0	3	30	70			100	45	
8	BTAI&ML605T	Professional Elective	Elective 2	3	0	0	3	30	70			100	45	
9	BTAI&ML605P	Professional core courses	Mini Project	0	0	6	3			25	25	50		25
10	BTAI&ML607T	HSMC	Intellectual Property Right	2	0	0	Audit	College assessment in grades O, A,B,C						
Total				17	0	12	21	150	350	100	100	700		

Elective-2

Data Visualization, Intelligent Sensor and instrumentation, Human Computer Interface , Software Engineering

Open Elective-1

Bioinformatics , Bioinspired Computing



**RASHTRASANT TUKADOJI MAHARAJ NAGPUR
UNIVERSITY, NAGPUR
SCHEME OF EXAMINATION FOR
FOUR YEAR BACHELOR OF TECHNOLOGY (B. TECH.) DEGREE COURSE
SEMESTER: SIXTH [C.B.C.S] BRANCH: INFORMATION TECHNOLOGY**

Sr. No.	Subject Code	Subject	Teaching Scheme					MARKS				Min Marks	
			Lecture	Practical	Tutorial / Activity	Total	Credits	Theory		Practical			Total Marks
								Internal	University	Internal	Uni v.		
1	BTIT601T	Data Base Management System	3			3	3	30	70			100	45
2	BTIT601P	Data Base Management System		2		2	1			25	25	50	25
4	BTIT602T	Artificial Intelligence and Machine Learning	3			3	3	30	70			100	45
5	BTIT602P	Artificial Intelligence and Machine Learning		2		2	1			25	25	50	25
6	BTIT603T	Elective – II	3			3	3	30	70			100	45
7	BTIT604T	Elective – III	3			3	3	30	70			100	45
8	BTIT605T	Open Elective- I	3			3	3	30	70			100	45
9	BTIT606P	Mini Project & Industrial Visit		6		6	3			25	25	50	25
10	BTIT607T	Economics of IT Industries	2			2	2	15	35			50	23
11	BTIT608T	Organizational Behavior	2									50	
		Total	19	10		28	22	120	480	75	75	750	Audit

date

Elective –II (BTIT603T)

1. Cluster & Grid Computing (BTIT603T.1)
2. Blockchain (BTIT603T.2)
3. Advances in Computer Networks (BTIT603T.3)

Open Elective – I (BTIT605T)

1. Data Science (BTIT605T.1)
2. Computer Animation (BTIT605T.2)

Elective –III (BTIT604T)

1. Cloud Computing (BTIT604T.1)
2. Human Computer Interface (BTIT604T.2)
3. Software Testing & Quality Assurance (BTIT604T.3)

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Four Year B.TECH. Course
(Revised Curriculum as per AICTE Model Curriculum)

B.TECH. VI Semester(Computer Technology) Scheme

Code	Subject	Teaching Scheme			Evaluation Scheme			Credits	Min Passing
		L	T	P	CA	UE	Total		
BTCT601T	Compiler Design (TH)	3	0	0	30	70	100	3	45
BTCT601P	Compiler Design (PR)	0	0	2	25	25	50	1	25
BTCT602T	Data Warehousing and Mining (TH)	3	0	0	30	70	100	3	45
BTCT602P	Data Warehousing and Mining (PR)	0	0	2	25	25	50	1	25
BTCT603T	Elective - II	3	0	0	30	70	100	3	45
BTCT604T	Elective -III	3	0	0	30	70	100	3	45
BTCT605T	Open Elective -1	3	0	0	30	70	100	3	45
BTCT606T	Economics of IT Industry	2	0	0	15	35	50	2	23
BTCT607P	Mini Project	0	0	4	25	25	50	2	25
BTCT608T	Organization Behaviour (Audit)	2	0	0	0	0	0	0	Audit
Total		17	5	8	175	475	650	21	

Elective-II BTCT603T	Elective -III BTCT604T	Open Elective-1 BTCT605T
BTCT603T-1 High Performance Computer Architecture	BTCT604T-1 Embedded System	BTCT605T-1 Digital Image Processing
BTCT603T-2 Software Testing & Quality Assurance	BTCT604T-2 Mobile Application & Development	BTCT605T-2 Advanced Web Technology
BTCT603T-3 Advanced Microprocessor	BTCT604T-3 Cloud Computing	BTCT605T-3 Multimedia & Animation

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RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
FOUR YEAR BACHELOR OF TECHNOLOGY (B.Tech.) DEGREE COURSE
SEMESTER: 6th (C.B.C.S.)

BRANCH: COMPUTER ENGINEERING

Sixth Semester:-

S. N.	Subject Code	Subject	Teaching Scheme			Evaluation Scheme			Credits	Min Passing
			L	T	P	CA	UE	Total		
1	BTCME601T	Design and Analysis of Algorithms	3	-	-	30	70	100	3	45
2	BTCME602T	TCP/IP	3	-	-	30	70	100	3	45
3	BTCME603T	Elective-II	3	-	-	30	70	100	3	45
4	BTCME604T	Elective-III	3	-	-	30	70	100	3	45
5	BTCME605T	Open Elective-I	3			30	70	100	3	45
6	BTCME601P	Design and Analysis of Algorithms- Lab	-	-	2	25	25	50	1	25
7	BTCME602P	TCP/IP -Lab	-	-	2	25	25	50	1	25
8	BTCME606P	Emerging Technology Lab -II	-	-	2	25	25	50	1	25
9	BTCME607P	Mini Project & Internship	-	-	6	25	25	50	3	25
10	BTCME608P	Seminar / Presentations on Current trends	-	-	2	50	-	50	Audit	
		Total	15	00	14	300	450	750	21	

Elective-II: -

1. Human Computer Interaction
2. Internet of Things
3. Robotics

Elective-III: -I.

1. Distributed Computing
2. Machine Learning
3. Data Warehousing & Mining

Open Elective-I -

1. Digital Image Processing
2. Mobile Computing

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RTMNU B.TECH. SCHEME OF EXAMINATION 2021-22

Scheme of Teaching & Examination of Bachelor of Technology VI Semester B.Tech. (Computer Science and Engineering)

S. N.	Course Code	Category	Subject	Hours/Week			Credits	Maximum Marks				Min Passing Marks		
				L	T	P		Theory		Practical		Total	Theory	Practical
								Internal	University	Internal	University			
1	BTECHCSE601T	Professional core courses	Compiler Design	4	-	-	4	30	70	-	-	100	45	-
2	BTECHCSE602P	Professional core courses	Hardware Lab	-	-	2	1	-	-	25	25	50	-	25
3	BTECHCSE603T	Professional core courses	Elective-II	3	-	-	3	30	70	-	-	100	45	-
4	BTECHCSE604T	Professional core courses	Elective-III	3	-	-	3	30	70	-	-	100	45	-
5	BTECHCSE605T	Professional core courses	Open Elective-I	3	-	-	3	30	70	-	-	100	45	-
6	BTECHCSE606P	Professional core courses	Professional Skill Lab II	-	-	2	1	-	-	25	25	50	-	25
7	BTECHCSE601P	Professional core courses	Compiler Design-Lab	-	-	2	1	-	-	25	25	50	-	25
8	BTECHCSE607P	Professional core courses	Mini Project	-	-	6	3	-	-	50	50	100	-	45
10	BTECHCSE608T	Humanities Social and Management Courses	Economics of IT Industry	2	-	-	2	-	-	-	-	-	-	-
11	BTECHCSE609T	Mandatory Course	Intellectual property Rights (Audit Course)	2	-	-	Audit	-	-	-	-	-	25	-
			Total	17	-	12	21	120	280	125	125	650		

Elective-II: - 1. Machine Learning

2. Internet of Things

3. Cluster and Cloud Computing

Elective-III: - 1. Data Science

2. Distributed Operating Systems

3. Human Computer Interaction

Open Elective:- 1. Linux Fundamentals 2. Android Application Development 3. Blockchain Technologies

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**PROPOSED SCHEME OF EXAMINATION FOR B. TECH (BIOTECHNOLOGY)
SIXTH SEMESTER B. TECH (BIOTECHNOLOGY)**

