ACADEMIC RULES AND REGULATIONS

FOR

Under Graduate and Post Graduate Programmes

(wef. 2023-24)

(Version : 06)

S. B. JAIN INSTITUTE OF TECHNOLOGY, MANAGEMENT & RESEARCH, NAGPUR

(AN AUTONOMOUS INSTITUTION AFFILIATED TO RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAAC ACCREDITED WITH 'A' GRADE)

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1. PREAMBLE

- *S. B. Jain Institute of Technology Management and Research, Nagpur, established in **2008** by **Sir Shantilal Badjate Charitable Trust,** is a **self-financed, Hindi linguistic minority Institute** affiliated to **Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur;** approved by **All India Council for Technical Education**, New Delhi and **Directorate of Technical Education**, Maharashtra State. It is accredited with **NAAC "A"** Grade.*

- *The Institute offers **six undergraduate, two postgraduate and one Ph.D. programme.***

- *Since its inception, the Institute has continuously seen a rise in popularity amongst the aspiring students and their parents. It has become a preferred destination of the students due to **quality technical education, matching infrastructure, robust teaching-learning practices** as well as **holistic growth** and **good employability.***

- *The Institute has a very **responsive academic system** involving **best planning, monitoring** and **control** at all levels. **Outcome Based Education (OBE)** is adopted by the Institute with focus on attainment of **blooms taxonomy** levels.*

- *The Institute has **an active Internal Quality Assurance Cell (IQAC)** which imbibes quality culture and strives for continuous improvement in all the Institutional endeavors.*

- *It promotes **all-round development** of the students by providing various opportunities in **academics, technical, cultural, social and sports**. There are student forum in every department that enhances their managerial and leadership skills.*

- *The Institute is associated with professional bodies viz. **IEEE, IETE, ISTE, SAE & ISHRAE** through active **Professional Memberships / Chapters** which organizes various activities/events for professional development.*

- *The **Institute's Vision and Mission Statements** are :*

Vision

Emerge as a leading Institute for developing competent and creative Professionals.

Mission

- *Providing Quality Infrastructure and experienced faculty for academic excellence.*
- *Inculcating skills, knowledge and opportunities for competency and creativity.*
- *Aligning with Industries for knowledge sharing, research and development.*

2. SHORT TITLE & COMMENCEMENT

2.1 The regulations listed under this head are for all UG & PG programmes offered by the Institute with effect from academic year 2023-24 *[Except for 1st Year Engineering B.Tech. Batch admitted in the year 2023-24 and onwards]*, and they are called as ***"Academic Rules and Regulations 2023-24 (Version:06)".***

Note- *For 1st Year Engineering B.Tech. Batch admitted in the year 2023-24 and onwards* ***"Academic Rules and Regulations 2023-24 (NEP Version:01)"*** *shall be applicable.*

2.2 The regulations are subject to amendments made by the Academic Council with the approval of the Governing Body of the Institute from time to time with consideration of recommendations by the Board of Studies as may be applicable.

3. ABBREVIATIONS AND DEFINITIONS

(i)	**"Government"** shall mean the Government of Maharashtra/Government of India as may be applicable.
(ii)	**"DTE"** shall mean Directorate of Technical Education, Government of Maharashtra.
(iii)	**"University"** shall mean Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.
(iv)	**"Regulating Authority"** shall mean any regulatory or controlling body for the Technical Education in India.
(v)	**"UGC"** shall mean University Grants Commission, Government of India, New Delhi.
(vi)	**"AICTE"** shall mean the All India Council for Technical Education, New Delhi.
(vii)	**"Institute"** shall mean S. B. Jain Institute of Technology, Management & Research, Nagpur
(viii)	**"Governing Body"** shall mean the Governing Body of the Institute constituted as per the guidelines of UGC for autonomous colleges.
(ix)	**"Academic Council"** shall mean the Academic Council of the Institute constituted as per the guidelines of UGC for autonomous colleges.
(x)	**"BOS"** shall mean the Board of Studies of the department, constituted as per the Guidelines of UGC for autonomous colleges.
(xi)	**"Finance Committee"** shall mean the Finance committee of the Institute constituted as per the guidelines of UGC for autonomous colleges.
(xii)	**"Principal"** shall mean the Principal of the Institute.
(xiii)	**"COE"** shall mean the Controller of Examinations of the Institute.
(xiv)	**"Vice-Chancellor"** shall mean the Vice-Chancellor of the University.
(xv)	**"Degree"** shall mean the Bachelor of Technology (B.Tech.) or Master of Technology (M.Tech.) or Master of Business Administration (MBA), and other degrees of the Institute as may be approved by the Regulating Authority.

(xvi)	**"Applicant"** shall mean an individual who applies for admission to any UG/PG programme of the Institute.
(xvii)	**"Student"** shall mean a student registered for UG/PG programme for studies leading to any degree offered by the Institute and sought final admission to the degree programme.
(xviii)	**"Direct Admission Student"** shall mean a student who is admitted directly to second year of the B.Tech. degree programme after completion of the appropriate Diploma / B.Sc. Course and registered for undergraduate programme of the Institute for fulltime study leading to the respective B.Tech. degree.
(xix)	**"Course"** shall mean a curricular component identified by a designated number and title.
(xx)	**"Programme"** Programme shall mean the stream in which the degree is awarded.
(xxi)	**"Scheme of Teaching and Examination"** shall mean the scheme of teaching and examination for a programme of study as approved by the Academic Council.
(xxii)	**"Course Coordinator"** shall mean a faculty member who shall have full responsibility for the course, coordinating the work of other faculty member(s) involved in that course, including examinations and the award of grades.
(xxiii)	**"Grade Moderation Committee"** shall mean the committee appointed by the Chairman, Academic Council to moderate grades awarded by the examiner, if required.
(xxiv)	**"SGPA"** shall mean the Semester Grade Point Average.
(xxv)	**"CGPA"** shall mean the Cumulative Grade Point Average.
(xxvi)	**"EXC"** shall mean Examination committee constituted as per guidelines of competent authority.
(xxvii)	**"ISV"** shall mean In-charge of Spot Valuation, appointed by the Principal.
(xxviii)	**"OIC "** shall mean Officer In-charge of the End Semester Examination.
(xxix)	**"Guide"** shall mean a person who is qualified to supervise a project/dissertation work of students and is approved by the Academic Council.
(xxx)	**"GRC"** shall mean Grievance Redressal Committee of the Institute.
(xxxi)	**"Competent Authority"** shall mean the Governing Body/Academic Council of the Institute/ University/Government/UGC/Regulating Authority as the case may be.
(xxxii)	**"Equivalence Committee"** shall mean the Equivalence Committee appointed by the Academic Council.

4. ACADEMIC PROGRAMMES

The Institute offers six undergraduate and two postgraduate programmes. The undergraduate programmes are Computer Science and Engineering, Computer Science and Engineering(Artificial Intelligence and Machine Learning), Computer Science and Engineering(Data Science), Electrical Engineering, Electronics and Telecommunication Engineering and Mechanical Engineering. The Postgraduate Programmes are M.Tech. in Electronics Engineering and MBA.

Admission to all these programmes are based on the eligibility criteria laid down by the competent authority.

4.1 Under Graduate Programmes:

4.1.1 The Institute offers following Undergraduate programmes:

Table No. 4.1.1

Sr. No.	Department	Programme Title	Programme Code
1	Computer Science and Engineering	B.Tech. in Computer Science and Engineering	**CS**
2	Emerging Technologies	B.Tech. (Artificial Intelligence and Machine Learning)	**AM**
3	Emerging Technologies	B.Tech. (Artificial Intelligence (AI) and Data Science)	**AD**
4	Electrical Engineering	B.Tech. in Electrical Engineering	**EE**
5	Electronics and Telecommunication Engineering	B.Tech. in Electronics and Telecommunication Engineering	**ET**
6	Mechanical Engineering	B.Tech.in Mechanical Engineering	**ME**

4.1.2 **B.Tech. with Honors/Major or Minor Specialization**

A student who fulfills the requirements of the B.Tech. programme of the discipline in which he/she was admitted, will be awarded with B.Tech. degree in that discipline. The flexibility from fourth semester onwards is offered for students to successfully complete additional 18-20 credits by

undertaking courses and successfully passing it as per the Honors/Major or Minor Specialization Scheme. Such students shall be awarded B.Tech. with Honors/Major or Minor specialization.

4.1.3 **B.Tech. with Honors/Major specialization**

Honors/ Major specialization scheme aims at growth of vertical knowledge of the student in his/her parent branch which may have advance knowledge or research orientation.

(a) Scheme Overview:

- 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 through the Honors/ Major scheme.
- To **foster self learning ability** amongst the students and **provide flexibility to study at own pace, learning and assessment** through **SWAYAM/NPTEL platform** is mandated against the Honors/ Major Scheme.
- The students have to **register for Honors/ Major Specialization Scheme offered by their respective programme only during 4th Semester on or before the due date** as notified by the Institute.
- The students can register for **ANY ONE** of the two specialization schemes i.e. either Honors/Major scheme or Minor scheme.
- Aspiring student must have to **acquire additional 18-20 credits** from the specific specialization group of their respective programme as mentioned in ANNEXURE-II apart from regular curriculum against the scheme to be eligible for the award of Honors/ Major specialization of respective programme.
- Participation of students in Honors/Major and Minor schemes **is not mandatory.**
- In any case, the registered students against the Honors/ Major Scheme are **not eligible to claim Incentive marks** for passing the scheme courses.
- The **norms laid down by the affiliating University** for award of Honors/Major and Minor specialization shall be followed by the Institute from time to time.

(b) Eligibility of Student

- Students having **CGPA more than or equal to 6.75** at the time of registration shall be eligible to register for Honors/Major specialization scheme.
- The scheme shall begin from Fourth Semester of UG programmes.

(c) Scheme Implementation

- The scheme will **begin from Semester-IV** of UG programmes.
- The **list of offered courses on SWAYAM/NPTEL platform against the specialization groups of respective programmes, duration, credits, SME name, offering Institute etc.** for Honors/ Major specialization scheme is mentioned in ANNEXURE-II.
- The students have **to register themselves in the Honors/ Major Specialization Scheme offered by the Institute through SWAYAM/NPTEL platform in IV Semester**, in order to undertake the scheme.
- The students also have to **register themselves to the courses on SWAYAM/NPTEL platform** against the scheme and inform their respective departments.
- **During IV to VIII semester,** the students have to self learn the courses from **SWAYAM/NPTEL platform** under opted Honors/ Major specialization scheme**, register for its examination, successfully pass and complete the required number of courses from the platform to earn 18- 20 credits and submit the passing certificates of these courses on or before the last date as notified by the Institute in the VIII semester** for award of Honors/ Major specialization.

(d) Assessment & Evaluation

- The assessment and evaluation of the courses against the scheme shall be strictly as per the **SWAYAM/ NPTEL platform**.
- The students have to **submit the certificate of passing** the courses against the scheme provided by SWAYAM/ NPTEL platform to the parent department from time to time.

(e) Award of Honors/ Major Specialization

- A student having a **CGPA of more than or equal to 8.25 and no backlog subjects in any regular semester** during the span of his/her degree programme will be awarded with **"Honors" specialization**, otherwise the student will be awarded with **"Major" specialization** in the respective discipline/domain.

4.1.4 **B.Tech. with Minor specialization**

Minor specialization scheme aims for additional knowledge/ multidisciplinary learning in Computer Science & Engineering in view of current employment opportunities.

In order to encourage self learning ability and promote e-learning, the Institute aims to offer the minor specialization scheme through eminent and greatly recognized national level SWAYAM/NPTEL platform in the domain of Computer Science & Engineering :

The following Minor specialization is offered:

Sr. No.	Minor Specialization in	Eligible Students
1	**Computer Science & Engineering**	All UG students except of CS, AM and AD programmes

(a) Scheme Overview:

- Minor specialization is advantageous to those who wish to augment their engineering discipline with modern, job oriented courses in view of current employment opportunities.
- To **foster self learning ability** amongst the students and **provide flexibility to study at own pace, learning and assessment through SWAYAM/NPTEL platform** is mandated against the Minor Scheme.
- The students have **to register for Minor Specialization Scheme during 4th Semester on or before the due date** as notified by the Institute.
- The students can register for **ANY ONE** of the two specialization schemes i.e. either Minor scheme or Honors/ Major scheme.
- Aspiring student must have to **acquire additional 18-20 credits** against the minor specialization from the list of courses of respective programmes as provided in ANNEXURE-II through SWAYAM/NPTEL platform apart from regular curriculum to be eligible for the award of Minor specialization.
- Participation of students in Minor scheme is **not mandatory**.
- In any case, the registered students against the Minor specialization scheme **are not eligible to claim Incentive marks** for passing the scheme courses.
- The **norms laid down by the affiliating University** for award of Minor specialization shall be followed by the Institute from time to time.

(b) Eligibility of Student

- Students having **CGPA more than or equal to 6.75** at the time of registration shall be eligible to register for Minor specialization scheme.
- The scheme shall begin from **Fourth Semester** of UG programmes.