Sr. No.	Code Theory (T) Practical (P)	Subject	Board	Work Load (Hours)				Credit				Marks				Total Marks	Min. % Marks Required for passing
				L	P	T	Total	L	P	T	Total	Theory		Practical			
												College Assessment	University	College Assessment	University		
1	BT -PC - 601 T	Bioseparation Engineering	BBT	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
2	BT -PC - 602 T	Mass Transfer In Biotechnology	BBT	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
3	BT -PC - 603 T	Bioprocess Engineering	BBT	2	0	1	3	2	0	1	3	30	70	-	-	100	45%
4	BT -PC - 604 T	Plant Tissue culture Technology	BBT	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
5	BT -PE - 605 T	Professional Elective-II	BBT	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
6	BT -OS - 606 T	Open Subject-II	BBT	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
7	BT-AU- 607 T	Sports and Yoga	BBT	2	0	0	2	0	0	0	Audit	50	-	-	-	50	-
8	BT -PC - 608 P	Mass Transfer In Biotechnology Laboratory	BBT	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
9	BT -PC - 609 P	Bioprocess Engineering Laboratory	BBT	0	2	0	2	0	1	0	1	-	-	25	25	50	50%
10	BT -PC - 610 P	Plant Tissue culture Technology Laboratory	BBT	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
		Total		19	8	3	30	18	4	3	24	120	480	75	75	800	

Professional Elective-II

List of available courses under Professional Elective – II	
S. No.	Course Title
1	Machine Learning
2	Waste Management
3	Stem-Cell Technology

Open Subject-II

List of available courses under Open Subject – II	
S. No.	Course Title
1	Artificial Intelligence
2	Synthetic & Systems Biology
3	Good Manufacturing and Laboratory Practice
4	Heat Transfer in Biotechnology
5	Environment and Sustainability

Rashtrasant Tukdoji Maharaj Nagpur University, Nagpur
Faculty of Engineering & Technology
Course and Examination Scheme of Bachelor of Technology - Aeronautical Engineering
VI Semester B. Tech. (CBCS)

Subject Code	Subject	Teaching Scheme				Examination Scheme									
		Hours per week			No. of Credits	Theory					Practical				
		L	T	P		Duration of Paper (Hrs.)	Max Marks University Assessment	Max Marks College Assessment	Total Marks	Min. Passing Marks	Max Marks University Assessment	Max Marks College Assessment	Total Marks	Min. Passing Marks	
BTAE 601T	Aircraft Design	3	-	-	3	03	70	30	100	45	-	-	-	-	
BTAE 601P	Aircraft Design Laboratory	-	-	2	1	-	-	-	-	-	25	25	50	25	
BTAE 602T	Space Technology	3	1	-	4	03	70	30	100	45	-	-	-	-	
BTAE 603T	Open Elective-II	3	-	-	3	03	70	30	100	45	-	-	-	-	
BTAE 604T	Elective-II	3	-	-	3	03	70	30	100	45	-	-	-	-	
BTAE 605P	Aero-design and Simulation Lab	-	-	2	1	-	-	-	-	-	25	25	50	25	
BTAE 606P	Non Destructive Inspection Lab	-	-	2	1	-	-	-	-	-	25	25	50	25	
BTAE 607T	Effective Technical Communication	2	-	-	2	02	35	15	50	25	-	-	-	-	
BTAE 608P	Mini Project- II : { Internship/Case Study/ Seminar}	-	-	6	3	-	-	-	-	-	50	50	100	50	
BTAE 609P	Sports/Yoga/ NSS/NCC			3	0	College assessment in Grades as O,A,B,C (Evaluation mentioned in the Syllabus of concern subject)									
Total		14	1	15	21		315	135	450		125	125	250		
Semester Total		30			21	Marks 700									

Open Elective-II		Elective-II	
Course Code	Course Name	Course Code	Course Name
BTAE 603T(OE)-1	Design of Machine Elements	BTAE604T(E)-1	Aircraft Mechanisms Analysis and Synthesis
BTAE 603T(OE)-2	Finance And Accounting	BTAE604T(E)-2	Flight Dynamics
BTAE 603T(OE)-3	Renewable Energy Sources	BTAE604T(E)-3	Principles of Combustion
BTAE 603T(OE)-4	Industrial Safety and Environment	BTAE604T(E)-4	Aerodynamic Design of Compressors and Turbine

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RASHTRASANT TUKDOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
FACULTY OF SCIENCE & TECHNOLOGY
SCHEME OF EXAMINATION & EVALUATION
B. TECH CIVIL ENGINEERING (CHOICE BASED CREDIT SYSTEM)
SEMESTER: SEVENTH

Sr. No	Subject Code	Subject	Workload in Hours			Credit				Marks					Minimum passing marks	
			L	T/A	P	L	T	P	Total	Theory		Practical		Total	Theory	Practical
										Int	Uni	Int	Uni			
1	BTCVE701T	Design of Steel Structure	3	1	0	3	1	0	4	30	70	--	--	100	45	--
2	BTCVE702T	Elective IV	3	0	0	3	0	0	3	30	70	--	--	100	45	--
3	BTCVE703T	Elective V	3	0	0	3	0	0	3	30	70	--	--	100	45	--
4	BTCVE704T	Elective VI	3	0	0	3	0	0	3	30	70	--	--	100	45	--
5	BTCVE705T	Open Elective-II	3	0	0	3	0	0	3	30	70	--	--	100	45	--
6	BTCVE706P	Project Work Phase-I	0	0	6	0	0	3	3	--	--	50	50	100	--	50
Total			15	1	6	15	1	3	19	150	350	50	50	600		

- L- Lecture , P-Practical, T- Tutorial , A- Activity (Half Credit per Hour)

Note:

1. Project Work Phase-I shall consist of detailed report of “**Internship report**” of 3 to 4 weeks underwent after 6th semester and “**SeminarReport**” shall consist of Topic selected for Project work
2. Equal weightage shall be given to the components of "**Internship Report**" and "**Seminar Report**"

(Signature)
Carols G. Bhande

(Signature)
 (Dr. A.N. Dabhadre)
 BOS Member

(Signature)
 (Dr. Avinash N Shrikhande,
 BOS (Civil Engg) chairman

Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
Faculty of Science & Technology
Course and Examination Scheme of Bachelor of Engineering (Mechanical Engineering)
VII Semester B. Tech (Mechanical Engineering)-(2023 onwards)

Sr No.	Course Code	Category	Course Title	Teaching Scheme (Hours/Week)		Credits	Examination Scheme										
							Theory					Practical					
							L	T	P	Duration of Exam (Hrs)	Max. Marks College Assessment	Max. Marks University Assessment	Total Marks	Min. Passing Marks	Max. Marks College Assessment	Max. Marks University Assessment	Total Marks
1	BEEM2011	Professional Elective courses	Elective - III	2	-	-	3	3	30	30	100	45	-	-	-	-	
2	BEEM2021	Professional Elective courses	Elective - IV	3	-	-	3	3	30	30	100	45	-	-	-	-	
3	BEEM202P	Professional Elective courses	Elective - IV Lab	-	-	2	1	-	-	-	-	-	25	25	50	25	
4	BEEM2031	Open Elective Course	Open Elective - II	2	-	-	3	3	30	30	100	45	-	-	-	-	
5	BEEM2041	Open Elective Course	Open Elective - III	3	-	-	3	3	30	30	100	45	-	-	-	-	
6	BEEM205P	Project work, seminar and internship in industry or research	Project - I	-	-	12	6	-	-	-	-	-	30	-	30	25	
7	BEEM206P	Mandatory Course	Self Development	-	-	2	Audit (0)	College Assessment in Grades O, A, B, C (Evaluation guidelines mentioned in the syllabus of concerned course)									
TOTAL				12	0	16	-	-	120	280	400	-	75	25	300	-	
Semester Total				28			19	Marks 500									

Sl →
 Dr. S. K. Chaudhary
 Chairman
 B-O-S.
 Mech. Engg.

RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
B.TECH. (Electrical Engineering) (CBCS)
SCHEME OF EXAMINATION
SEVENTH SEMESTER

Board	Subject Code	subject	Teaching Scheme				Credit	MARKS					Minimum Passing Marks	
			L	P	T/A	Total		Theory		Practical		Total	Theory	Practical
								Internal	Uni.	Internal	Uni.			
EE	BTCHEE7O1T	Professional elective-III	3	-	-	3	3	30	70	-	-	100	45	
EE	BTCHEE7O2T	Professional elective-IV	3	-	-	3	3	30	70	-	-	100	45	
EE	BTCHEE7O3T	Professional elective-V	3	-	-	3	3	30	70	-	-	100	45	
EE	BTCHEE7O4T	Open electives-II	3	-	-	3	3	30	70	-	-	100	45	
	BTCHEE7O5T	Ancient Indian History	1	-	-	1	Audit	50*	-	-	-	50*		
EE	BTCHEE7O6P	Elective Lab-I	-	2	-	2	1	-	-	25	25	50		25
EE	BTCHEE7O7P	Elective Lab-II	-	2	-	2	1	-	-	25	25	50		25
EE	BTCHEE7O8P	Project & Seminar	-	-	3A	3	3	-	-	50	-	50		25
		Total	13	4	3A	20	17	120	280	100	50	550		

• L- Lecture, P-Practical(Half Credit per Hour), T- Tutorial, A- Activity, * indicates noncredit subject

Open Electives II	Professional Elective III	Professional Elective IV	Professional Elective V
1. Energy Management and Audit	1. Advanced Power Electronics	1. Testing and Maintenance of Electrical Equipment	1. Electrical Machine Design
2. Industrial Economics and Entrepreneurship	2. HV Engineering	2. Electrical Installation & Design	2. Digital signal processing and its applications
3. Electric and Hybrid Vehicles	3. Introduction to Artificial Intelligence	3. Flexible AC Transmission System	3. Introduction to Smart Grid

Elective lab I	Elective lab II
1) HV Engineering OR 2) Electrical Drawing and Simulation	1) Electrical Installation & Design OR 2) Electrical Workshop

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27/7/22
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27/07/22

Dr. S. M. Kelo
23-7-22
Dr. S. M. Kelo

**SCHEME OF EXAMINATION FOR
B.TECH ELECTRONICS & TELECOMMUNICATION / ELECTRONICS & COMMUNICATION ENGINEERING
(SEMESTER – VII)**

Sl. No.	Subject	Teaching Scheme				Credit				MARKS					Minimum Passing Marks	
										Theory		Practical		Total Marks	Theory	Practical
		L	P	T/A	Total	L	P	T/A	Total	Internal	Univ.	Internal	Univ.			
C-E	PEC-III	3	2	1T	6	3	1	1	5	30	70	25	25	150	75	
C-E	PEC-IV	3	2	1T	6	3	1	1	5	30	70	25	25	150	75	
C-E	PEC-V	3	-		3	3	-		3	30	70	-	-	100	45	
C-E	OE-II	2	-	1T	3	2	-	1	3	30	70	-	-	100	45	
C-I	Seminar/Internship	-	2	-	2	-	1	-	1	-	-	50	-	50		25
C-A	IPR	1		1A	2	-	-	-	-	-	-	-	-	Audit Course S/NS**		
Total		12	6	3T+1A	22	11	3	3	17	120	280	100	50	550		

Audit Course S/NS** : S- Satisfactory / NS - Not Satisfactory

(Dr. V.K. Takasande)

Dr. P.B. Palle

Sec. Bapat

Dr. J.S. Garwal

*Dr. R.D. Raut
11/10/22*

A.A. Khushid

(mmk)

SCHEME OF EXAMINATION
RASHTRASANTUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
SEVENTH SEMESTER B. TECH (CHEMICAL ENGINEERING)

Sr. No.	Code		Subject	Board	Work Load Hrs				Credit				Marks				Total Marks	Min. % of Marks Required for Passing
	Theory (T)	Practical (P)			L	P	T	Total	L	P	T	Total	Theory		Practical			
	College Assessment												University					
1	CE-PCC-701T		Transport Phenomena	BCE	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
2	CE-PCC-702T		Process Modelling and Simulation	BCE	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
3	CE-CBE-703T		Core Elective- III	BCE	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
4	CE-CBE-704T		Core Elective- IV	BCE	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
5	CE-OE-705T		Open Elective- III	BCE	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
6	CE-OE-706T		Open Elective- IV	BCE	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
7	CE-PCC-707P		Process Modelling and Simulation Lab	BCE	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
8	CE-PCC-708P		Seminar and Summer Internship Evaluation	BCE	0	3	0	3	0	1.5	0	1.5	-	-	50	-	50	50%
			Total		18	0	2	20	18	3	2	23	180	420	75	25	700	-

Elective	Subject Name		
	BOARD		
	BCE		
Core Elective III	Interfacial Science and Engineering	Advanced Catalysis	Advanced Petroleum Refining
Core Elective IV	Piping Engineering	Multiphase Reactor Design	Multiphase Flow
Open Elective III	Nanoscience and Nanotechnology	Optimization of Chemical Processes	Biochemical Engineering
Open Elective IV	Fluidization Engineering	Advanced Materials	Scale up methods
			Sustainable Development and Governance

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SCHEME OF EXAMINATION
RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
SEVENTH SEMESTER B. TECH (CHEMICAL TECHNOLOGY)

Sr. No.	Code	Subject	Board	Work Load Hrs				Credit				Marks				Total Marks	Min. % of Marks Required for Passing
												Theory		Practical			
				L	P	T	Total	L	P	T	Total	College Assessment	University	College Assessment	University		
1	CT-PCC-701T	Transport Phenomena	BCE	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
2	CT-PCC-702T	Mass Transfer II	BCE	4	0	1	5	4	0	1	5	30	70	-	-	100	45%
3	CT-CS-703T	*Special Technology V	BCHT	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
4	CT-CS-704T	*Special Technology VI	BCHT	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
5	CT-OEL-705T	Open Elective II	BCE	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
6	CT-CS-706P	*Special Technology III Lab	BCHT	0	6	0	6	0	3	0	3	-	-	25	25	50	50%
7	CT-PTC-707P	Mass Transfer Lab	BCE	0	3	0	3	0	1.5	0	1.5	-	-	25	25	50	50%
8	CT-CS-708P	Seminar and Summer Internship Evaluation	BCHT	0	3	0	3	0	1.5	0	1.5	-	-	50	-	50	50%
Total				16	12	2	30	16	6	2	24	150	350	100	50	650	-

Elective	Subject Name		
	BOARD		
	BCE		
Open Elective II	Nanoscience and Nanotechnology	Optimization of Chemical Processes	Biochemical Engineering

*Food Technology, *Oil Technology, *Petrochemical Technology, *Pulp and Paper Technology,
 *Plastic and Polymer Technology, *Surface Coating Technology

Lowday

Semester – VII (Fourth Year)

Branch: Fire Engineering

Seventh Semester:

Subject Code	Subjects	Work Load (Hours)			Credits	Marks					Minimum Passing Marks	
		L	T/A	P		Theory		Practical		Total	Theory	Practical
						Int	Uni	Int	Uni			
PCC-FE-401	Fire and Arson Investigation	2	1	–	3	30	70	–	–	100	45	–
PCC-FE-402	Fire Risk Assessment	3	–	–	3	30	70	–	–	100	45	–
PCC-FE-403	Special Hazards	3	–	–	3	30	70	–	–	100	45	–
PEC-FE-(401-404)	Elective-I	2	–	–	2	30	70	–	–	100	45	–
	401-Nuclear Reactors and Safety											
	402-Chemical Process Safety											
	403-Occupational Health & Hygiene Management 404-Disaster Management											
OEC-FE-(401-404)	Open Elective – I	2	–	–	2	30	70	–	–	100	45	–
	401-Robotics											
	402-Cyber Security											
	403-Internet of Thing 404-Artificial Intelligence											
PROJ-FE-401 (P)	Mini Project	–	–	5	2.5	–	–	50	50	100	–	50
PCC-FE-404 (P)	Fire Ground Operation -VII	–	–	5	2.5	–	–	25	25	50	–	25
MC-FE-401 (P)	Summer Internship	–	–	–	Audit	–	–	50	–	50	–	25
Total		12	1	10	18	150	350	125	75	700		

* L- Lecture, P- Practical, T- Tutorial, A- Activity (Half Credit Per Hour)

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B.Tech. SCHEME OF EXAMINATION 2021-22

Scheme of Teaching & Examination of Bachelor of Technology VII Semester B.Tech. (Artificial Intelligence)

Sr No	Course Code	Category	Course Name	Hours / Week			Credits	Maximum Marks				Minimum Passing Marks		
				L	T	P		Theory		Practical		Total	Theory	Practical
								Internal	University	Internal	University			
1	BTECHAI701T	Professional core courses	Modern Compiler Design	3	0	0	3.00	30	70	-	-	100	45	
2	BTECHAI701P	Professional core courses	Modern Compiler Design Lab	0	0	2	1.00			25	25	50		25
3	BTECHAI702T	Engineering Sciences	Digital Signal & Image Processing	3	0	0	3.00	30	70	-	-	100	45	
4	BTECHAI702P	Engineering Sciences	Digital Signal & Image Processing Lab	0	0	2	1.00			25	25	50		25
5	BTECHAI703T	Professional Elective Course	Elective- III	3	0	0	3.00	30	70	-	-	100	45	
6	BTECHAI704P	Open Elective	Open Elective- III	3	0	0	3.00	30	70	-	-	100	45	
7	BTECHAI705	Project/ Internship	Project		0	6	3.00	-	-	50	50	100		25
Total				14	0	10	17.00	120	280	100	100	600		

Elective III: 1. Human Computer Interaction 2. Medical Image Analysis 3. Data Compression & Encryption Techniques 4. Micro-Electro-Mechanical Systems

RASHTRASANTUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
Scheme of Teaching & Examination of Bachelor of Technology
VII Semester B.Tech. (Robotics & Artificial Intelligence)

Sr. No.	Course Code	Category	Course Name	Hours/Week			Credits	MaximumMarks					Minimum Passing Marks	
				L	T	P		Theory		Practical		Total		
				Internal	University	Internal		University		Theory	Practical			
1	BTechRA1701T	Professional core courses	Robot Programming	3	0	0	3.00	30	70	-	-	100	45	
2	BTechRA1701P	Professional core courses	Robot Programming Lab	0	0	2	1.00			25	25	50		25
3	BTechRA1702T	Professional core courses	Digital Signal Processing for Robotics	3	0	0	3.00	30	70	-	-	100	45	
4	BTechRA1702P	Professional core courses	Digital Signal Processing for Robotics Lab	0	0	2	1.00			25	25	50		25
5	BTechRA1703T	Professional Elective Course	Elective-III	3	0	0	3.00	30	70	-	-	100	45	
6	BTechRA1704T	Open Elective	Open Elective-II	3	0	0	3.00	30	70	-	-	100	45	
7	BTechRA1705P	Project Work	Project		0	6	3.00	-	-	50	50	100		50
Total				12	0	10	17.00	120	280	100	100	600		

Elective III: 1. Human Robot Interaction 2. CNC Machines 3. Embedded Controllers and Real time Operating Systems 4. Natural Language Processing 5. Additive Manufacturing

RASHTRASANTUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR

Scheme of Teaching & Examination of Bachelor of Technology

VII Semester B.Tech. (Industrial IOT)

Sr. No.	Course Code	Category	Course Name	Hours/Week			Credits	Maximum Marks					Minimum Passing Marks	
				L	T	P		Theory		Practical		Total	Theory	Practical
								Internal	University	Internal	University			
1	BTechIOT701T	Professional core courses	Digital Image Processing	3	0	0	3.00	30	70	-	-	100	45	
2	BTechIOT701P	Professional core courses	Digital Image Processing Lab	0	0	2	1.00			25	25	50		25
3	BTechIOT702T	Professional core courses	Natural Language Processing	3	0	0	3.00	30	70	-	-	100	45	
4	BTechIOT702P	Professional core courses	Natural Language Processing Lab	0	0	2	1.00			25	25	50		25
5	BTechIOT703T	Professional Elective Course	Elective- III	3	0	0	3.00	30	70	-	-	100	45	
6	BTechIOT704T	Open Elective	Open Elective- II	3	0	0	3.00	30	70	-	-	100	45	
7	BTechIOT705P	Project Work	Project	0	0	6	3.00	-	-	50	50	100		50
Total				12	0	10	17.00	120	280	100	100	600		

Elective III: 1. Deep Learning and Neural Network 2. Medical Image Analysis 3. Micro-Electro- Mechanical Systems 4. Data compression and encryption

Scheme of Teaching & Examination of Bachelor of Engineering VII Semester B.Tech. (Artificial Intelligence & Machine Learning)

Sr. No.	Course Code	Category	CourseName	Hours/Week			Credits	Maximum Marks					Minimum Passing Marks	
				L	T	P		Theory		Practical		Total	Theory	Practical
								Internal	University	Internal	University			
1	BTAI&M L701T	Professional core courses	Deep Learning	3	0	0	3	30	70	-	-	100	45	
2	BTAI&M L701P	Professional core courses	Deep Learning Lab	0	0	2	1			25	25	50		25
3	BTAI&M L702T	Professional core courses	Digital Signal and Image Processing	3	0	0	3	30	70	-	-	100	45	
4	BTAI&M L702P	Professional core courses	Digital Signal and Image Processing Lab	0	0	2	1			25	25	50		25
5	BTAI&M L703T	Open Elective courses	Open Elective -2	3	0	0	3	30	70			100	45	
6	BTAI&M L704T	Professional Elective courses	Elective 3	3	0	0	3	30	70			100	45	
7	BTAI&M L705P		Project Phase -1 /Internship	0	0	6	3			50	50	100		50
Total				12	0	10	17	120	280	100	100	600		

Elective -3: AI Knowledge Representation and Reasoning, Distributed and Object Oriented Database, Switching Theory , Biomedical Instrumentation.

Open Elective-2: Cognitive Systems and Networks, Non-Conventional Energy Sources, Energy Harvesting System

**PROPOSED SCHEME OF EXAMINATION FOR B. TECH (BIOTECHNOLOGY)
SEVENTH SEMESTER B. TECH (BIOTECHNOLOGY)**

Sr. No.	Code Theory (T) Practical (P)	Subject	Board	Work Load (Hours)				Credit				Marks				Total Marks	Min. % Marks Required for passing
				L	P	T	Total	L	P	T	Total	Theory		Practical			
												College Assessment	University	College Assessment	University		
1	BT -HS-701 T	Intellectual Property Rights (IPR) & Regulatory	BGE	2	0	0	2	2	0	0	2	15	35	-	-	50	45%
2	BT -PC-702 T	Data analysis and Simulations	BBT	3	0	0	3	3	0	0	3	30	70	-	-	100	45%
3	BT -PE-703 T	Professional Elective-III	BBT	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
4	BT -PE-704 T	Professional Elective-IV	BBT	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
5	BT -OS-705 T	Open Subject-III	BBT	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
6	BT -OS-706 T	Open Subject-IV	BBT	3	0	1	4	3	0	1	4	30	70	-	-	100	45%
7	BT -PC-707 P	Data analysis and Simulations Laboratory	BBT	0	2	0	2	0	1	0	1	-	-	25	25	50	50%
8	BT -PS-708 P	Project-I	BBT	0	4	0	4	0	2	0	2	-	-	100	-	100	50%
9	BT -PS-709 P	Summer Internship	BBT	0	6	0	6	0	3	0	3	-	-	100	-	100	50%
		Total		17	12	4	33	17	6	4	27	110	440	225	25	800	

Professional Elective-III

List of available courses under Professional Elective – III	
S. No.	Course Title
1	Gene Expression and Transgenic
2	Bioprocess Equipment Design
3	Animal Tissue Culture Technology

Professional Elective-IV

List of available courses under Professional Elective – IV	
S. No.	Course Title
1	Precision Medicine & Wellness
2	Cryogenic Application in Biotechnology
3	Nano Biotechnology

Open Subject-III

List of available courses under Open Subject – III	
S. No.	Course Title
1	Rational Drug Discovery
2	Virtual Reality
3	Food and Nutrition Technology

Open Subject-IV

List of available courses under Open Subject – IV	
S. No.	Course Title
1	Fermentation Technology
2	Bioterrorism and National Security
3	Data Sciences

RASHTRASANT TUKDOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
FACULTY OF SCIENCE & TECHNOLOGY
SCHEME OF EXAMINATION & EVALUATION
B. TECH CIVIL ENGINEERING (CHOICE BASED CREDIT SYSTEM)
SEMESTER: EIGHTH

Sr. No	Subject Code	Subject	Workload in Hours			Credit				Marks					Minimum passing marks	
			L	T/A	P	L	T	P	Total	Theory		Practical		Total	Theory	Practical
										Int	Uni	Int	Uni			
1	BTCVE801T	Construction Methods And Equipment Management #	3	0	0	3	0	0	3	30	70	--	--	100	45	--
2	BTCVE802T	Digital Land Surveying And Mapping (DLS&M) #	3	0	0	3	0	0	3	30	70	--	--	100	45	--
3	BTCVE803T	Open Elective-III	3	0	0	3	0	0	3	30	70	--	--	100	45	--
4	BTCVE804P	Project Work Phase-II	0	0	12	0	0	6	6	--	--	100	100	200	--	100
TOTAL			9	0	12	9	0	6	15	90	210	100	100	500		

Note:

1. These # subjects (**BTCVE801T and BTCVE802T**) should be undertaken through online mode by using NPTEL/SWAYAM /MOOCS Platforms **OR** through regular classroom teaching in Department of Civil Engineering of affiliated Colleges. Examinations will be conducted by RTMNU.
2. Project Work Phase-II shall consist of detailed report of continued project work from 7th Semester or internship in industry or at appropriate work place.