(c) Scheme Implementation

- The scheme will **begin from Semester-IV** of UG programmes.
- The **list of offered courses on SWAYAM/NPTEL platform against the Minor specialization, duration, credits, SME name, offering Institute etc.** for Minor specialization scheme is mentioned in the ANNEXURE-II.
- The students have to **register themselves in the Minor Specialization Scheme through SWAYAM/NPTEL platform** in IV Semester, in order to undertake the scheme.
- The students also have **to register themselves to the courses on SWAYAM/NPTEL platform** against the scheme and inform their respective departments.
- **During IV to VIII semester,** the students have to **self learn the courses** from **SWAYAM/NPTEL platform** under minor specialization scheme, **register for its examination, successfully pass and complete the required number of courses from the platform to earn 18- 20 credits and submit the passing certificates of these courses on or before the last date as notified by the Institute** in the VIII semester for award of Minor Specialization.

(d) Assessment & Evaluation

- The assessment and evaluation of the courses against the scheme shall be strictly as per the **SWAYAM/ NPTEL platform.**
- The students have to **submit the certificate of passing the courses** against the scheme provided by SWAYAM/ NPTEL platform to the parent department from time to time.

4.1.5 Duration of Programme with Honors/ Major or Minor Specialization Scheme

- All requirements of the programme and **Honors/ Major or** Minor specialization have to be **completed within the stipulated period** of the original programme i.e. 04 years for UG students who were admitted in First Year of the programme and 03 years for those who got lateral entry in second year of the programme.
- **No additional period** will be permitted in any case.

4.1.6 Dropping/Withdrawal/Termination from Honors/ Major or Minor Specialization Scheme

- If a student is **unable to earn additional 18-20 credits** along with all the prescribed credits of parent programme within the stipulated allowed duration of the parent program, he/she will not be awarded with **Honors/ Major or** Minor Specialization.
- However, if such student has **earned minimum 8 credits** against this scheme, it will be **reflected as additional credits earned** by the student in the **VIII Semester Grade Card.**
- Credits of Honors/ Major or Minor specialization courses completed if any by students **will not be adjusted or converted** into program credits anywhere in the 160 credits structure of original curriculum of the program in which they were admitted and such additional credits will remain extra.
- If a student drops or withdraws from the Honors/ Major or Minor specialization scheme at any stage, the additional credits earned through **Honors/ Major or** Minor specialization courses **will not be converted into program credits** (core/electives/lab/project etc) and they will remain extra.
- If the student is **found indulged in any activity against the code of conduct** of the Institute, he/she will be **terminated from the Honors/ Major or Minor specialization scheme.**

4.1.7 **Class and Medal**

Successful completion of **Honors/ Major or** Minor specialization will not indicate any Class or Division. For the award of Medal to meritorious students, in case of a tie, student who has earned the Honors/ Major or Minor Specialization will be preferred.

4.1.5 Duration of Programme with Honors/ Major or Minor Specialization Scheme

- All requirements of the programme and **Honors/ Major or** Minor specialization have to be **completed within the stipulated period** of the original programme i.e. 04 years for UG students who were admitted in First Year of the programme and 03 years for those who got lateral entry in second year of the programme.
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- Credits of Honors/ Major or Minor specialization courses completed if any by students **will not be adjusted or converted** into program credits anywhere in the 160 credits structure of original curriculum of the program in which they were admitted and such additional credits will remain extra.
- If a student drops or withdraws from the Honors/ Major or Minor specialization scheme at any stage, the additional credits earned through **Honors/ Major or** Minor specialization courses **will not be converted into program credits** (core/electives/lab/project etc) and they will remain extra.
- If the student is **found indulged in any activity against the code of conduct** of the Institute, he/she will be **terminated from the Honors/ Major or Minor specialization scheme.**

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Successful completion of **Honors/ Major or** Minor specialization will not indicate any Class or Division. For the award of Medal to meritorious students, in case of a tie, student who has earned the Honors/ Major or Minor Specialization will be preferred.

4.2 Post Graduate Programmes

4.2.1 The Institute offers the following Postgraduate programmes:

Table No. 4.2.1

Sr. No.	Department	Programme Title	Programme Code
1	Electronics and Telecommunication Engineering	M. Tech. (Electronics Engineering)	EN
2	Department of Management	MBA (Master of Business Administration)	MB

4.3 Programme Duration

4.3.1 **Normal Duration:** The normal duration of fulltime academic programme is the same as that followed by the University, i.e., four years for B.Tech., two years for M.Tech., and M.B.A. The normal duration of the programme for lateral entry students who are admitted in second year (UG) shall be three years consisting of six semesters.

4.4 Semester System

4.4.1 The academic programmes in the Institute shall be based on semester system; two semesters one ODD Semester (June- November) and other EVEN Semester (December - May) in a year with winter and summer vacations.

4.4.2 The curriculum may consist of credit courses, mandatory courses and audit courses as recommended by the respective Board of Studies.

4.4.3 Each credit course shall have a certain number of credits assigned to it depending upon the academic load of the course, which would be assessed on the basis of weekly contact hours of theory lecture, tutorial, laboratory classes and field study if required.

4.5 Outcome Based Education

4.5.1 The Institute shall implement in true spirit the model of Outcome Based Education (OBE) as an educational theory that bases each part of an educational system around goals (outcomes). By the end of the educational experience, each student is expected to have achieved the goal.

4.5.2 The assessment process practiced by the Institute shall help in improving student learning. The process must help in gathering, analysing and discussing information from diverse sources to develop a deep understanding of what students know, understand value and can do as a result of their academic and co-curricular experiences at the Institute. The assessment process shall benefit in continuous improvement of the programme and effectively accomplishing the Institute's mission.

4.5.3 The various aspects of Outcome Based Education (OBE) viz Program Outcomes (POs), Program Specific Outcomes (PSOs) and Course Outcomes (COs) will be implemented for each programme.

4.5.4 Revised Blooms Taxonomy shall be followed for setting of Question papers.

4.5.5 CO-PO/PSO Assessment tools and guidelines for CO-PO/PSO evaluation shall be approved by the respective BoS.

5 ACADEMIC COURSES

5.1 Curriculum Structure

5.1.1 The programmes will consist of :

(a) Courses comprising of basic sciences, engineering sciences, humanities and social sciences including management;

(b) Engineering core courses introducing the student to the foundations of engineering in his / her branch;

(c) Electives enabling the students to take up a group of courses of interest to him/her. Two kind of electives are offered to the students:

Programme Elective: This elective is offered to the student by the respective department.

Open Elective: This elective can be opted by the student from the Open Elective offered by various departments.

(d) Minor and major projects, Internship and seminar approved by the department BoS and

(e) Other technical industry oriented, contemporary courses, audit courses/ Environmental Engineering Courses / Industrial visits / Case study / Mini Projects / Site visits / Yoga / Professional skills etc. as recommended by the Board of Studies.

5.1.2 Each UG/PG programme will have a curriculum and course contents (syllabi) for the courses designed by the BOS and approved by Academic Council.

5.1.3 The curriculum of any UG programme is designed to have credits of 160 for award of the degree based upon the Individual Programme. In case of admitted students through lateral entry in second year, credits shall be calculated from second year onwards and the minimum credit requirement for award of degree shall be 120 based upon the Individual Programme.

The curriculum for award of degree in various PG programmes is designed to have credits as under :

M. Tech: 68 credits

MBA : 102 credits

(The curriculum scheme for 1st Year B.Tech., III-VIII Semester B.Tech.-CS, AM, AD, EE, ET & ME and all semester M.Tech and MBA programmes are attached as Annexure -I)

5.1.4 The medium of instruction, examination and project reports will be English.

5.1.5 Every UG/PG student will have to earn the credits by passing all the credit courses as specified in **5.1.3** and will have to earn 'G' grade in all the audit courses (non credit courses) to become eligible for award of the Degree.

5.2 Course Codes

Each course offered shall have an alphanumeric course code consisting of a string characters.

5.2.1 **For First year Engineering (UG),**

The example Course Number is illustrated in the following figure no. 4.6.1.

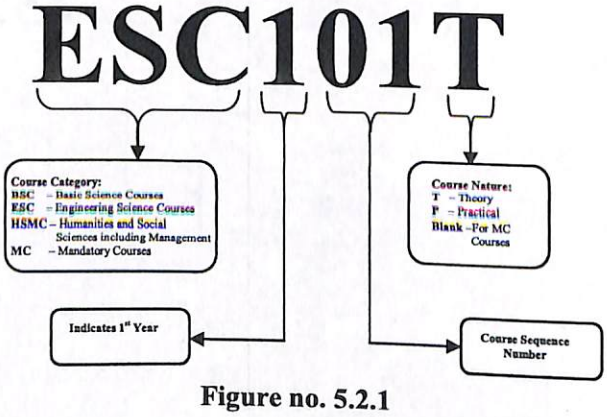

Figure no. 5.2.1

5.2.2 **For Third Semester to Eight Semester Engineering (UG) & M.Tech (PG)**

The example Course Number is illustrated in the following figure no. 5.2.2.

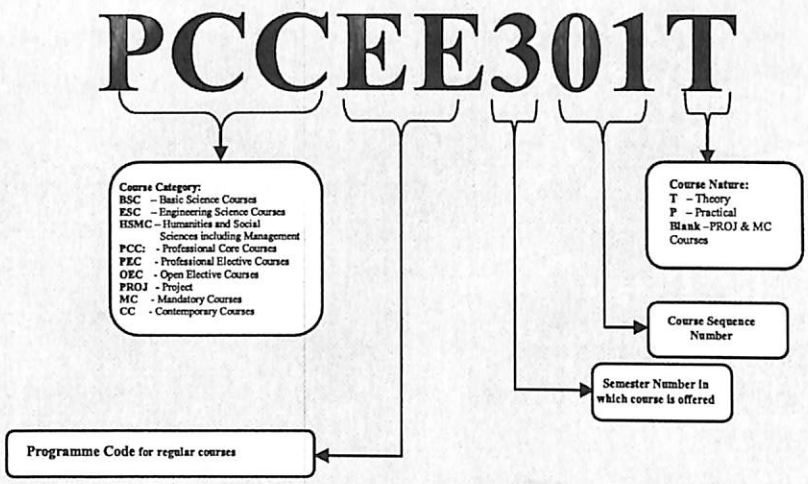

Figure no. 5.2.2

5.2.3 **For MBA Programme (PG)**

The example Course Numbers is illustrated in the following figure no. 5.2.3(a) & 5.2.3(b).

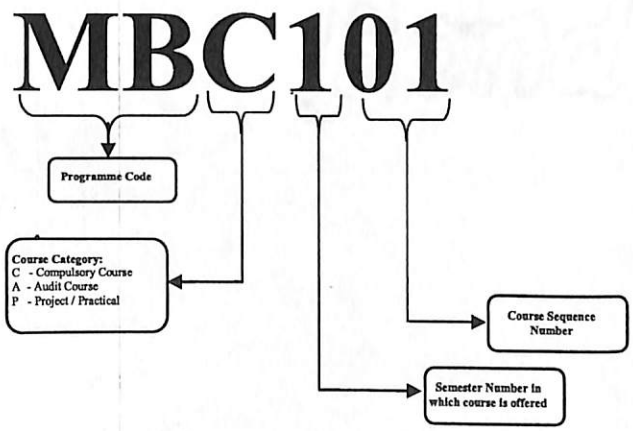

Figure no. 5.2.3(a)

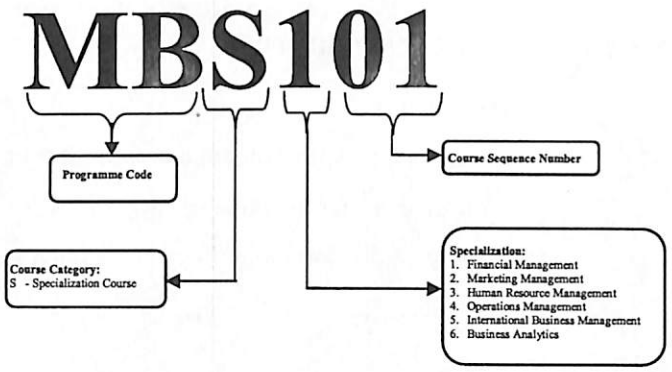

Figure no. 5.2.3(b)

5.3 Course Credits

5.3.1 Each credit course shall have an integer number of credits, which reflects its weight. The student earns credits by passing corresponding courses in minimum 'D' grade in theory course examination and in minimum 'D' grade in practical course examination.

5.3.2 The number of credits of a course in a semester shall normally be calculated as under(however there may be some exceptions):-

Lectures &Tutorial: One lecture or tutorial hour per week shall be assigned one credit.

Practical: One laboratory hour per week shall be assigned half credit. Not more than two credits may be assigned to a practical course having only laboratory component.

Project: One project hour per week will be assigned half credit.

Internship: Credits of internship shall be applicable as stated in the Practice School/ Internship section of this document.

Special courses like mini projects, seminar, and general proficiency in the UG/PG programme shall be treated as any other practical course and shall be assigned such number of credits as reflected in the respective scheme approved by the BOS and Academic Council.

5.4 Courses of Special Nature

5.4.1 For UG Programme:

Mini Project

A curriculum may contain a course on mini project, which may be offered in Fourth semester onwards to carry out a design, fabrication, site visits, market survey, etc. Not more than six students may carry out the mini project together.

Project

A curriculum shall contain a credit for project, offered in the semesters of the UG programme. Not more than six students can carry out the project together. The batch formation norms and allotment of guide shall be carried out by concerned Department.

Offering an Elective

Program Elective

Program elective course in a department shall run only if minimum of 20 students register for it in a regular semester. However, under special circumstances, a course may run with fewer students with prior permission of the Chairman, Board of Studies. If additional full time faculty is required, approval of the Principal is necessary.