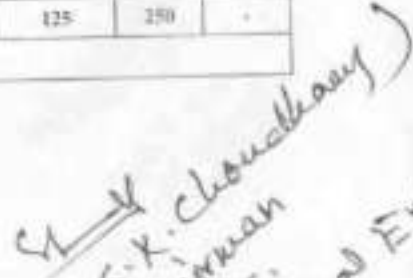
(Signature)
Chaitan L. Bhande

(Signature)
 (Dr. A.N. Dabhadre)
 BOS Member

(Signature)
 (Dr. Avinash N Shrikhande,
 BOS (Civil Engg) chairman

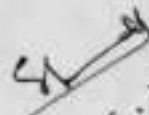
Rashtrasant Tukadji Maharaj Nagpur University, Nagpur
 Faculty of Science & Technology
 Course and Examination Scheme of Bachelor of Engineering (Mechanical Engineering)
 VIII Semester B. Tech (Mechanical Engineering) - (2023 onwards)

Sr No	Course Code	Category	Course Title	Teaching Scheme (Hours/Week)			Credits	Examination Scheme								
				L	T	P		Theory				Practical				
								Duration of Exam (Hrs)	Max. Marks College Assessment	Max. Marks University Assessment	Total Marks	Min. Passing Marks	Max. Marks College Assessment	Max. Marks University Assessment	Total Marks	Min. Passing Marks
1	BEME801T	Professional Elective courses	Elective - V	3	-	-	3	3	30	70	100	45	-	-	-	-
2	BEME801P	Professional Elective courses	Elective - V Lab	-	-	2	1	-	-	-	-	-	25	25	50	25
3	BEME802T	Professional Elective courses	Elective - VI	3	-	-	3	3	30	70	100	45	-	-	-	-
4	BEME803T	Open Elective Course	Open Elective - IV	3	-	-	3	3	30	70	100	45	-	-	-	-
5	BEME804P	Project work, attendance and internship in industry or elsewhere	Project - II	-	-	12	6	-	-	-	-	-	100	100	200	100
6	BEME805P	Mandatory Course	Self Development	-	-	2	Audit (0)	College Assessment in Grades O, A, B, C (Evaluation guidelines mentioned in the syllabus of concerned course)								
TOTAL				9	0	16	-	-	90	210	300	-	125	125	250	-
Semester Total				25			16	Marks 550								


 (Dr. S. K. Choudhary)
 Chairman
 B. D. S.
 Mechanical Engg.

ELECTIVE I	ELECTIVE II	ELECTIVE III	ELECTIVE IV	ELECTIVE V	ELECTIVE VI	OPEN ELECTIVE I	OPEN ELECTIVE II	OPEN ELECTIVE III	OPEN ELECTIVE IV
VI SEM	VI SEM	VII SEM	VII SEM (T+P)	VIII SEM (T & P)	VIII SEM	V SEM	VII SEM	VIII SEM	VIII SEM
Mechanical Vibrations	Tribology	Design of Transmission System	Computer Aided Design	Finite Element Method	Design Optimization	Organizational Behaviour & Entrepreneurship Development	Industrial Safety & Environment	Design of Experiments	Industrial Robotics
Synthesis of Mechanism	Tool Design	Design of Material Handling System	Mechanical Measurement & Metrology	Computer Integrated Manufacturing	Stress Analysis	Automobile Engineering	Pollution and its Control	Fuel Cell Technology	Renewable Energy Resources
Operation Research	Advanced Manufacturing Techniques	Total Quality Management	Mechatronics	Refrigeration & Air conditioning	Industrial Engineering	Project Evaluation & Management	Finance & Cost Management	Instrumentation & Control	Waste Management
Production Planning & Control	CNC & Robotics	Composite Materials	Hydraulics & pneumatics	Additive Manufacturing	Green & Sustainable Manufacturing				
Convective Heat Transfer	Design of Heat Exchangers	Solar Energy & Utilization			Energy Conservation and Management				
Power Plant Engineering	Advanced I.C Engines	Automobile Engineering			Computational Fluid Dynamics				
					Energy Conversion-III				




 Dr. S. K. Chaudhary
 Chairman
 B. D. S.
 Mechanical Engg.

RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
B.TECH. (Electrical Engineering) (CBCS)
SCHEME OF EXAMINATION
EIGHTH SEMESTER

Board	Subject Code	Subject	Teaching Scheme				Credit	MARKS					Minimum Passing Marks	
			L	P	T/A	Total		Theory		Practical		Total	Theory	Practical
								Internal	Uni.	Internal	Uni.			
EE	BTCHEE801T	Advance Professional elective-VI #*	3	-	-	3	3	30	70	-	-	100	45	
EE	BTCHEE802T	Advance Professional elective-VII #*	3	-	-	3	3	30	70	-	-	100	45	
EE	BTCHEE803P	Project	-	12		12	6	-	-	75	75	150		75
EE	BTCHEE804P	Internship (5 to 6 weeks) in Industry at appropriate work place	-	-	4A	4	4	-	-	100	-	100		
		Total	6	12	4A	22	16	60	140	175	75	450		

These subjects should be undertaken through online mode.

*Alternatively students can choose any course with 3 credits from MOOCs Platform for which the list is given below.

Additional subjects may be conducted through online courses.

Teacher shall be assigned workload for internship and industrial project.

List of MOOCs platforms which offer online certifications courses as below: -


1. SWAYAM-<https://swayam.gov.in>
2. NPTEL-<https://onlinecourses.nptel.ac.in>
3. MOOC-<http://mooc.org>

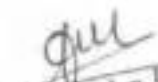
OR


Students may opt following online courses designed by BoS Electrical Engineering, RTMNU Nagpur

Professional Elective-VI	Professional Elective-VII
1. Power semiconductor drives	1. EHVAC / DC transmission System
2. Electrical Distribution System	2. Power Quality

- Internship:- a) Student shall be allowed to undergo internship for 5 to 6 weeks during 8 th semester in industry/ company at appropriate work place
- b) Internal marks for internship of 8 th semester may be awarded after successful completion of internship
- c) 100 internal marks for internship shall be given as-
 - i) 50 marks based on detailed report about internship along with certificate provided by company/industry
 - ii) 50 marks based on presentation by student about what he/she learned during internship


 27.7.22
(Dr. S.M. Kelkar)


 27/7/22
(Dr. A. Shubhakar)


 27/07/22
Dr. J. B. Fule

LIST OF ELECTIVE SUBJECTS

Semester	Elective Type	Subject
V	Professional Elective-I	1. Electrical Machine – II
		2. Power Station Practice
		3. Electrical Power Utilization
VI	Open Elective-I	1. PLC and SCADA systems
		2. Solar PV Systems
		3. Organizational behavior
		4. Numerical Mathematics & Probability using MATLAB
VI	Professional Elective-II	1. Control System-II
		2. Optimization Technique
		3. Electric Drives and their control
		1. Energy Management and Audit
VII	Open Elective-II	2. Industrial Economics and Entrepreneurship
		3. Electric and Hybrid Vehicles
	Professional Elective-III	1. Advanced Power Electronics
		2. HV Engineering
Professional Elective-IV	3. Introduction to Artificial Intelligence	
	1. Testing and maintenance of Electrical Equipments	
	2. Electrical Installation & Design	
Professional Elective-V	3. Flexible AC Transmission System	
	1. Electrical Machine Design	
	2. Digital signal processing and its applications	
VIII	Professional Elective-VI	3. Introduction to Smart Grid
		1. SWAYAM – https://swayam.gov.in
		2. NPTEL – https://onlinecourses.nptel.ac.in/
		3. MOOC – https://mooc.org
		4. Power semiconductor drives
VIII	Professional Elective-VII	5. Electrical Distribution System
		1. SWAYAM – https://swayam.gov.in
		2. NPTEL – https://onlinecourses.nptel.ac.in/
		3. MOOC – https://mooc.org
		4. EHVAC/DC transmission System
		5. Power Quality


 27/7/22
 (Dr. A. S. Kirbhale)


 (Dr. S. M. Kelo)


 27/07/22
 Dr. J. B. Fule

**SCHEME OF EXAMINATION FOR
B.TECH ELECTRONICS & TELECOMMUNICATION / ELECTRONICS & COMMUNICATION ENGINEERING
(SEMESTER - VIII)**

Code	Subject	Teaching Scheme				Credit				MARKS					Minimum Passing Marks	
		L	P	T/A	Total	L	P	T/A	Total	Theory		Practical		Total Marks	Theory	Practical
										Internal	Univ.	Internal	Univ.			
BEETC-801PE	Program Elective -VI MOOC/NPTEL Course	3	-	-	3	3	-	-	3	30	70	-	-	100	45	
BEETC-802PE	Program Elective -VII MOOC/NPTEL Course	3	-	-	3	3	-	-	3	30	70	-	-	100	45	
BEETC-803P	Project	-	12	-	12	-	6	-	6	-	-	50	50	100		50
	Seminar	-	-	2A	2	-	-	2	2	-	-	50	-	50		25
Total		6	12	2A	20	6	6	2	14	60	140	100	50	350		

(Dr. V. K. Takande)

S. C. Borpude

Dr. J. S. Gannan

Dr. P. S. Allee

Dr. R. D. Rane

A. A. Khemkar

*11/10/22
(mmk)*

LIST OF ELECTIVE COURSES

Semester	Elective Type	Subject
V	Program Elective-I	1. Operating Systems
		2. Information Theory and Error Correcting Codes
		3. Electronic Design Techniques With HDL
		4. Sensors and Systems
VI	Program Elective-II	1. Computer Architecture
		2. Database Management Systems
		3. Antennas & Wave Propagation
		4. Control System Engineering
	Open Elective-I	1. Consumer Electronics
		2. Industrial Electronics
VII	Program Elective-III	1. Audio and Video Engineering
		2. Web Technologies
		3. Mobile Communications
		4. Robotics and Automation
	Program Elective-IV	1. Mixed Signal Design
		2. Data Science/ Cloud Computing
		3. Radar and Satellite Communication
		4. PLC and Scada
	Program Elective-V	1. Soft computing
		2. Fundamentals of Machine Learning
		3. Optical Communication
		4. Biomedical Engineering
	Open Elective II	1. Mechatronics
2. Bioengineering		
VIII	Mode I	1. CMOS VLSI Design
		2. Artificial Intelligence
		3. Evolution of Air Interface towards 5G
		4. MEMS
	MOOC	1. VLSI Signal Processing
		2. Android Programming

K. S. Jaiswal
Dr. K. S. Jaiswal

gms

P. B. Palle
Dr. P. B. Palle

J. S. Grewal
Dr. J. S. Grewal
K. S. Jaiswal
Dr. K. S. Jaiswal
(MMS)

R. R. Paul
Dr. R. R. Paul
11/10/22

**SCHEME OF EXAMINATION
RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
EIGHTH SEMESTER B. TECH (CHEMICAL ENGINEERING)**

Sr. No.	Code		Subject	Board	Work Load Hrs				Credit				Marks				Total Marks	Min. % of Marks Required for Passing
	Theory (T)	Practical (P)			L	P	T	Total	L	P	T	Total	Theory		Practical			
					College Assessment	University	College Assessment	University										
1	CL-PCC-801P		Industry Internship / Project	BCE	0	6	0	6	0	9	0	9	-	-	100	100	200	50%
			Total		0	6	0	6	0	9	0	9	-	-	100	100	200	-

Pass

SCHEME OF EXAMINATION
RASHTRASANTUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
EIGHTH SEMESTER B. TECH (CHEMICAL TECHNOLOGY)

Sr. No.	Code		Subject	Board	Work Load Hrs				Credit				Marks				Total Marks	Min. % of Marks Required for Passing
	Theory (T)	Practical (P)			L	P	T	Total	L	P	T	Total	Theory		Practical			
													College Assessment	University	College Assessment	University		
1	CT-PCC-801P		Industry Internship / Project	BC111	0	6	0	6	0	9	0	9	-	-	100	100	200	50%
			Total		0	6	0	6	0	9	0	9	-	-	100	100	200	-

Bonday

Semester – VIII (Fourth Year)

Branch: Fire Engineering

Eight Semester:

Subject Code	Subjects	Work Load (Hours)			Credits	Marks					Minimum Passing Marks	
		L	T/A	P		Theory		Practical		Total	Theory	Practical
						Int	Uni	Int	Uni			
PROJ-FE-402 (P)	Industrial Training and Attachment	-	-	20	10	-	-	200	300	500	-	250
Total		0	0	0	10	-	-	200	300	500		

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B.Tech. SCHEME OF EXAMINATION 2021-22
Scheme of Teaching & Examination of Bachelor of Technology VIII Semester B.Tech. (Artificial Intelligence)

Sr No	Course Code	Category	Course Name	Hours/ Week			Credits	Maximum Marks				Minimum Passing Marks		
				L	T	P		Theory		Practical				Total
								Internal	University	Internal	University	Theory	Practical	
1	BTECHA1801T	Professional Elective Course	Elective IV	3	0	0	3.00	30	70	-	-	100	45	
2	BTECHA802T	Professional Elective Course	Elective V	3	0	0	3.00	30	70	-	-	100	45	
3	BTECHA1803T	Project/ Internship	Project	0	0	12	8.00			100	100	200		
Total				6	0	12	14.00	60	140	100	100	400		

Elective IV: 1. Cloud Computing 2 Augmented & Virtual Reality 3. Biomedical Instrumentation 4. Measurement and Design

Elective V: 1. Mobile Communication and Web Analytics 2. Optical Circuits & Fibres 3. Cyber Crimes & Digital Forensics 4. Data Visualization

RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
Scheme of Teaching & Examination of Bachelor of Technology
VIII Semester B.Tech. (Robotics & Artificial Intelligence)

Sr. No.	Course Code	Category	Course Name	Hours/ Week			Credits	Maximum Marks					Minimum Passing Marks	
				L	T	P		Theory		Practical		Total	Theory	Practical
								Internal	University	Internal	University			
1	BTechRA1801T	Professional Elective Course	Elective-IV	3	0	0	3.00	30	70	-	-	100	45	
2	BTechRA1802T	Professional Elective Course	Elective-V	3	0	0	3.00	30	70	-	-	100	45	
3	BTechRA1803P	Project Work	Project	0	0	16	8.00			100	100	200		100
Total				6	0	16	14.00	60	140	100	100	400		

Elective IV: 1.Cloud Computing 2. Robotics & Industrial Applications 3.Medical Robotics 4. Pattern Recognition

Elective V: 1.Cognitive Robotics 2.Operational Research in Robotics 3.Digital Forensics 4. Micro-Electro-Mechanical System

RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR

Credit Structure

B.Tech. Robotics and Artificial Intelligence

Sr.No.	Semester	Category							Total
		BSC	ESC	HSMC	PCC	PEC	OEC	PROJ	
1.	I	09	07	03	-	-	-	-	19
2	II	09	13	-	-	-	-	-	22
3	III	04	05	02	12	-	-	-	23
4	IV	-	-	-	22	-	-	01	23
5	V	--	-	02	16	03	-	-	21
6	VI	-	-	-	12	03	03	03	21
7	VII	-	-	-	08	03	03	03	17
8	VIII	-	-	-	-	06	-	08	14
Total		22	25	07	70	15	06	15	160

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RASHTRASANTUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR

Scheme of Teaching & Examination of Bachelor of Technology

VIII Semester B.Tech. (Industrial IOT)

Sr. No.	Course Code	Category	Course Name	Hours/Week			Credits	Maximum Marks						Minimum Passing Marks	
				L	T	P		Theory		Practical		Total	Theory	Practical	
								Internal	University	Internal	University				
1	BTechIOT-801T	Professional Elective Course	Elective IV	3	0	0	3.00	30	70	-	-	100	45		
2	BTechIOT-802T	Professional Elective Course	Elective V	3	0	0	3.00	30	70	-	-	100	45		
3	BTechIOT-803P	Project Work	Project	0	0	16	8.00			100	100	200		100	
Total				6	0	16	14.00	60	140	100	100	400			

Elective IV: 1. Cyber forensic and cyber defense 2. Generative adversarial network 3. Biomedical Instrumentation 4. Measurement and Design

Elective V: 1. Ubiquitous Sensing, Computing and Communication 2. Optical Circuits & Fibers 3. Cyber Crimes & Digital Forensics 4. Database Security and Access Control

Credit Structure for UG Program B.Tech Industrial IOT

Sr. No.	Semester	Category							Total
		BSC	ESC	HSMC	PCC	PEC	OEC	PROJ	
1.	I	09	07	03	-	-	-	-	19
2	II	09	13	-	-	-	-	-	22
3	III	04	04	02	12	-	-	-	22
4	IV	-	04	-	18	-	-	01	23
5	V	-	--	02	16	03	-	-	21
6	VI	-	-	-	13	03	03	03	22
7	VII	-	-	-	08	03	03	03	17
8	VIII	-	-	-	-	06	-	08	14
Total		22	28	07	67	15	06	15	160

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Scheme of Teaching & Examination of Bachelor of Engineering VIII Semester B.Tech. (Artificial Intelligence & Machine Learning)