Open Elective

Open elective course in a department shall run only if minimum of 30 students register for it in a regular semester. However, under special circumstances, a course may run with fewer students with prior permission of the Chairman, Board of Studies and approval of the Principal. The student's capacity for an Open Elective course offered by departments shall be as recommended by Chairman, BoS of respective programmes and approved by the Principal. *(Academic Council meeting dt. 24.03.2022)*

Practice School/Internships

Expected Learning Outcomes after the Practice School/Internships are:

- Exposure to organizational skills and professional practices.
- An ability to work under supervision and directions.
- An ability to efficiently complete tasks, foster good relationship with seniors and subordinates.
- Improved communication & interpersonal skills.
- Knowledge of work ethics of the company/ industry/ Institutions/social organizations etc.
- Knowledge of the company/industry/Institutions/social organizations etc. and its governing operation standards.
- Knowledge of expectations of the company /industry in general on employees.
- Exposure to latest technology applications to the specific discipline.
- Opportunity of identification of relevant problems in the company/industry/Institutions/social organizations etc. and provide acceptable solutions.
- Opportunity to familiarize with the industry of their discipline, experience work culture and discover the organizations within the industry. Also acquire interpersonal skills through meeting with professionals in their field of study.
- Opportunity to correlate theoretical lessons and principles with practical applications. Acquire practical skills and experience working on projects alongside industry experts.
- Opportunity to discover grass root problems and fundamental issues in industry with a view to take up major project and development of innovative solutions.

5.4.2 For M.Tech. /MBA:

Project

A curriculum shall contain project/ mini project/ seminar, offered in the respective semesters of the concerned (M. Tech/ MBA) PG programme.

Credit component shall be assigned as per the availability of total credits for the respective semester of PG programme. Allotment of guide to the individual student shall be carried out by the concerned department.

Offering an Elective/specialization course

An elective course in a department shall run only if minimum of 30% students register for it in a regular semester. However, under special circumstances, a course may run with fewer students with prior permission of the Chairman, Board of studies. If additional full time faculty is required, approval of the Principal is necessary.

5.5 Starting of new Course

5.5.1 The Institute is free to start diploma (UG and PG) or certificate courses without the prior approval of the university. Diplomas and certificates shall be issued under the seal of the Institute.

6 ADMISSION, ENROLLMENT, REGISTRATION, WITHDRAWAL & EXIT

6.1 Admission

6.1.1 The admissions for UG/PG Programmes are done strictly on Merit basis in transparent manner in accordance with the rules and regulations of DTE Maharashtra State.

6.1.2 The Institute shall follow norms for eligibility of the students for admission to various Programmes as per the competent authority.

6.1.3 There is a provision for candidates with Diploma in Technical Education and also the students who are B.Sc. graduates to join UG Degree programmes for the lateral entry in the second year of the 4-year programme as per the prevailing practice in the University.

6.1.4 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 all Engineering Sciences(ESC) category courses of First

year (applicable programme).

6.1.5 The Institute follows admission procedure strictly as per Government of Maharashtra.

6.1.6 The intake of students for the various Programmes shall as per AICTE and other competent authorities.

6.2 Enrollment

6.2.1 The students admitted to the programmes offered by the institution will be enrolled with Rashtrasant Tukadoji Maharaj Nagpur University(RTMNU) with adherence to its due procedures, soon after the admission, if he/she was not enrolled earlier. The candidature of the student will be provisional till his/her enrolment is accepted and a University Enrollment Number is assigned by the RTMNU.

6.3 Registration

6.3.1 Every student admitted shall have his/ her unique Student ID. The ID of a student shall consist of alpha-numerals. PPnnSSS

Where,

PP: Indicates programme code (Exception: For MBA programme code MB to be used for uniformity)

nn: Indicates year of admission,

SSS: Indicates Student serial number.

For Lateral Entry Students, PPnnDSSS

Where,

PP: Indicates programme,

nn: Indicates year of admission,

D: Indicates Lateral Entry.

SSS: Indicates Student serial number.

For Students transfer from Other Institute, PPnnTSSS

Where,

PP: Indicates programme,

nn: Indicates year of admission,

T: Indicates transfer from Other Institute.

SSS: Indicates Student serial number.

Change of Programme, PPnnTQQSSS

Where,

PP: Indicates programme (Old),

nn: Indicates year of admission,

T: Indicates Transfer of Programme.

QQ: Indicates Transfer to Programme (New).

SSS: Indicates Student serial number.

6.3.2 Registration at the beginning of each year, on the prescribed dates announced from time to time, by payment of the stipulated fees along with duly filled in admission form is compulsory for every student till he/she completes the Programme.

6.3.3 Registration, according to rules, should be carried out in the allotted duration. Late registration may be permitted only for valid reasons and on payment of a late registration fee. Students having outstanding dues to the Institute shall be permitted to register only after clearing the dues.

6.3.4 In-absentia registration may be allowed only in rare cases at the discretion of the Principal/Dean Academics in case of circumstances beyond the control of students.

6.3.5 For UG Programme:

- For being eligible to register for (or take admission in) Semester III, student must have earned at least 40% of the total credits (rounded off to nearest lower integer) in first year (Semester I & II together).
- For being eligible to register for (or take admission in) Semester V, student must have completed successfully all courses including audit courses & earned all the credits offered in first year and earned at least 40% of the total credits (rounded off to nearest lower integer) in second year (Semester III & IV together).
- For being eligible to register for (or take admission in) Semester VII, student must have completed successfully all courses including audit

courses & earned all the credits offered in first & second year and earned at least 40% of the total credits (rounded off to nearest lower integer) in third year(Semester V & VI together).

6.3.6 For PG Programme:

- For being eligible to register for Semester III, student must have earned at least 65% of the total credits (rounded off to nearest lower integer) in first year (Semester I & II together).

6.3.7 The student admitted for regular UG/PG course shall not undertake any full time course of study in any university/college/institution. The student admitted for regular UG/PG course shall not undertake any full time employment during the period of the programme.

6.4 Change of Branch

6.4.1 A student seeking change of branch at III semester must have earned all the credits of I and II semesters. The change of branch shall be effected as per the rules and norms approved by the Government/Competent authority from time to time.

6.5 Equivalence and Absorption of students

6.5.1 The students from University pattern, desirous of seeking admission to III, V and VII semester in autonomous pattern, has to fulfill the prevailing ATKT norms of University, to become eligible for admission. However, such students have to clear backlog subjects (courses) if any, by appearing for the respective examinations of University. The norms of absorption/equivalence shall be decided by the Academic Council on the recommendations of the Equivalence Committee from time to time. These students shall be absorbed by obtaining the permission from the competent authority and following all its guidelines.

6.5.2 For the courses (compulsory/ elective/any other course) of all PG and UG programmes which are closed by the respective department in a semester of a particular academic session, maximum four consecutive (as and when the examination is conducted) available attempts will be provided to pass these courses.

Thereafter, the student shall be absorbed in new Autonomous scheme, as per the equivalence scheme of respective BoS.

6.5.3 While switching from University pattern to autonomous pattern the CGPA of such student shall be calculated from the SGPA obtained in previous semesters in the university pattern.

While switching from University pattern(where Credit base system is not available) to autonomous pattern the SGPA/ CGPA of such student shall be calculated as per following formula,

SGPA/ CGPA=(Percent marks/10) + 0.75

6.5.4 For direct admission to second year by transfer from other Institute, the calculation of CGPA shall be governed by **6.5.3** in case the SGPA/CGPA is not mentioned in the mark list. For direct admission to second year by lateral entry (after Diploma), the calculation of CGPA shall be done from III semester onwards.

6.6 WITHDRAWAL

6.6.1 A student who wants to withdraw from a semester/year shall apply through the HOD to the Principal, on a prescribed form within one week from the end of the Class Assessment Examination(CAE)-1 and it will be recorded in the registration record of the student. The student will be awarded a withdrawal grade 'W' at the end of the semester.

6.6.2 In case a student is unable to attend classes for more than four weeks in a semester, he/she may apply to the Principal through HOD for withdrawal from the semester/year.

6.6.3 In case the period of absence on medical grounds is more than four weeks working days during the semester, a student may apply for withdrawal from the semester/year, if he/she so desires. But such an application must be made to the Principal through HOD, as early as possible and latest before the beginning of End Semester Examination.

6.7 Exit Policy for Failure/Dropout Students

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

Table-6.7.1 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
Diploma	Diploma on exit after Second year	1 Diploma Course of 3 months duration in specialized area
Advance Diploma	Advance-Diploma on exit after Third year	1 Diploma Course of 6 months duration in specialized area

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

6.7.2 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	- 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

Institute and University should have a joint MOU with workshops/Shops/Service Providers/Contractors/Entrepreneurs etc. at local level

Certificate shall be issued on the basis of regular monitoring and hands on training report from concerned agency after 6 month.

In case student is not interested to undertake any above mentioned training then certificate to be issued on the basis of credits earned.

Students must earn 20 credits and above out of subjects he/she has to pass in First year. This can be provided with **credit certification** for multidisciplinary entry.

7 ASSESSMENT & EVALUATION

7.1 Examination Scheme

In a semester, a student shall be evaluated for his/her academic performance in a theory & practical credit course through Continuous Evaluation and End Semester Examination (ESE). All the examinations shall be conducted as per the syllabi prescribed by the respective BOS and approved by the Academic Council for UG/PG programmes.

Course	Examinations	Weightage
Theory Course	Class Assessment Examination (CAE)	20%
	Teachers Assessment Examination (TAE)	20%
	End Semester Examination (ESE)	60%
Practical Course	Continuous Assessment Examination (CAE)	50%
	End Semester Examination (ESE)	50%

7.2 Question Paper Pattern

For an effective assessment of learning outcomes of students, the question paper for Class Assessment Examination (CAE) and End Semester Examination (ESE) shall:

- Cover all sections of the course syllabus uniformly.
- Each UNIT shall comprise of two questions, out of which student shall have a choice to attempt any one.

7.3 Theory Course

The marks distribution discussed in this section is for Theory Courses comprising of 100 marks and Six Units.

7.3.1 Continuous Evaluation:

Continuous Evaluation	Marks
Class Assessment Examination (CAE)	20
Teachers Assessment Examination (TAE)	20

7.3.2 Class Assessment Examination (CAE)

Components			Marks
CAE-I	• Subjective test (30 M)	CAE Marks awarded as: {0.8 (Max. of CAE – I &II) + 0.2 (Min. of CAE– I &II)}/2	20
	• Objective test (10 M)		
CAE-II	• Subjective test (30 M)		
	• Objective test (10 M)		

For theory subjects, during the semester, there shall be two Class Assessment examinations and their syllabus for subjective and objective parts shall along with their duration shall be as:

Name of Examination	Syllabus	Subjective	Objective
CAE-I	50% Syllabus	Duration: 90 min. 3 Q × 10 M	Duration: 20 min. 20 MCQ × ½ M
CAE-II	Remaining 50% Syllabus		

7.3.3 Teachers Assessment Examination (TAE)

For evaluation under Teachers Assessment Examination(TAE), total three TAE parameters shall be considered.

Table No. 7.3.3 [a]

TAE	Weightage
TAE-I	50%
TAE-II	25%
TAE-III	25%

TAE-I (Table No.7.3.3 [b]) shall have weightage of 50% in assessment against TAE.

Table No. 7.3.3 [b] TAE-I

TAE Parameter	All Semester B.Tech. and PG programmes
TAE – I	**Experiential Learning Assessment** [Project Based Learning/Activity Based Learning/ Problem Based Learning/ Case Study etc.]

The Course Co-coordinators have flexibility to choose and consider any two distinct parameters against TAE-II & TAE-III from Table No.7.3.3 [c] which shall have weightage of 25% each in the assessment against TAE.

Table No. 7.3.3 [c] TAE-II &TAE-III

Sr. No.	I/II Semester B.Tech.	III-VIII Semester B.Tech.	I/II Sem PG	III/IV Semester P.G.
1	Quiz	Industry Expert Assessment	Surprise Test	Surprise Test
2	Surprise Test	Creative Assignment	Seminar/ Presentation	Seminar/ Presentation
3	Home Assignment	Attendance in Class	Attendance in Class	Attendance in Class
4	Attendance in Class	Technical Poster	Chapter review from text book / Reference book /Review of Journal Paper	Chapter review from text book / Reference book /Review of Journal Paper
5	Seminar	Seminar	Poster presentation / Paper presentation	Industry or Organization Analysis / Industry Based Assessment
6	Open Book Test	Open Book Test	Open Book Test	Open Book Test
7	Any Other with Approval from Chairman, BoS	Any Other with Approval from Chairman, BoS	Any Other with Approval from Chairman, BoS	Any Other with Approval from Chairman, BoS

The evaluation of the TAE shall be carried out by the Course Coordinator based upon the student's performance.

A student who skips teacher's assessment or a part thereof shall be awarded zero marks under the respective head.

7.3.4 End Semester Examination (ESE)

- For all the theory subjects, the end semester examination pattern will be as given below.

Name of Examination	Syllabus	Subjective
End Semester examination	All Units 100% Syllabus	Duration: 180 min. 6 Q × 10 M

- End Semester examination shall be conducted as per the schedule in Academic Calendar. Detail time-table of End Semester Examinations shall be prepared and disseminated by the office of Controller of Examination. End Semester examination will be of three-hour duration (or as per the SoE).The duration and number of questions of examination may vary as per the need of the theory course.
- For Theory Courses with 50 marks, proportionate distribution of marks shall be carried out.
- For Theory Courses with no. of Units not equal to six, proportionate distribution of no. of questions shall be carried out.

7.3.5 Re-sit Examination for Theory Courses

- A student who remains absent for End Semester examination, shall be awarded 'Z' Grade in end semester examination and shall be eligible for resit examination.
- If a student is eligible for 'F' grade shall be allowed to appear for the re-sit examination of corresponding end semester examination. The re-sit examination shall be conducted within one month from the declaration of results of the end semester examination. Re-sit examination shall be for end semester examination of that academic semester only.

The attempts pattern would be as per table shown below:

B.Tech. Programme:

Semester	Regular Winter	Resit Winter	Regular Summer	Resit Summer
I	Yes	Yes	Yes	Yes
II	Yes	Yes	Yes	Yes
III	Yes	Yes	Yes	--
IV	Yes	--	Yes	Yes
V	Yes	Yes	Yes	--
VI	Yes	--	Yes	Yes
VII	Yes	Yes	Yes	--
VIII	Yes	--	Yes	Yes

M.Tech / MBA Programme:

Semester	Regular Winter	Resit Winter	Regular Summer	Resit Summer
I	Yes	Yes	Yes	---
II	Yes	---	Yes	Yes
III	Yes	Yes	Yes	---
IV	Yes	---	Yes	Yes

7.4 Practical Course

A student shall be evaluated for his / her academic performance in a practical course on the basis of continuous evaluation & one end semester practical examination.

7.4.1 The syllabus of a practical shall specify the list of practical / experiments to be done in a semester which may include some open ended experiments.

7.4.2 **Continuous Evaluation**

Continuous assessment covering 50% evaluation on the basis of his/ her performance in each practical, journal completion, internal examination and viva-voce.

Table : 7.4.2 Continuous Evaluation:

Continuous Evaluation (25 Marks)	Marks
*Day to Day Performance	15
Internal Practical Examination	05
Viva-Voce	05
Total	**25**

** The rubrics of distribution of marks shall be as per the guidelines of Office of Dean Academics*

7.4.3 End Semester Examination

There shall be one end semester practical examination with viva-voce covering 50% evaluation.

End Semester Examination

End Semester Examination (25 Marks)	Marks
End Semester Practical Examination	15
Viva-Voce	10
Total	**25**

7.4.4 In case of performance oriented practical, the evaluation shall be done on the basis of performance in practical examination and viva-voce. Mode of examination for non-performance type of practical shall be declared by the course coordinator in the beginning of the session. Type of practical course i.e. performance type or non performance type shall be decided by the respective BOS.

7.4.5 Re-sit Examination for Practical Courses

- A student who remains absent for End Semester examination of Practical/ Project Courses and awarded with 'Z' Grade in end semester examination shall be eligible for resit examination.
- If a student is eligible for 'F' grade in Practical/ Project Courses, he/she shall be allowed to appear for the re-sit examination of corresponding end semester examination. The re-sit examination shall be conducted within one month from the declaration of results of the end semester examination. Re-sit examination shall be for end semester examination of that academic semester only.
- Practical/ Project Courses with no end semester examination in the curriculum scheme are excluded from Resit examinations.
- The attempts pattern of Resit Examination of Practical/ Project Courses would be same as per the tables of Regulation no.7.3.5.

(Emergent Direction no.02 of 2022-23 dt.19.09.2022)

7.5 Audit Course

7.5.1 For Audit courses (non credit courses), there should be an internal evaluation for 25/50 marks. A candidate has to secure a minimum of 50% of marks to be declared successful. The course coordinator shall decide and declare the mode of evaluation for the audit courses within the date prescribed by the Dean Academics.

7.5.2 There shall be NO external evaluation. For non credit courses **'Satisfactory'** or **"Unsatisfactory'** shall be indicated with the letter grade as mentioned in the section 9.1.2 of this document and this will not be counted for the computation of SGPA/CGPA.

7.6 Practice School/ Internships

7.6.1 Practice School-I: (UG)

Schedule: Summer vacation after 2nd Semester.*

Duration: 1-2 weeks

Activities: Soft Skill Training programme/ Coding proficiency programme/ Social Internship etc.

Credits: 1

Proposed Document as Evidence: Certificate/Endorsement

Evaluated By: T&P Cell/ Concerned Department

Performance appraisal with Grade Points:

Sr. No.	Performance Appraisal	Grade Points
1	Excellent	10
2	Good	9
3	Satisfactory	8

For non completion of practice school-I, "X" grade shall be awarded.

*For direct 2nd year admitted students/ discontinued students seeking admission in 2nd Year/ Ex. students having incomplete course requirements in Practice School-I are required to complete the requirements set by the Training and Placement Cell/ concerned department of the Institute during the 3rd Semester for earning credit against this course.

7.6.2 Practice School-II: (UG)

Practice School	Activities	Scheduled Duration	Credits
Practice School-II **(Compulsory Course-Part of curriculum)**	**Activities towards development of software proficiency and skill-sets in the relevant field as decided by the respective UG programme in consultation with the Industry/ Internship at establishments etc.** [duration of **2 to 3 weeks**]	**During Summer Vacation after 4th Semester**	**1**

The respective department shall plan and conduct Practice School-II in consultation with Industry Experts of the relevant field by carrying out activities leading to the development of software proficiency and skill-sets and complete it during the allotted duration followed by its assessment and evaluation. The students can also undertake Internship at establishments of their choice under Practice School-II followed by its assessment and evaluation.

Activity Detail	Period	Documentary evidence	Evaluated by	Assessment and Evaluation
Activities towards development of software proficiency and skill-sets in the relevant field/ Internship at establishments etc.	During summer vacation after **4th Semester**	Evaluating Report/ Certificate	Faculty Co-Ordinator and/or Industry Mentor	Continuous Assessment/ Examination/ Project Evaluation

Performance appraisal with Grade Points:

Sr. No.	Performance Appraisal	Grade Points
1	Excellent	10
2	Good	9
3	Satisfactory	8

For non completion of practice school-II, "X" grade shall be awarded.

7.6.3 Practice School-III Evaluation: (UG)

Schedule: Summer vacation after 6th Semester.

Duration: 4-6 weeks

Activity: Industry Internship

Credits: 2

Proposed Document as Evidence: Internship completion certificate and report

Evaluated By: Concerned Department

Assessment & Evaluation :

Total Marks: 100 marks
Continuous Evaluation : 100 marks

The following criteria for evaluation must be followed:

S. No.	Criterion	Weightage
1	Internship Report	40 %
2	Presentation and Viva Voce	60 %

Grading:
For award of grades, Regulation 9.4 shall be applicable.
(Academic Council meeting dt. 18.03.2023)

7.6.4 One Semester Industry Internship: (UG)

The one semester Industry Internship during VIII Semester shall be offered subject to fulfillment of selection criteria by the student as decided by concerned department, grant of permission by industry / organization where internship is to be carried out, approval by head of department, availability of faculty and other requirements/constraints if any. On selection, it will be mandatory for the student to abide by the guidelines issued by respective department and the industry regarding internship.

Schedule: During 8th Semester.

Duration: Minimum 90 days.

Credits: 6

Proposed Document as Evidence: Internship completion certificate and report

Assessment & Evaluation :

Total Marks: 150 marks
Continuous Evaluation : 75 marks
End Sem. Exam: 75 marks

Continuous Evaluation

For one Semester Industry Internship there shall be continuous evaluation during the semester. The continuous evaluation shall be through regular assessment by faculty mentor and one review seminar conducted by the Internship Review Committee (IRC).

The IRC shall **consist** of Head of the Department, Internship Coordinator and one Senior Faculty member of the department.

The following criteria for continuous evaluation must be followed:

S. No.	Criterion	Weightage
1	Regular Assessment	40 %
2	One Review Seminar	60 %

End Semester Examination

The end semester examination for one semester Industry Internship shall be held by a committee consisting of an External Examiner, Head of the Department and Faculty Mentor. The external examiner shall be preferably from Industry as decided by the Chairman, BoS.

The average of the marks awarded by the committee members shall be taken into consideration in case of variation among the members.

The following criteria for evaluation must be followed:

S. No.	Criterion	Weightage
1	Internship Report	40 %
2	Presentation and Viva Voce	60 %

(Academic Council meeting dt. 18.03.2023)

7.6.5 Internship Program (MBA)

Schedule: Summer vacation after 2nd Semester.

Duration: 4-6 weeks

Activities: Internship

Credits: 4

Assessment & Evaluation :

Total Marks: 100 marks
Continuous Evaluation : 50 marks
End Sem. Exam: 50 marks

The rubrics of continuous assessment and pattern of End Semester Examination shall be as approved by the Chairman, BoS.
(Academic Council meeting dt. 18.03.2023)

7.7 Project Course

7.7.1 Project-I & II/ One Semester Industry Project [UG]

Continuous Evaluation

For Project I & II/ One Semester Industry Project there shall be continuous evaluation during the semester as per the curriculum scheme. The continuous evaluation shall be on the basis of regular assessment by the project guide/ supervisor and two review seminar conducted by the Project Review Committee (PRC).

The PRC shall **consist** of Head of the Department, Project Coordinator and one domain specialized Senior Faculty member of the department.

The following criteria for continuous evaluation must be followed:

S. No.	Criterion	Weightage
1	Regular Assessment	40 %
2	Two Review Seminar	60 %

End Semester Examination

The end semester examination for project work shall be held by a committee consisting of an External Examiner, Head of the Department and Project Guide. For one Semester Industry Project, the External Examiner must be an expert from Industry as approved by Chairman, BoS.

The average of the marks awarded by the committee members shall be taken into consideration in case of variation among the members.

The following criteria for evaluation must be followed:

Sl. No.	Criterion	Weightage
1	Project Report	40 %
2	Presentation and Viva Voce	60 %

(Academic Council meeting dt. 18.03.2023)

7.7.2 Incubation

The eligibility criteria of students, the methodology of continuous assessment and end semester examination shall be as decided by the Institute's Incubation in-charge and approved by the Chairman, Academic Council.

(Academic Council meeting dt. 18.03.2023)

7.8 Incentive Scheme

Incentive scheme for achievement/ participation in Co-curricular Learning, SRC, T&P, Student Forum/Professional Body, R&D, Incubation, Sports, NSS, UBA, NCC, Extra-curricular(Cultural) activities and GATE Examination

7.8.1 The achievement/participation of any undergraduate or postgraduate student (admitted to any UG or PG programme), in various co-curricular/ extra-curricular activities will be treated as an additional course and shall be awarded grade points as follows from the academic year 2021-22.

7.8.2 For award of incentive marks, student shall be required to submit an application with required proofs/certificates/endorsement received from respective Incharge's to the HoD of parent department.

7.8.3 Evaluation of student for SRC, NCC, NSS, UBA, Sports, Incubation and T&P shall be done by respective faculty Incharges/Cell. Evaluation for achievement/participation in remaining activities, compilation of all incentive marks and submission of final incentive marks to CoE shall be done by parent department of the student. Summation of all incentive marks put together for different achievements/activities should not go above 100 marks in a semester. Students will not be eligible for incentive if any of the parameter for which the incentive marks are claimed by student, is a part of curriculum.

The award of grade points based on absolute marks out of 100 shall be made as follows:

For all UG programmes, M.Tech & MBA	
Grade Points	**Range of Marks**
10	91-100
9	81-90
8	71-80
7	61-70
6	51-60
5	41-50
4	31-40
0	Less than 31

7.8.4 The guidelines for award of incentive marks for all above activities are detailed as under:

1) Co-curricular Learning

Sr. No.	Particulars	Incentive Marks
1	Offline or online certificate course of minimum 30 Hrs duration offered by IITs / IIMs / IIITs/ NITs / Department of Ministries, Govt. of India/MOOCs / Premier organizations / Professional bodies/ Others (as approved by the parent department) (Course Passed)	80
2	Offline or online certificate course of minimum 20 Hrs duration offered by IITs / IIMs / IIITs/ NITs / Department of Ministries, Govt. of India / MOOCs / Premier organizations / Professional bodies/Others (as approved by the parent department) (Course Passed)	60
3.	Successfully passing the PPAT examination (Pre-Placement Assessment Test) related to placements organized by T&P Cell of the Institute.	40

- Student will not be eligible for incentive in case, if any of the above stated parameters is a part of curriculum.
- Incentives shall be awarded subject to approval of the online / offline MOOCs by the concerned department and passing of the examination conducted for that course.

2) SRC, T&P, Student Forum & Professional Body

Sr. No.	Particulars	Incentive Marks
1	Extra-ordinary performance/contribution by SRC Office Bearers	50-70
2	Extra-ordinary performance/contribution by other members of SRC Team	30-40
3	Branch wise student placement coordinators	40
4	Extra-ordinary performance/contribution by Professional Body Office Bearers	50-70
5	Extra-ordinary performance/contribution by other members of Professional Body	30-40
6	Extra-ordinary performance/contribution by Student Forum Office Bearers	40-50
7	Extra-ordinary performance/contribution by other members of Student Forum	20-30

Office bearers are persons holding the key posts such as President, Vice-President, Secretary, Joint Secretary & Treasurer.

For Extra-ordinary performance/contribution, respective faculty In-charge shall assess through proper rubrics and certify the evaluation in consultation with the Principal of the Institute.

3) R&D Activities

The student participating in Research, Development and Consultancy is eligible for award of incentives as per the following table:

Sr. No.	Particulars	Incentive Marks
A	**Research-Development/Consultancy Projects:**	
1	Winner in research/innovation/Project competitions of repute, organized by IITs / IIMs / IIITs / NITs/ other institutes having NIRF rank/Departments of Ministries, Govt. of India/ Premier organizations / Professional bodies	80
2	Participation in research/innovation/Project competitions of repute, organized by IITs/ IIMs/ IIITs/ NITs/ other institutes having NIRF rank/Departments of Ministries, Govt. of India/ Premier organizations/Professional bodies.	60
3	Participation in Research/Consultancy projects of the Institute	60
4	Patent filed jointly with the Institute	100
B	**Research Publications:**	
1	Research Paper accepted for publication in journal indexed in Science Citation Index (SCI)/ Scopus/Emerging Sources of Citation Index (ESCI)	100
2	Research Paper accepted for publication in Indexed journal other than SCI, SCOPUS, ESCI	60
3	Research Paper accepted and presented in conference organized by IITs / IIMs / IIITs / NITs/ other Institutes having NIRF rank/Premier organizations/ Professional bodies.	80

- Student will not be eligible for incentive in case, if any of the above stated parameters is a part of curriculum.
- If more than one student is involved, the marks awarded will be divided equally amongst the students.

4) **Incubation related activities:** The students participating in incubation related activities are eligible for the award of incentives as per the following table:

Sr. No.	Particulars	Incentive Marks
1	Incubation Stages :	
	i) Pre-incubation Stage	40
	ii) Incubation Stage	60
	iii) Start-up Phase	80
2	Participation in Inter collegiate Business Competitions organized by IIMs/IITs and any other nationally renowned Organization / Professional Bodies	60
3	Securing any top 3 positions held at IIMs/IITs and any other nationally Organization/Professional Bodies	100
4	Seed Funding Support Received for start-ups in Lakhs :	
	i) 1-3 Lakhs	60
	ii) 3-5 Lakhs	80
	iii) more than 5 Lakhs	100
5	Selection for Incubation/acceleration phase at IIM/IITs/ Nationally Renowned Organization/ acquisition by firm.	100

- If more than one student is involved, the marks awarded will be divided equally amongst the students.
- **Note :** Incentives for start-up related activities shall be offered subject to fulfillment of the criteria & guidelines decided by the EDC Cell from time to time and after due scrutiny by EDC Cell In-charge.

5) **Sports / NSS /UBA/ NCC activities :** The student participating in Sports/NSS/UBA/NCC related activity etc. is eligible for the award of incentives as per the following:

Sr. No.	Parameter	Incentive Marks
1	Participation in University Sports/ NSS Regular Volunteer/UBA/NCC activities	51-60
2	Securing I/II/III Place in University Sports, NSS Office Bearers	71-80
3	West Zone/ Inter University/ National level Participation (Sports/NSS/NCC)	100

Students participating/ securing positions in the above activities shall be awarded Incentive marks individually.

6) **Extra-Curricular(Cultural) Activities**

Sr. No.	Particulars	Incentive Marks
1	Participation in Inter collegiate University level competitions	40
2	Winners in Inter collegiate University level competitions	60
3	Participation in Inter University/National level competitions	100

Students participating/ securing positions in the above activities shall be awarded Incentive marks individually.

7) **Any Other Development Activities**

Sr.No.	Particulars	Incentive
1	Significant contribution towards Institutional/ Departmental level activities as certified by the Head of Department and approved by Chairman, Academic Council *(Academic Council meeting dt. 18.03.2023)*	40

7.8.5 Performance in GATE Examination : The following incentive scheme shall be applicable for the performance of student in GATE Examination:

- A student of the Institute who is pursuing B. Tech. programme, and who has qualified GATE examination with valid pass score as certified by the competent authority, shall be eligible for the award of GATE incentive-grade points (IP_G) after the completion of VIII Semester subject to submission of written request by the student along-with necessary supporting documents. This will be effective from academic year 2023-24.
- The GATE incentive grade points (IP_G) awarded after qualifying GATE shall be over and above the incentive marks / grade points awarded against Co-Curricular, Extra Curricular and other activities of the Incentive Scheme.
- The GATE incentive grade points (IP_G) will be decided such that there should be an addition of 0.1 in CGPA with a maximum limit of CGPA equal to 10.

Sr. No.	Scheme	GATE incentive-grade points (IP_G)	Rise in CGPA (VIII SEM) due to (IP_G)
1.	UG schemes of 160 credits	16	0.1

- The incentive-grade points (IP_G) shall be used for the calculation of CGPA of VIII Semester as under, after successful completion of the programme in which the student was admitted, as per regulations :

$$\text{CGPA} = \frac{\sum C_j P_j + \sum C_{al} P_{al} + IP_G}{\sum C_j}$$

Where,

C_j = the number of credits for the jth course up to the semester for which CGPA is to be calculated.

P_j = Grade points earned in the jth course.

j = 1,2,.....,m represent the number of courses in which a student is registered up to the semester for which the CGPA is to be calculated. The CGPA is also calculated to two decimal places.

C_{al} ; Incentive credit in semester

P_{al} =Grade point for participating in incentive activities in semester

IP_G =GATE incentive grade points.

CGPA is rounded up to two decimal places and shall not exceed 10.

7.9 Paper Showing and Grievance Handling

7.9.1 Valued answer books shall be shown to the students within ten working days after the last day of theory examination i.e. on open day. Grievances, if any, shall be communicated by the students to the CoE office through Grievance forms within prescribed time limit, appropriate action will be taken by CoE office as per the Examination Guidelines.

7.10 Revaluation

7.10.1 End Semester Examination

a) As per the notification issued by the Controller of Examinations, the students can submit the applications for revaluation, along with the requisite fee receipt for revaluation of his/her answer-sheet(s) of theory course(s), if he/she is not satisfied with the marks obtained.

b) The Controller of Examinations shall arrange for re-evaluation of those answer-sheet(s).

c) A new valuer, other than the first valuer, shall re- evaluate the answer sheets).

d) After revaluation, if the change in the marks is more than or equal to ±5% of the total marks of that examination, then the revaluated marks shall be considered as final marks else there shall be no change in the marks. ***(Academic Council meeting dt. 18.03.2023)***

7.11 Forego

7.11.1 **An examinee securing 'F' or 'I' grade in any course** of an examination of a programme shall have an option to forego his/her continuous assessment marks in a course or courses. In such cases he/she shall be examined for a total marks comprising theory/practical end semester examination and continuous assessment together, at his/her successive attempt at the examination. Such an option can be availed by an examinee in case he/she is appearing for the successive attempts at the examination as ex-student for that particular course. A student who is detained from appearing in an examination in a course(s) for lack of attendance can exercise the option of forego in successive attempts at the examination as ex-student. To avail this, the examinee would indicate the same in his or her 'Application for the examination' and the option once exercised, shall be 'Final and Binding' on the examinee concerned for all the subsequent examinations in that course. For the examinee opting for forego, his/her marks in continuous assessment shall be ascertained proportionately on the basis of his/her marks in the end semester examination of that course.

An examinee can opt for forego of his/her marks in continuous assessment of a practical course only after submission of 'Term work completion' certificate issued by the concerned head of the department along with the 'Application for the examination'.

The decision in this regard taken by the Chairman of the Academic Council will be final." ***(Academic Council meeting dt. 04.08.2022)***

8 ATTENDANCE, ABSENCE, LEAVE RULES AND DISMISSALS

8.1 All the students are expected to be present in every lecture, tutorial, practical and other allotted hours in the time table. Attendance will be closely monitored during a semester by the concerned department.

8.2 If a student is continuously absent from the classes for more than four weeks without informing the Course Coordinator, the Coordinator shall immediately bring it to the notice of the Head of the concerned department as the case may be and they in turn will inform the same to the Office of Dean Academics.

8.3 The names of the students who have remained absent, for more than 25% of the actual classes held in a course will be intimated by the Course Coordinator himself/herself on the last teaching day of each month of the respective semester, to the students in the class with written intimation to the HOD, who will arrange to consolidate the list for all such students for all the courses and display it on the notice board of the department with an intimation to Dean Academics. Warning Letters shall be issued to the parents of concerned students by the department and its acknowledgement record shall be well maintained.

8.4 A student must have an overall 75% attendance of the total number of classes including lectures/ tutorials and practicals for appearing in the end semester examination.

8.5 **Condonation of Attendance:**

Condonation of attendance can only be considered in case the overall attendance of the student is minimum 60%.

A deficiency of overall attendance to the extent of 15% may be condoned by the Principal on the recommendation of Head of the Department on being satisfied that the same deficiency in attendance was due to circumstances beyond the control of the student.

For availing such Condonation, a student will have to apply to the Head of concerned department along with requisite documents. However the decision in this matter will be finally taken by the Principal.

8.6 **In case the condonation of attendance have been rejected or overall attendance is below 60%** of the total number of classes including lectures/ tutorials and practicals, his/her attendance in individual courses shall be considered. If in any course his/her attendance is minimum 60%, he/she shall be eligible to appear in end semester examination of that course. If the attendance in a particular course is below 60% of such student[s], he/ she shall not be eligible to appear for the regular end semester examination and its resit examination[if any] and shall be awarded `I' grade in that course. This grade shall appear in the grade card till the successful completion of course requirements of that course. These students shall be eligible to appear in the successive end semester examination[s] and corresponding resit examination[s] [if any]. The marks earned by such students in continual evaluation in that Course shall remain unchanged, however the option for **forgo** shall be available in the 'Application for Examination' as ex-student.

An examinee securing 'I' grade in any course of an examination of a programme shall have an option to forego his/her continuous assessment marks in a course or courses. In such cases he/she shall be examined for a total marks comprising theory/practical end semester examination and continuous assessment together, at his/her successive attempt at the examination. Such an option can be availed by an examinee in case he/she is appearing for the successive attempts at the examination as ex-student for that particular course. A student who is detained from appearing in an examination in a course(s) for lack of attendance can exercise the option of forego in successive attempts at the examination as ex-student. To avail this, the examinee would indicate the same in his or her 'Application for the examination' and the option once exercised, shall be 'Final and Binding' on the examinee concerned for all the subsequent examinations in that course. For the examinee opting for forego, his/her marks in continuous assessment shall be ascertained proportionately on the basis of his/her marks in the end semester examination of that course.

An examinee can opt for forego of his/her marks in continuous assessment of a practical course only after submission of 'Term work completion' certificate

issued by the concerned head of the department along with the 'Application for the examination'.

The decision in this regard taken by the Chairman of the Academic Council will be final. . ***(Academic Council meeting dt. 04.08.2022)***

9 GRADING

9.1 The Grading System

9.1.1 For every course taken by a student, he/she shall assign a grade based on his/her combined performance in all components of evaluation scheme of a course. The grade indicates a qualitative assessment of the student's performance and is associated with equivalent number called a grade point.

9.1.2 The academic performance of a student shall be graded on a ten-point scale following guidelines Table 9.1.2

TABLE 9.1.2

Academic Performance	Grades	Grade Points
Outstanding	A^+	10
Excellent	A	9
Very Good	B^+	8.25
Good	B	7.50
Average	C^+	6.75
Below Average	C	6
Marginal	D	5
Poor	F	0
Satisfactory completion of Audit Course	G	-
Non completion of Audit Course	H	-
Incomplete Course requirements (Detention)	I	-
Temporary Withdrawal	W	-
Non Completion of Project, Extension in Projects	X	-
Absent in Examination	Z	-

Explanation:

'F' Grade

- The 'F' grade denotes poor performance amounting to failure.
- A student has to repeat all courses in which he/ she obtains 'F' grade, till a passing grade is obtained.
- For the elective courses in which 'F' grade has been obtained, the student has to take the same course.

'Z' Grade:

This grade indicates absence in End Semester Examination

'W' Grade:

This refers to withdrawal from the semester/year as per the regulations.

'X' Grade:

This grade is awarded for incomplete Project work/Practice School and will be converted to a regular grade on the completion of the Project work /Practice School and its evaluation.

'I' Grade:

This grade stands for non-completion of course requirement (Detention).

9.1.3 The letter Grades (up to 'D' only in theory courses and practical courses) awarded to a student in all the credit courses shall be converted into a SGPA and CGPA to be calculated as given in **Regulation 9.9**.

9.1.4 For computation of Standard Relative Grades, for the evaluation of the academic performance of an examinee in a course, in Re-Sit/immediate consecutive Backlog Examination, the Mean and the Standard Deviation would be the same as the Mean and Standard Deviation in the End Semester Examination for which the Re-Sit Examination was conducted. For further consecutive backlog examinations, the mean and standard deviation would be calculated with the regular examinee of that course.

9.1.5 A student passing a course in Re-Sit examination shall be treated as having cleared the course in First Attempt.

9.1.6 In case, an ex-student appears for examination of the course along with regular students appearing in that course then the cut-off marks of the regular examination shall be applicable.

9.1.7 For Practice School-I, II (UG), the grades shall be awarded as follows:

Performance Appraisal	Grade	Grade Point
Excellent	A+	10
Good	A	9
Satisfactory	B+	8
Non Completion of Practice School-I, II (Internship)	X	-

9.2 Guidelines for Award of Grades

Following are the general guidelines for the award of grades:

a) In general standard relative grading system will be followed.

b) In any case, if the number of regular students opting a given subject is less than or equal to 30 irrespective of UG or PG programme, the grades will be awarded as per absolute grading system. Also for

Seminar/Project Course, Absolute grading system shall be followed irrespective of number of students registered in the course.

c) For each student, evaluation in different components of a course shall be done in absolute marks considering the weightage in the scheme.

d) The marks of various components shall be added to get total marks secured on a 100-points scale and should be rounded off.

e) The provisional grades shall be awarded by the Examination Committee. The grades shall be finalized within thirty working days after the End Semester Examination including moderation by Grade moderation committee of respective BoS.

f) In case of audit courses the students would be awarded grades as follows

i. Satisfactory

ii. Unsatisfactory

The grades shall be awarded by the course coordinators and communicated to the controller of examinations. The course coordinator shall decide and declare the mode of evaluation for the audit courses within the date prescribed by the Dean Academics.

9.3 Standard Relative Grading System

Computation of Standard Relative Grades

If sample size (number of students appearing in a course) is **greater than 30** then **Relative Grading System** is used as per **Table 9.3 given below.**

For award of suitable **pass grade in a Theory and Practical Courses,** student must have to secure **atleast 20% of Total ESE marks** in that Course. ***(Academic Council meeting dt. 19.07.2023)***

Average ($\bar{X}$) and standard deviation (σ) should be calculated as per the following equations.

$$\text{Average} = \bar{X} = \frac{\sum marks}{n}$$

Where, n = Total No. of Examinee - Detained Examinee

$$\text{Standard deviation} = \sigma = \sqrt{\frac{\sum(X-\bar{X})^2}{(n-1)}}$$

Where X = Individual marks of each students.

Table 9.3 : Awards of Grade Using Relative Grading System

RANGE OF MARKS			GRADE ALLOTED
	Marks obtained	≥ Average + 1.5 σ	A^+
Average + 1.5σ >	Marks obtained	≥ Average + 1.0 σ	A
Average + 1.0 σ >	Marks obtained	≥ Average + 0.5 σ	B^+
Average + 0.5 σ >	Marks obtained	≥ Average	B
Average >	Marks obtained	≥ Average - 0.5 σ	C^+
Average - 0.5σ >	Marks obtained	≥ Average - 1.0 σ	C
Average - 1.0 σ >	Marks obtained	≥ Average - 1.5 σ	D
	Marks obtained	< Average - 1.5 σ	F

The award of grades for Theory Courses of 100 marks and Practical Courses of 50 marks will be subjected to the following process: However, for Theory Courses of 50 marks appropriate calculations must be carried out.

A) THEORY SUBJECTS (For UG)

If ($\bar{X}$-1.5 σ) > 40 then grade calculation for C+ ,C, D & F shall be as given below , while that for A+,A,B+ & B shall be same as per Table 9.3 .

C+ = > $\bar{X}$ – ($\bar{X}$ – 40)/3,

C ≥ $\bar{X}$ – ($\bar{X}$ – 40) * 2/3,

D ≥ $\bar{X}$ – ($\bar{X}$ – 40) * 3/3,

F < $\bar{X}$ – ($\bar{X}$ – 40) * 3/3

B) THEORY SUBJECTS (For PG)

If ($\bar{X}$-1.5 σ) > 50 then grade calculation for C+ ,C, D & F shall be as given below , while that for A+,A,B+ & B shall be same as per Table 9.3 .

C+ = > $\bar{X}$ – ($\bar{X}$ – 50)/3,

C ≥ $\bar{X}$ – ($\bar{X}$ – 50) * 2/3,

D ≥ $\bar{X}$ – ($\bar{X}$ – 50) * 3/3,

F < $\bar{X}$ – ($\bar{X}$ – 50) * 3/3

C) PRACTICAL SUBJECTS (For both UG & PG):

if ($\bar{X}$ - 1.5 σ) > 25 then grades calculation for C+, C; D & F shall be as given below, while that for A+, A,B+ & B shall be same as per Table 9.3.

C+ = > $\bar{X}$ – ($\bar{X}$ – 25)/3 ,

C ≥ $\bar{X}$ – ($\bar{X}$ – 25) * 2/3 ,

D ≥ $\bar{X}$ – ($\bar{X}$– 25) * 3/3 ,

F < $\bar{X}$ – ($\bar{X}$ – 25) * 3/3

9.4 Award of Grade Based on Absolute Marks System

If sample size (number of regular students appearing in a course) is **less than or equal to 30** in theory and practical courses then **Absolute Grading System** is used as per **Table 9.4 (a) & (b).** Absolute marks system shall also be followed for Seminar/ Project Courses irrespective of number of students registered in the course.

For the award of grades in a course, all component-wise evaluation is done in marks. The marks of different components viz. Teachers Assessment Examination(TAE), Class Assessment Examination(CAE), End- Semester-Examination (ESE), are reduced to relative weightages of each component as given in Scheme of Examination. A student will be awarded suitable pass grade in that course [Theory and Practical] only if he/she has scored at least 20% of Total ESE Marks of that Course. Marks so obtained would be converted to grades at the end of semester, as per the guidelines given below:

Table. 9.4 (a) Awards of Grade Using Absolute Method

For Theory [UG Programme]

Range of Marks	Grades
Marks equal to or greater than 90 %	A^+
Marks equal to or greater than 80% but less than 90%	A
Marks equal to or greater than 72 % but less than 80%	B^+
Marks equal to or greater than 64 % but less than 72%	B
Marks equal to or greater than 56% but less than 64%	C^+
Marks equal to or greater than 48% but less than 56%	C
Marks equal to or greater than 40 % but less than 48%	D
Marks less than 40%	F

9.4 (b) Non Theory courses like Practicals, Seminars, Projects. [UG Programme] / Theory and Non-Theory courses like Practicals, Seminars, Projects. [PG Programme]

Percentage of Marks	Grade Point
Marks equal to or greater than 90 %	A^+

Marks equal to or greater than 80% but less than 90%	A
Marks equal to or greater than 75% but less than 80%	B^+
Marks equal to or greater than 70% but less than 75%	B
Marks equal to or greater than 65% but less than 70%	C^+
Marks equal to or greater than 60% but less than 65%	C
Marks equal to or greater than 50% but less than 60%	D
Marks less than 50%	F

9.5 Improvement of Grade/CGPA while undertaking a Programme

Student shall be permitted to improve their grade under the following conditions.

1. The examination for improvement of grades shall hereafter be termed as 'Improvement Examination'.

2. The facility for improvement of grades will be available to the students having CGPA below **6.75.**

4. The improvement is possible only in theory papers. No improvement is permissible in practicals/lab courses, projects, workshops and assignments.

5. The improvement examination shall be conducted along with the Re-Sit Examination.

6. The Improvement Examination can be undertaken only for the courses in which a candidate had appeared as a regular student in the end term examination for which the Re-Sit is being conducted.

7. Additional examination fees will be paid by the student for appearing in the examination for improvement in the grade. The fee payable shall be as prescribed by the Finance Committee.

8. After the improvement examination result of the course taken for improvement of grade, better of the two grades, that is grade already awarded and the grade secured

in the improvement examination will be considered.

9. A candidate who has reappeared for the above examinations under the provision of this ordinance and fails to improve his/her grade, his/her performance at such reappearance shall be ignored.

10. Student having undertaken Improvement Examination will not be eligible for the award of any medal/merit position.

11. The student shall be issued a fresh replacement grade card indicating the new grade with a mark which shall be explained as 'Improved Grade' only if he/she has improved the grades. The old grade card must be submitted to the concerned office before issue of new grade card.

12. For calculation of standard relative grade for evaluation of the academic performance of an examinee in a course in improvement examination, the mean, standard deviation and cutoff of grades of that course in the regular examination shall be applicable.

9.6 Grade Moderation Committee

9.6.1 The Grade Moderation Committee for different programmes shall be appointed semester wise by the Chairman, Academic Council. This committee shall be responsible for adherence to the guidelines for the award of grades and shall include all the concerned Course Coordinators. The Chairman, Grade Moderation Committee shall be responsible for forwarding the final grades to the COE.

9.6.2 The Grade Moderation Committee for the first and second semester (first year) shall consist of all the Course Coordinators of the courses offered to the first and second semester students in a semester, with the HoD First year as the Chairman. The Chairman, Grade Moderation Committee shall be responsible for forwarding the final grades to the COE.

9.7 Calculation of SGPA and CGPA

Calculation of Semester Grade Point Average (SGPA)

The performance of a student in a semester is indicated by a number called SGPA. The SGPA is the weighted average of the grade points obtained in all the courses registered by the student during the semester.

$$\text{SGPA} = \frac{\sum C_i P_i + C_a P_a}{\sum C_i}$$

Where,

C_i = the number of credits for the i^{th} course of a semester for which SGPA is to be calculated.

P_i = Grade points earned in the i^{th} course.

i = 1, 2,....., n represent the number of courses in which a student is registered in the concerned semester.

C_a=1 ; Incentive credit

P_a = Grade point for participating in activities of incentive scheme.

SGPA is rounded up to two decimal places only and SGPA shall not exceed 10.

Calculation of Cumulative Grade Point Average (CGPA)

An up to date assessment of the overall performance of a student from the time of his first registration is obtained by calculating a number called CGPA, which is weighted average of the grade points obtained in all the courses registered by the student since he/she entered the Institution.

$$\text{CGPA} = \frac{\sum C_j P_j + \sum C_{al} P_{al} + IP_G}{\sum C_j}$$

Where,

C_j = the number of credits for the jth course up to the semester for which CGPA is to be calculated.

P_j = Grade points earned in the jth course.

j = 1,2,.....,m represent the number of courses in which a student is

registered up to the semester for which the CGPA is to be calculated.

C_{al} ; Incentive credit in semester

P_{al} =Grade point for participating in incentive activities in the semester

IP_G =GATE incentive grade points.

CGPA is rounded up to two decimal places only and shall not exceed 10.

Note:

- As seen from above formula CGPA **is not average** of SGPA.
- DIVISION /CLASS: As per the prevailing norms of the affiliating University and competent authority.

9.8 Grade Card

9.8.1 The grade card shall be issued at the end of the semester to each student and will contain the following:

a) The credits for each course registered for that semester.

b) The grade points and letter grades obtained in each course.

c) The total number of credits earned by the student upto the end of that semester in each of the course.

d) The SGPA and the CGPA.

Refer **Regulation 9.2, 9.3,9.4 and 9.9** for computation of grades from the marks and conversion to the SGPA & CGPA.

9.8.2 Grade card will not indicate class or division or rank.

9.8.3 Wherever required the conversion of CGPA to percentage of marks prevailing guidelines from the affiliating University and Competent Authority to be followed.

9.9 Indication of Attempt on Grade Card

9.9.1 The following Characters will be displayed in the Grade Card to indicate the attempts. The Degree will not have any such indication. The Grade Cards of successive attempts will be separately provided. However a single Grade Card for a semester may be provided after all the subjects of that semester are passed in more than one attempt. But it will be marked 'N' as already said. The student will have to separately apply to the Controller of Examinations for the single semester Grade Card with copies of all the intermediate semester Grade Card along with a fees decided by the Finance Committee.

M - With Re-Sit Examination

N - Not in the First Attempt

IG - Improvement Grade

9.10 Minimum Requirements for the Award of the Degree

9.10.1 The student should have taken and passed all the prescribed courses including seminar and projects under the general institutional and departmental requirements.

9.10.2 The credits for the courses in which a student has obtained 'D' grade or higher shall be counted as credits earned by him/her. The grades awarded for successful and unsuccessful completion of Audit Course shall be 'Satisfactory' and 'Unsatisfactory' respectively. The grades shall be denoted by 'G' and 'H' respectively. The student should also have 'Satisfactory' grade in all the audit courses otherwise he/she will have to repeat the audit course provided that a student should have no case of indiscipline pending against him/her.

9.11 Award of Degree

9.11.1 The Degrees shall be awarded by the Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur along with the name of College, on recommendations of the Academic Council/ Board.

9.12 Award of Medals / Scholarships

9.12.1 The award of scholarships / freeships and other benefits will be in accordance with rules framed by the Government of Maharashtra and Govt. of India.

9.12.2 Awards available under excellent performances in sports, cultural, extra-curricular, debate, etc. shall be given to the students as per Institute policy.

9.12.3 The award of merit scholarships / need base scholarship /medals shall be awarded to the students as per the Institute's policy.

9.12.4 Students clearing all courses offered in a programme in regular examination in first attempt shall be considered for the award of merit / medal as per their order of merit.

In case, a student has cleared any course offered in a programme in Re-Sit examination he / she shall not considered for the award of merit / medal.

10 CODE OF CONDUCT AND DISCIPLINE

10.1 Every student is required to observe discipline and decorous behavior both inside and outside the campus and not to indulge in any activity, which will tend to bring down the prestige of the Institute.

10.2 The following acts of omission and/ or commission by the students within or outside the college campus shall constitute gross violation of 'Code of Conduct' punishable as indiscipline.

a) Lack of courtesy and decorum, as well as indecent behavior;

b) Willful damage of property of Institute/Hostel or of fellow students;

c) Possession/ Consumption/ Distribution of alcoholic drink and banned drugs;

d) Mutilation or unauthorized possession of library materials like books, journals etc.

e) Noisy and Unseemly behavior disturbing peace in Institute and Hostel;

f) Hacking in Computer system, either hardware or software or both;

g) Any other act considered by the Institute as a gross indiscipline.

10.3 Any act of student's indiscipline will be addressed by Discipline Committee duly constituted and notified by the Principal. The Committee will enquire into the charges of indiscipline and recommend appropriate measures/punitive action to the Principal. The Discipline committee may inform the recommendations to the students. Decision of the Principal would be final.

10.3 **Appeal:** The student may appeal to the Chairman, Academic Council whose decision will be final. The Principal will report the action taken at the next meeting of the Academic Council.

10.4 If the student while studying in the Institute is found indulging in anti-national activities contrary to the provisions of acts and laws enforced by Government he/ she will be liable to be expelled from the Institute without any notice.

10.5 If a student is involved in any kind of ragging, the student shall be liable for strict action as per Maharashtra anti-ragging act 1999, which is in effect from15th May1999.

10.6 If any statement/ information supplied by the student in connection with his/her admission is found to be false/ incorrect at any time, his/her admission shall be cancelled and he/she shall be expelled from the Institute and fees paid shall be forfeited.

10.7 Student once admitted in the Institute has to follow dress code, if any, as well as other instructions issued by the administration from time to time, failing which disciplinary action shall be initiated against such student.

10.8 If a student is found guilty of overall misconduct during his/her stay in the Institute, he/she will be punished as per the recommendations of the Principal. The maximum punishment may be expulsion from the Institute.

11 ACT OF MALPRACTICES/ UNFAIR MEANS

Every student appearing for the End Semester Examination is liable to be charged with committing malpractice(s) / use of unfair means, if he / she is observed as committing any of the following acts:

a) Misbehavior with officials / using unfair means / creating nuisance / using obscene language / violence / threat at the centre to the person involved in conduct of examination etc or any other kind of rude behavior in or near the Examination Hall.

b) Writing on the Question Paper/ Admission Card & or passing on any type of written paper to the other student(s) in the examination Hall.

c) Disclosing his/her identity by writing any words or by making any peculiar marks on the pages other than the facing sheet in the answer scripts.

d) Possession of electronic gadgets like mobile phones, Programmable calculator, pen-drive or such other storage devices in the Examination Hall.

e) Communicating with any other student(s) any other person(s) inside or outside the Examination Hall with a view to take assistance or aid to write answers in the examination.

f) Copying form the material or matter or answer(s) of another student or from similar aid or assistance rendered by another student within the Examination Hall.

g) Making any request of representation or offer of any threat for inducement or bribery to Jr. Supervisor and / or any other official for favours in the Examination Hall or in the answer script.

h) Approaching directly or indirectly the teaching staff, officials or examiners or bring about undue pressure or influence or influence upon them for favour in the examination.

i) Smuggling out or smuggling in the answer script pages or

supplementary sheets or tearing them off and / or inserting pages written outside the examination hall in to the answer scripts.

j) Receiving material from outside or inside the Examination Hall for the purpose of copying.

k) Bringing into the Examination Hall or being found in possession of portions of an unauthorized book, manuscript or such other material or matter in the Examination Hall.

l) Copying or taking aid from any material or matter referred to in sub- clauses (j & k) above to answer in the examination.

m) Impersonating or allowing any other person to impersonate to answer in his/her place in the Examination Hall.

n) Committing any other act or commission or omission intending to gain an advantage or favour in the examination by misleading, deceiving or inducing the examiner or official.

o) Having in one's possession any written matter on scribbling pad, calculator, palm, hand, leg, any part of body, clothing, socks, instrument box, identity Card, Hall Ticket, Scales etc.

p) Destroying any evidence of malpractice, like, tearing or mutilating the answer script(s) or running away along with the answer script(s) from the examination Hall.

q) Not withstanding anything contained above, any other activity in which the student has indulged and which in the opinion of the authorities of the Institute constitutes malpractice/ use of Unfair means will be construed as malpractice/ use of Unfair means.

12 EMERGENT CASES

Notwithstanding anything contained in the above regulations, the Chairman of the Academic Council may, in emergent situations, take action on behalf of the Academic Council as he thinks necessary and shall at the earliest opportunity; report it in the next meeting of the Academic Council.

13 INTERPRETATION OF REGULATIONS

In case of any dispute, difference of opinion in interpretation of these regulations or any other matter not covered in these regulations, the decision of the Chairman, Academic Council shall be final and binding.

14 POWER TO MODIFY

Notwithstanding all that has been stated above, the Governing Body has the right to modify any of the above regulations from time to time.

ANNEXURE -I

CURRICULUM SCHEME
FOR
B.TECH. COMPUTER SCIENCE AND ENGINEERING

With Effect from Session 2023-2024

2nd YEAR

SEMESTER-III

Scheme of Teaching & Examination of Bachelor of Technology III Semester B.Tech. (Computer Science and Engineering)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	BSCCS301T	Engineering Mathematics - III	3	1	0	4	40	60	100	3
2	PCCCS306T	Fundamentals of Digital Electronics & Computer Architecture	3	0	0	3	40	60	100	3
3	PCCCS306P	Fundamentals of Digital Electronics & Computer Architecture Lab	0	0	2	1	25	25	50	--
4	PCCCS307T	Data Structures & Algorithms	3	0	0	3	40	60	100	3
5	PCCCS307P	Data Structures & Algorithms Lab	0	0	4	2	25	25	50	--
6	PCCCS303T	Object Oriented Programming	3	0	0	3	40	60	100	3
7	PCCCS303P	Object Oriented Programming Lab	0	0	4	2	25	25	50	--
8	PCCCS304T	Data Communication & Networking	3	0	0	3	40	60	100	3
9	PCCCS304P	Data Communication & Networking Lab	0	0	2	1	25	25	50	--
10	PCCCS308P	System Lab	0	0	4	2	25	25	50	--
11	PROJCS301	Practice School-I (Internship of 1-2 week)	-	-	-	1	During Summer Vacations after II Semester			
		TOTAL	**15**	**1**	**16**	**25**	**325**	**425**	**750**	--

2nd YEAR

SEMESTER-IV

Scheme of Teaching & Examination of Bachelor of Technology IV Semester B.Tech. (Computer Science and Engineering)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	PCCCS401T	Discrete Mathematics and Graph Theory	3	1	0	4	40	60	100	3
2	PCCCS405T	Database Management System	3	0	0	3	40	60	100	3
3	PCCCS405P	Database Management System Lab	0	0	4	2	25	25	50	--
4	PCCCS403T	Operating System	4	0	0	4	40	60	100	3
5	PCCCS403P	Operating System Lab	0	0	2	1	25	25	50	--
6	PCCCS404P	Python Programming Lab	0	0	4	2	25	25	50	--
7	HSMCCS401T	Ethics for IT Engineers and IPR	2	0	0	2	20	30	50	2
8	HSMCCS402P	Soft Skills – I	0	0	2	1	25	25	50	--
9	MCCS401	Essence of Indian Traditional Knowledge	2	0	0	0	50	--	50	--
10	OEC	**Open Elective-I**	3	0	0	3	40	60	100	3
		TOTAL	**17**	**1**	**12**	**22**	**330**	**370**	**700**	--

3rd YEAR

SEMESTER-V

Scheme of Teaching & Examination of Bachelor of Technology V Semester B.Tech. (Computer Science and Engineering)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	PCCCS501T	Theory of Computation	3	1	0	4	40	60	100	3
2	PCCCS502T	Artificial Intelligence	3	0	0	3	40	60	100	3
3	PCCCS502P	Artificial Intelligence Lab	0	0	2	1	25	25	50	--
4	PCCCS503T	Design & Analysis of Algorithms	3	0	0	3	40	60	100	3
5	PCCCS503P	Design & Analysis of Algorithms Lab	0	0	2	1	25	25	50	--
6	PCCCS504T	Software Engineering & Quality Assurance	3	0	0	3	40	60	100	3
7	PCCCS504P	Software Engineering & Quality Assurance Lab	0	0	2	1	25	25	50	--
8	HSMCCS501P	Soft Skills – II	0	0	2	1	25	25	50	--
9	OEC	**Open Elective – II**	3	0	0	3	40	60	100	3
10	PROJCS501	Practice School-II (Internship of 2-3 week)	-	-	-	1	During Summer Vacations after IV Semester			
		TOTAL	**15**	**1**	**8**	**21**	**300**	**400**	**700**	--

3rd YEAR

SEMESTER-VI

Scheme of Teaching & Examination of Bachelor of Technology VI Semester B.Tech. (Computer Science and Engineering)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	PCCCS601T	Compiler Design	4	0	0	4	40	60	100	3
2	PCCCS601P	Compiler Design Lab	0	0	2	1	25	25	50	--
3	PEC	**Program Elective - I**	3	0	0	3	40	60	100	3
4	PEC	**Program Elective - I Lab**	0	0	2	1	25	25	50	--
5	PEC	**Program Elective-II**	3	0	0	3	40	60	100	3
6	PEC	**Program Elective-II Lab**	0	0	2	1	25	25	50	--
7	HSMCCS601T	Economics and Finance for Engineers	2	0	0	2	20	30	50	2
8	HSMCCS602P	Soft Skills - III	0	0	2	1	25	25	50	--
9	PROJCS601	Mini Project	0	0	4	2	25	25	50	--
10	OEC	**Open Elective – III**	3	0	0	3	40	60	100	3
		TOTAL	**15**	**0**	**12**	**21**	**305**	**395**	**700**	

Program Elective – I and Program Elective – I Lab

Sr. No	Course Code	Course Title
1	PECCS601T	Cryptography & Network Security
	PECCS601P	Cryptography & Network Security Lab
2	PECCS602T	Data Mining & Warehousing
	PECCS602P	Data Mining & Warehousing Lab
3	PECCS603T	Cloud Computing
	PECCS603P	Cloud Computing Lab

Program Elective – II and Program Elective – II Lab

Sr. No	Course Code	Course Title
1	PECCS604T	Security in Internet of Things
	PECCS604P	Security in Internet of Things Lab
2	PECCS605T	Machine Learning
	PECCS605P	Machine Learning Lab
3	PECCS606T	Design Patterns
	PECCS606P	Design Patterns Lab

4th YEAR
SEMESTER-VII

Scheme of Teaching & Examination of Bachelor of Technology VII Semester B.Tech. (Computer Science and Engineering)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	PEC	**Program Elective-III**	3	0	0	3	40	60	100	3
2	PEC	**Program Elective-III Lab**	0	0	2	1	25	25	50	--
3	PEC	**Program Elective-IV**	3	0	0	3	40	60	100	3
4	PEC	**Program Elective-IV Lab**	0	0	2	1	25	25	50	--
5	PEC	**Program Elective-V**	3	0	0	3	40	60	100	3
6	PEC	**Program Elective-V Lab**	0	0	2	1	25	25	50	--
7	PEC	**Program Elective-VI**	3	0	0	3	40	60	100	3
8	PEC	**Program Elective-VI Lab**	0	0	2	1	25	25	50	--
9	OEC	**Open Elective – IV**	3	0	0	3	40	60	100	3
10	PROJCS701	Practice School-III Evaluation (Internship of 4-6 weeks during Summer Vacations after VI Semester)	-	-	-	2	100	-	100	--
11	PROJCS702	Project-I	0	0	8	4	75	75	150	--
		TOTAL	**15**	**0**	**16**	**25**	**475**	**475**	**950**	--

Program Elective – III and Program Elective – III Lab

Sr. No	Course Code	Course Title
1	PECCS701T	Cyber Security and Ethical Hacking
	PECCS701P	Cyber Security and Ethical Hacking Lab
2	PECCS702T	Big-Data Analysis
	PECCS702P	Big-Data Analysis Lab
3	PECCS703T	GPU Computing
	PECCS703P	GPU Computing Lab

Program Elective – IV and Program Elective – IV Lab

Sr. No	Course Code	Course Title
1	PECCS704T	Web Security
	PECEE704P	Web Security Lab
2	PECCS705T	Deep Learning
	PECCS705P	Deep Learning Lab
3	PECCS706T	TCP / IP
	PECCS706P	TCP / IP Lab

Program Elective –V and Program Elective –V Lab

Sr. No	Course Code	Course Title
1	PECCS707T	Blockchain Technology
	PECCS707P	Blockchain Technology Lab
2	PECCS708T	Natural Language Processing
	PECCS708P	Natural Language Processing Lab
3	PECCS709T	Distributed Operating Systems
	PECCS709P	Distributed Operating Systems Lab

Program Elective –VI and Program Elective –VI Lab

Sr. No	Course Code	Course Title
1	PECCS710T	Malware Analysis for Mobile Devices
	PECCS710P	Malware Analysis for Mobile Devices Lab
2	PECCS711T	Computer Vision
	PECCS711P	Computer Vision Lab
3	PECCS712T	Embedded Systems
	PECCS712P	Embedded Systems Lab

4th YEAR

SEMESTER-VIII

Scheme of Teaching & Examination of Bachelor of Engineering VIII Semester B.Tech. (Computer Science & Engineering)										
Sr. No.	Course Code	Course Title	Hours per week			Credis	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	PROJCS801	Project–II / Industry Internship	0	0	12	6	75	75	150	--
		TOTAL	**0**	**0**	**12**	**6**	**75**	**75**	**150**	--

CURRICULUM SCHEME
FOR
B. TECH. ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

With Effect from Session 2023-2024

2nd YEAR

SEMESTER-III

Scheme of Teaching & Examination of Bachelor of Technology III Semester B.Tech. (Artificial Intelligence and Machine Learning)											
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	BSCAM301T	Engineering Mathematics III	3	1	0	4	40	60	100	3
2	PCCAM301T	Operating System	4	0	0	4	40	60	100	3
3	PCCAM302T	Fundamentals of Digital Electronics & Computer Architecture	3	0	0	3	40	60	100	3
4	PCCAM303T	Data Structures & Algorithms	3	0	0	3	40	60	100	3
5	PCCAM303P	Data Structures & Algorithms Lab	0	0	2	1	25	25	50	--
6	PCCAM304T	Object Oriented Programming	3	0	0	3	40	60	100	3
7	PCCAM304P	Object Oriented Programming Lab	0	0	2	1	25	25	50	--
8	PCCAM305P	Python Programming Lab	0	0	4	2	25	25	50	--
9	HSMCAM301T	Ethics for IT Engineers and IPR	2	0	0	2	20	30	50	2
10	MCAM301	Essence of Indian Traditional Knowledge	2	0	0	0	50	--	50	--
11	PROJAM301	Practice School-I (Internship of 1-2 week)	-	-	-	1	During Summer Vacations after II Semester			
		TOTAL	**20**	**1**	**08**	**24**	**345**	**405**	**750**	--

2nd YEAR

SEMESTER-IV

Scheme of Teaching & Examination of Bachelor of Technology IV Semester B.Tech. (Artificial Intelligence and Machine Learning)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	PCCAM401T	Discrete Mathematics & Graph Theory	3	1	0	4	40	60	100	3
2	PCCAM402T	Database Management System	3	0	0	3	40	60	100	3
3	PCCAM402P	Database Management System Lab	0	0	4	2	25	25	50	--
4	PCCAM403T	Computer Networks	3	0	0	3	40	60	100	3
5	PCCAM403P	Computer Networks Lab	0	0	2	1	25	25	50	--
6	PCCAM404T	Fundamentals of Artificial Intelligence & Machine Learning	3	0	0	3	40	60	100	3
7	PCCAM405P	Machine Learning Lab	0	0	2	1	25	25	50	--
8	PCCAM406P	Professional Skills Lab	0	0	2	1	25	25	50	--
9	HSMCAM401P	Soft Skills - I	0	0	2	1	25	25	50	--
10	OEC	**Open Elective-I**	3	0	0	3	40	60	100	3
		TOTAL	**15**	**1**	**12**	**22**	**325**	**425**	**750**	--

3rd YEAR

SEMESTER-V

Scheme of Teaching & Examination of Bachelor of Technology V Semester B.Tech. (Artificial Intelligence and Machine Learning)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	PCCAM501T	Theory of Computation	3	1	0	4	40	60	100	3
2	PCCAM502T	Design & Analysis of Algorithms	3	0	0	3	40	60	100	3
3	PCCAM502P	Design & Analysis of Algorithms Lab	0	0	2	1	25	25	50	--
4	PCCAM503T	Software Engineering & Project Management	2	0	0	2	20	30	50	2
5	PCCAM503P	Software Engineering & Project Management Lab	0	0	4	2	25	25	50	--
6	PCCAM504T	Neural Network & Fuzzy Logic	2	0	0	2	20	30	50	2
7	HSMCAM501T	Economics and Finance for Engineers	2	0	0	2	20	30	50	2
8	HSMCAM502P	Soft Skills – II	0	0	2	1	25	25	50	--
9	OEC	**Open Elective – II**	3	0	0	3	40	60	100	3
10	PROJAM501	Practice School-II (Internship of 2-3 week)	-	-	-	1	During Summer Vacations after IV Semester			
		TOTAL	**15**	**1**	**8**	**21**	**255**	**345**	**600**	--

3rd YEAR

SEMESTER-VI

Scheme of Teaching & Examination of Bachelor of Technology VI Semester B.Tech. (Artificial Intelligence and Machine Learning)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	PCCAM601T	Compiler Design	4	0	0	4	40	60	100	3
2	PCCAM602T	Deep Learning	3	0	0	3	40	60	100	3
3	PCCAM602P	Deep Learning Lab	0	0	2	1	25	25	50	--
4	PEC	**Program Elective - I**	3	0	0	3	40	60	100	3
5	PEC	**Program Elective - I Lab**	0	0	2	1	25	25	50	--
6	PEC	**Program Elective-II**	3	0	0	3	40	60	100	3
7	PEC	**Program Elective-II Lab**	0	0	2	1	25	25	50	--
8	HSMCAM601P	Soft Skills - III	0	0	2	1	25	25	50	--
9	PROJAM601	Mini Project	0	0	4	2	25	25	50	--
10	OEC	**Open Elective – III**	3	0	0	3	40	60	100	3
		TOTAL	**16**	**0**	**12**	**22**	**325**	**425**	**750**	--

Program Elective – I and Program Elective – I Lab

Sr. No	Course Code	Course Title
1	PECAM601T	Optimization Techniques in Machine Learning
	PECAM601P	Optimization Techniques in Machine Learning Lab
2	PECAM602T	Digital Image & Video Processing
	PECAM602P	Digital Image & Video Processing Lab
3	PECAM603T	Data Mining & Predictive Modeling
	PECAM603P	Data Mining & Predictive Modeling Lab

Program Elective – II and Program Elective – II Lab

Sr. No	Course Code	Course Title
1	PECAM604T	GPU Computing
	PECAM604P	GPU Computing Lab
2	PECAM605T	Computer Vision
	PECAM605P	Computer Vision Lab
3	PECAM606T	IoT & Machine Learning
	PECAM606P	IoT & Machine Learning Lab

4th YEAR
SEMESTER-VII

Scheme of Teaching & Examination of Bachelor of Technology VII Semester B.Tech. (Artificial Intelligence and Machine Learning)											
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	PEC	**Program Elective-III**	3	0	0	3	40	60	100	3
2	PEC	**Program Elective-III Lab**	0	0	2	1	25	25	50	--
3	PEC	**Program Elective-IV**	3	0	0	3	40	60	100	3
4	PEC	**Program Elective-IV Lab**	0	0	2	1	25	25	50	--
5	PEC	**Program Elective-V**	3	0	0	3	40	60	100	3
6	PEC	**Program Elective-V Lab**	0	0	2	1	25	25	50	--
7	PEC	**Program Elective-VI**	3	0	0	3	40	60	100	3
8	PEC	**Program Elective-VI Lab**	0	0	2	1	25	25	50	--
9	OEC	**Open Elective – IV**	3	0	0	3	40	60	100	3
10	PROJAM701	Practice School-III Evaluation (Internship of 4-6 weeks during Summer Vacations after VI Semester)	-	-	-	2	100	-	100	-
11	PROJAM702	Project-I	0	0	8	4	75	75	150	--
		TOTAL	**15**	**0**	**16**	**25**	**475**	**475**	**950**	--

Program Elective – III and Program Elective – III Lab

Sr. No.	Course Code	Course Title
1	PECAM701T	AI in Healthcare & Finance
	PECAM701P	AI in Healthcare & Finance Lab
2	PECAM702T	Pattern Recognition
	PECAM702P	Pattern Recognition Lab
3	PECAM703T	Cloud Computing
	PECAM703P	Cloud Computing Lab

Program Elective – IV and Program Elective – IV Lab

Sr. No.	Course Code	Course Title
1	PECAM704T	NLP for Indian Languages
	PECAM704P	NLP for Indian Languages Lab
2	PECAM705T	Information Retrieval
	PECAM705P	Information Retrieval Lab
3	PECAM706T	IoT and Security
	PECAM706P	IoT and Security Lab

Program Elective –V and Program Elective –V Lab

Sr. No.	Course Code	Course Title
1	PECAM707T	AI in Gaming
	PECAM707P	AI in Gaming Lab
2	PECAM708T	Text Processing
	PECAM708P	Text Processing Lab
3	PECAM709T	Time Series Analysis
	PECAM709P	Time Series Analysis Lab

Program Elective –VI and Program Elective –VI Lab

Sr. No.	Course Code	Course Title
1	PECAM710T	AI for Robotics
	PECAM710P	AI for Robotics Lab
2	PECAM711T	CNN for Visual Recognition
	PECAM711P	CNN for Visual Recognition Lab
3	PECAM712T	Robotics–Algorithms & Control
	PECAM712P	Robotics–Algorithms & Control Lab

4th YEAR

SEMESTER-VIII

Scheme of Teaching & Examination of Bachelor of Technology VIII Semester B.Tech. (Artificial Intelligence and Machine Learning)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	PROJAM801	Project–II / Industry Internship	0	0	12	6	75	75	150	--
		TOTAL	**0**	**0**	**12**	**6**	**75**	**75**	**150**	**–**

CURRICULUM SCHEME
FOR
B.TECH. ARTIFICIAL INTELLIGENCE(AI) AND DATA SCIENCE

With Effect from Session 2023-2024

2nd YEAR

SEMESTER-III

Scheme of Teaching & Examination of Bachelor of Technology III Semester B.Tech. (Artificial Intelligence (AI) and Data Science)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	BSCAD301T	Engineering Mathematics - III	3	1	0	4	40	60	100	3
2	PCCAD301T	Fundamentals of Digital Electronics & Computer Architecture	3	0	0	3	40	60	100	3
3	PCCAD302T	Data Structure & Algorithm	3	0	0	3	40	60	100	3
4	PCCAD302P	Data Structure & Algorithm Lab	0	0	2	1	25	25	50	--
5	PCCAD303T	Computer Networks	3	0	0	3	40	60	100	3
6	PCCAD303P	Computer Networks Lab	0	0	2	1	25	25	50	--
7	PCCAD304T	Database Management System	3	0	0	3	40	60	100	3
8	PCCAD304P	Database Management System Lab	0	0	4	2	25	25	50	--
9	PCCAD305P	Python Programming Lab	0	0	4	2	25	25	50	--
10	HSMCAD301T	Ethics for IT Engineers and IPR	2	0	0	2	20	30	50	2
11	MCAD301	Essence of Indian Traditional Knowledge	2	0	0	0	50	--	50	--
12	PROJAD301	**Practice School-I (Internship of 1-2 week)**	-	-	-	1	During Summer Vacations after II Semester			
		TOTAL	**19**	**1**	**12**	**25**	**370**	**430**	**800**	--

2nd YEAR

SEMESTER-IV

Scheme of Teaching & Examination of Bachelor of Technology IV Semester B.Tech. (Artificial Intelligence (AI) and Data Science)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	PCCAD401T	Discrete Mathematics and Graph Theory	3	1	0	4	40	60	100	3
2	PCCAD402T	Operating System	4	0	0	4	40	60	100	3
3	PCCAD403T	Object Oriented Programming	3	0	0	3	40	60	100	3
4	PCCAD403P	Object Oriented Programming Lab	0	0	2	1	25	25	50	--
5	PCCAD404T	Fundamentals of Artificial Intelligence & Data Science	3	0	0	3	40	60	100	3
6	PCCAD405P	Data Science Lab	0	0	2	1	25	25	50	--
7	PCCAD406P	Professional Skills Lab	0	0	2	1	25	25	50	--
8	HSMCAD401P	Soft Skills - I	0	0	2	1	25	25	50	--
9	OEC	**Open Elective-I**	3	0	0	3	40	60	100	3
		TOTAL	**16**	**1**	**08**	**21**	**300**	**400**	**700**	--

3rd YEAR

SEMESTER-V

Scheme of Teaching & Examination of Bachelor of Technology V Semester B. Tech. (Artificial Intelligence (AI) and Data Science)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	PCCAD501T	Theory of Computation	3	0	0	3	40	60	100	3
2	PCCAD502T	Design & Analysis of Algorithms	3	0	0	3	40	60	100	3
3	PCCAD502P	Design & Analysis of Algorithms Lab	0	0	2	1	25	25	50	--
4	PCCAD503T	Software Engineering & Project Management	2	0	0	2	20	30	50	2
5	PCCAD503P	Software Engineering & Project Management Lab	0	0	4	2	25	25	50	--
6	PCCAD504T	Data Analytics	2	0	0	2	20	30	50	2
7	PCCAD504P	Data Analytics Lab	0	0	2	1	25	25	50	--
8	HSMCAD501T	Economics and Finance for Engineers	2	0	0	2	20	30	50	2
9	HSMCAD502P	Soft Skills – II	0	0	2	1	25	25	50	--
10	OEC	**Open Elective – II**	3	0	0	3	40	60	100	3
11	PROJAD501	**Practice School-II (Internship of 2-3 week)**	-	-	-	1	During Summer Vacations after IV Semester			
		TOTAL	**15**	**0**	**10**	**21**	**280**	**370**	**650**	--

3rd YEAR

SEMESTER-VI

Scheme of Teaching & Examination of Bachelor of Technology VI Semester B.Tech. (Artificial Intelligence (AI) and Data Science)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	PCCAD601T	Compiler Design	4	0	0	4	40	60	100	3
2	PCCAD602T	Basics of Machine & Deep Learning	3	0	0	3	40	60	100	3
3	PCCAD602P	Basics of Machine & Deep Learning Lab	0	0	2	1	25	25	50	--
4	PEC	**Program Elective - I**	3	0	0	3	40	60	100	3
5	PEC	**Program Elective - I Lab**	0	0	2	1	25	25	50	--
6	PEC	**Program Elective-II**	3	0	0	3	40	60	100	3
7	PEC	**Program Elective-II Lab**	0	0	2	1	25	25	50	--
8	HSMCAD601P	Soft Skills - III	0	0	2	1	25	25	50	--
9	PROJAD601	Mini-Project	0	0	4	2	25	25	50	--
10	OEC	**Open Elective – III**	3	0	0	3	40	60	100	3
		TOTAL	**16**	**0**	**12**	**22**	**325**	**425**	**750**	--

Program Elective – I and Program Elective – I Lab

Sr. No.	