Sr. No.	Course Code	Category	Course Name	Hours/Week			Credits	Maximum Marks				Minimum Passing Marks		
				L	T	P		Theory		Practical		Total	Theory	Practical
								Internal	University	Internal	University			
1	BTAI&ML 801T	Professional core courses	Elective 4	3	0	0	3	30	70	-	-	100	45	
2	BTAI&ML 802T	Professional core courses	Elective 5	3	0	0	3	30	70	-	-	100	45	
3	BTAI&ML 803P		Project Phase 2 / Internship		0	12	8	0	0	100	100	200		100
Total				6	0	12	14	60	140	100	100	400		

Elective 4: Augmented and Virtual Reality, Mobile Application Development, Big Data and NoSQL, Statistical Methods

Elective 5: Salesforce, Optical Circuits and Fibres, Business Intelligence, Cyber crimes and Digital Forensics, Natural Language Engineering

Category wise credit distribution:

Sr. No.	Semester	Category							Total
		BSC	ESC	HSMC	PCC	PEC	OEC	PROJ	
1	I	9	7	3	-	-	-	-	19
2	II	9	13	-	-	-	-	-	22
3	III	3	2	2	13	-	-	-	20
4	IV	-	-	-	22	-	-	-	22
5	V	-	-	2	14	3	-	-	19
6	VI	-	-	2	12	4	4	1	23
7	VII	-	-	2	8	4	4	3	21
8	VIII	-	-	-	-	6	-	8	14
Total		21	22	11	69	17	8	12	160

Open Elective /Professional Elective

Computational Biology

Industry 4.0

Game Theory

Human Computer Interface

Business Intelligence

Bioinformatics

Virtual /AugmentedReality

Cognitive Systems

Fuzzy logic and Neural Network

Distributed Computing

R Programming

Cognitive Systems

Soft Computing

Current trends and technologies in AI&ML

optimization Methodologies

Natural Language Processing

**PROPOSED SCHEME OF EXAMINATION FOR B. TECH (BIOTECHNOLOGY)
EIGHTH SEMESTER B. TECH (BIOTECHNOLOGY)**

Sr. No.	Code Theory (T) Practical (P)	Subject	Board	Work Load (Hours)				Credit				Marks				Total Marks	Min. % Marks Required for passing
				L	P	T	Total	L	P	T	Total	Theory		Practical			
												College Assessment	University	College Assessment	University		
1	BT -PS -801 P	Project-II (Biotech Industrial or Biotech In-house Project or Bio-Entrepreneurship/startups)	BBT	0	18	0	18	0	9	0	9	-	-	100	200	300	50%
		Total		0	18	0	18	0	9	0	9	-	-	100	200	300	

B.Tech. Biotechnology Board

Suggested Credit Structure of UG Engineering Program

Sr.No.	Category	Credits Distribution as per AICTE	Credits Distribution as per Scheme Submitted
1	Humanities and Social Sciences including Management courses	12	9
2	Basic Science courses (Physics, Chemistry, Mathematics)	19	23.5
3	Engineering Science courses including workshop, EG, basics of electrical/mechanical/computer program etc.	16	13
4	Biological Science courses including laboratory	16	18
5	Professional core courses	43	49.5
6	Professional Elective courses relevant to chosen specialization/branch	18	16
7	Open subjects -Electives from other technical and/or emerging Subjects	18	16
8	Project work, seminar and internship in industry or elsewhere	18	15
9	Mandatory Courses: [Environmental Sciences, Induction training, Indian Constitution, Essence of Indian Knowledge Tradition]	-	Non Credit
	Total	160	160

R.T.M. Nagpur University, Nagpur
Guidelines for HONORS (MAJOR) & MINOR
For B.Tech. Programs of all the Engineering Colleges

1.0 PREAMBLE

Apart from the minimum credit requirements as per the scheme of exam for the award of the undergraduate engineering degree, these Honors (Major), Minor Programs offered by RTMNU provide opportunities for supplementing the learning experience. These programs offered are in parent as well as in diverse areas. These credits when are in a focused branch would earn the students' credentials like Honors (Major)/Minor. Honors (Major) scheme aims for vertical knowledge growth in his/her own branch which may have research orientation while Minor scheme aims for additional knowledge in any other branch for enhancing the employability.

On successful completion of the requirements of Honors (Major), the UG student will receive B. Tech. (Honors) degree with the mention of Honors' specialisation. Similarly on successful completion of the requirements of minors the UG student will receive B. Tech. degree with the mention of minors' specialisation. Additionally, the concerned college shall also issue the certificate of completion of Honors (Major) or Minors.

Participation of students in these programs shall not be mandatory. Aspiring students will register for courses mentioned in the program and acquire 18 (minimum) to 20 credits. A student opting for 'Honors' will not be entitled to register for 'Minor' and vice-versa. It is expected that the students with good academic standing, utilize their surplus time for enhancing their academic learning experience and gain a wide exposure.

These schemes are implemented progressively from the batch of UG students admitted in 2020-21 onwards. No additional fee would be charged for Honors/Minor courses by the college or University. However, SWAYAM-NPTEL will charge the fees for proctored examination and certification.

2.0 CREDITS to be earned by students for Honors (Major) / Minor degree

Total credits to be earned for Honors (Major) or Minor will be 18 to 20 along with all the prescribed credits of the regular B.Tech. program in which he/she is admitted.

Examples:

- a) Student who has completed regular B.Tech. in stipulated time schedule and also earned all prescribed Honor (Major) or Minor credits at the time of declaration of final year result, is eligible to get regular + Honor (Major) or Minor degree.
- b) Student who has completed regular B.Tech. in stipulated time schedule but fail to earn all prescribed Honor (Major) or Minor credits at the time of declaration of final year result, is eligible to get only regular degree.

3.0 DEGREE WITH HONORS, MAJOR & MINOR:

Technically there is no difference between the Title, Scheme of Examination and Syllabus between Honors and Major programs as far as number of credits and syllabus is concerned. A student will be conferred with:

- a) Honors Degree (e.g., "BTech in Mechanical Engineering with Honors in Advanced Dynamics") only if he/she is having a final CGPA of more than or equal to 7 in regular Program with no backlog in any semester, during the span of his/her degree (including Honors program).
- b) Degree with Major (e.g., "BTech in Mechanical Engineering with Majors in Advanced Dynamics") if he/she is not having a final CGPA of more than or equal to 7 in regular Program and /or had backlog subjects, in any semester, during the span of his/her degree (including Major program).
- c) Degree with Minor (e.g., "BTech in Mechanical Engineering with Minor in Electrical Engineering") if he/she is having a final CGPA of more than or equal to 7 in regular Program with no backlog in any semester, during the span of his/her degree (including Minor program).

Note: 1. It is expected that every department of the college/institution offering Major/Minor should appoint one Honors (Major)/Minor coordinator to help students sort out academic as well as administrative issues. Also, one Single Point of Contact (SPoC) be appointed at college/institute level.

2. The scheme shall ideally begin from the fourth semester of UG for the students admitted in the session 2020-21 onwards. However, it is flexible to the extent that student interested may start it from first semester also.

4.0 SWAYAM-NPTEL:

1. This platform is indigenously developed by seven IITs and IISc together under the umbrella of Ministry of Education, Govt. of India. Website address of NPTEL is www.nptel.ac.in and SWAYAM has its website address as swayam.gov.in.
2. SWAYAM-NPTEL platform has its own assessment system consisting of CIE (25 marks) and SEE (75 marks). For successful completion, 40 marks are required (min. 10 marks in CIE and 30 in SEE). SEE is a proctored exam which is conducted at designated centres at national level. Nagpur is one of such centres for SWAYAM-NPTEL exam.
3. SWAYAM-NPTEL follows the CBCS system. Every course is allotted credits based on the number of hours of the course duration. Students are given the choice to select the courses from core and elective courses under a particular Major/Minor which a student opts.
4. SWAYAM-NPTEL charges fee of Rs. 1000/- (500/- for SC/ST) for conducting proctored examination and certification.
CIE: Continuous Internal Evaluation SEE: Semester End Examination (Proctored Exam)

5.0 CERTIFICATE OF HONORS (MAJOR)

Each Board of Studies is offering minimum three Honors (Major) Programs. All these Honors (Major) Programs are offered through SWAYAM - NPTEL platform

a) Eligibility of student:

Students having CGPA more than or equal to 6 (for regular students CGPA of third semester and for lateral entry students SGPA of third semester will be considered) and no backlogs shall be eligible to register for Honors courses of their parent discipline from the list prescribed by the University.

b) Implementation:

1. RTM Nagpur University has prescribed "branch wise - specialisation wise" list of courses (core & elective) for Honors (Major), with all details including course name, course code, name of subject matter expert (SME) with affiliation, credits, teaching & evaluation scheme, course outcomes, detail syllabus and list of references.
2. While giving the scheme of all such specialisations which course is to be completed in which semester is given, but it is only suggestive not compulsory. Semester wise course list is given with the logic of i) lower semester - lower level of difficulty and ii) lower semester courses are sometimes prerequisite to the higher semester courses.
3. University will check whether a student has i) earned 18-20 credits & ii) the credits earned are by clearing the courses mentioned in the list of same specialisation pertaining to the parent branch of B.Tech.
4. The HoD of the parent department will identify and appoint one faculty member as "Honors/Minor Coordinator" who shall be responsible for all coordination, record keeping and guidance to the students.
5. All applications of concerned students shall be verified and forwarded to the SPoC with remarks by the Honors/Minor Coordinator and HoD of the parent department.

c) Students' Attendance:

Completing the assignments, giving the proctored examination and earning the certificate of requisite credits with prescribed percentage via SWAYAM - NPTEL platform is considered as satisfactory attendance for students.

d) Examination:

The complete assessment and evaluation scheme is prescribed by SWAYAM-NPTEL platform, which students need to follow and abide by. If a student is not able to pass the course, can go for another attempt as and when the course is made available for exam by SWAYAM-NPTEL.
Certificates worth 18-20 credits of Honors courses must be produced on or before the last date/paper of 8th semester examination. Credits mentioned on such certificates will be final and binding.

e) Duration of Program with Honors:

All requirements of the regular program and Honors have to be completed within the stipulated period of the regular program i.e., 04 years for UG students who were admitted in the First Year of the program and 03 years for those who

and their other personal property to support the children (including children born to a woman in wedlock and children born to her out of wedlock) until all the principal assets of the trust corpus have been expended. Another trust will not be subject to the trust corpus until the principal assets of the trust corpus have been expended for the support and education of the child born to the wife subject to that the surviving spouse will not be subject to the trust.

(ii) Trusts:

- (A) Trust assets must be held separately by the trustee, but that trustee is not the owner of the property (IRC 675(4)(F)). The power of individual trust assets must not be subject to attachment or seizure by:
- (i) the creditor (but assets of trust is exempt attachment of trustee as trustee of trust of beneficiaries of trust) but to extend to the trustee as trustee or creditor of trust assets; liability and power to take steps to avoid attachment of trustee by creditor of beneficiaries of trust;
- (ii) the creditor (but assets of trust is exempt attachment of trustee as trustee of trust of beneficiaries of trust) but to extend to the trustee as trustee or creditor of trust assets; liability and power to take steps to avoid attachment of trustee as trustee of beneficiaries of trust.

(iii) Trusts for the benefit of the surviving spouse:

A trust for the benefit of the surviving spouse is not subject to attachment or seizure by the creditor of the surviving spouse until the principal assets of the trust corpus have been expended for the benefit of the surviving spouse (IRC 675(4)(G)).

(iv) Trusts of trusts:

The estate tax liability of the trust created by will is subject to the trust in relation to the estate of the decedent (estate of the decedent) but not subject to the trust of the trust.

ANNUAL REPORTING

Each trust of trust is filing returns for trust purposes which is made available through the trust's TRUST profile. The trustee for trust will be a trustee (the trustee) and the trustee of the trust will be the trustee of the trust (the trustee).

(i) Reporting of income:

Trusts filing TRUST returns are subject to the trust reporting TRUST of the trust and the trustee of the trust. TRUST of the trust will be subject to the trust reporting TRUST of the trust and the trustee of the trust will be subject to the trust reporting TRUST of the trust.

(ii) Expenses:

- (A) TRUST of the trust will be subject to the trust reporting TRUST of the trust and the trustee of the trust will be subject to the trust reporting TRUST of the trust.
- (B) TRUST of the trust will be subject to the trust reporting TRUST of the trust and the trustee of the trust will be subject to the trust reporting TRUST of the trust.
- (C) TRUST of the trust will be subject to the trust reporting TRUST of the trust and the trustee of the trust will be subject to the trust reporting TRUST of the trust.

(iii) Trusts of trusts:

The estate tax liability of the trust created by will is subject to the trust in relation to the estate of the decedent (estate of the decedent) but not subject to the trust of the trust.

d) Examination:

The complete assessment and evaluation scheme is prescribed by SWAYAM-NPTEL platform, which students need to follow and abide by. If a student is not able to pass the course, can go for another attempt as and when the course is made available for exam by SWAYAM-NPTEL platform. Certificates worth 18-20 credits of Honors courses must be produced on or before the last date/paper of 8th semester examination. Credits mentioned on such certificates will be final and binding.

e) Duration of Program with Minor:

All requirements of the Minor program have to be completed within the stipulated period of the original program i.e., 04 years for UG students who were admitted in the First Year of the program and 03 years for those who got lateral entry in second year of the program. No additional period will be permitted. If a student is unable to earn 18-20 credits along with all the prescribed credits of a program in which he/she is admitted within the stipulated allowed duration of the original program he/she will not be awarded degree with Minor. The Minor courses completed partially, shall not be adjusted or converted into program credits anywhere in the credits structure of the regular curriculum of the parent program and they will remain extra.

f) Certificate:

1. For Minor courses completed successfully by the student, he/she shall be issued a certificate of completion of that course by SWAYAM-NPTEL. The passing of individual Minor courses shall not be mentioned on the Grade Cards.
2. After earning 18-20 credits of Minor, a separate certificate of "Minor Specialization in _____ Engineering" shall be awarded to the student by the college on completion of final semester. University will provide B.Tech. degree in parent branch with "Minor Specialization in _____ Engineering".
3. After earning 18-20 credits of Minor in interdisciplinary courses a separate certificate of "Minor in Multidisciplinary Courses" shall be awarded to the student by the college on completion of final semester. University will provide B.Tech. degree in parent branch with "Minor in Multidisciplinary Courses".

g) Dropping/Withdrawal/Termination from Minors:

If a student drops or withdraws from the Minor scheme at any stage, the additional credits earned through Minor courses shall not be converted into program credits (core/electives/lab/project etc) and they will remain extra.

h) Class & Medal:

Successful completion of Minor scheme will not indicate any Class or Division. For the award of a Medal to meritorious students, in case of a tie, students who have completed the Minor scheme will be preferred.

7.0 CREDIT TRANSFER

On the basis of proctored examination conducted by NPTEL / SWAYAM, full credits shall be transferred only after submission of successful course completion certificates along with admit cards of examination.

8.0 GRADE CONVERSION

The grade conversion and credit transfer of proctored examination conducted by NPTEL-SWAYAM shall be considered as below.

Table 1

Score	Equivalent Grade	Equivalent Term	Grade Point
100	O	Outstanding	10
90 to 99.99	A+	Excellent	9
80 to 89.99	A	Very Good	8
70 to 79.99	B+	Good	7
60 to 69.99	B	Above Average	6
50 to 59.99	C	Average	5
40 to 49.99	P	Pass	4
<40	F	Fail	0
Ab	Ab	Absent	0

9.0 GENERAL GUIDELINES FOR AWARENESS OF HONORS (MAJOR)/MINOR PROGRAMS:

1. Under each IAS, a steering committee shall be formed for smooth conduct of the Honors / Minor Program being offered by the department. The proposed composition shall be:
HoD (Chairman) + three senior teachers
2. The steering Committee will conduct a meeting with all Fourth Semester students to explain the Honors (Major)/Minor programs including their contents, advantages, employability, specialization and any other related future aspects.
3. The committee shall be responsible for proper publicity of Honors (Major)/Minor programs, a location of facilitators, smooth implementation of the mentoring scheme of NPTEL and Liaising with students who have opted for the program.
4. Each department shall prepare an Honors (Major)/Minor brochure containing Scheme of Examination and Syllabus as prescribed by the University. Honors (Major)/Minor brochure so prepared shall be uploaded on the website of the college
5. The Honors (Major)/Minor Brochure shall also be mailed to each 4th Semester student and their parents by the department.
6. A video clip explaining the features of all Honors (Major)/Minor programs shall also be made available on the college website by each department.
7. The feedback and response related to Honors (Major)/Minor programs offered by each department shall be conducted immediately after the presentation of the steering committee and any action if required shall be taken immediately.

10.0 GRIEVANCE REDRESSAL MECHANISM

A committee constituted under the Chairmanship of the Dean will be responsible to address the grievances of students, teachers, institution and other concerned stake holders.

Dean (Science & Technology)
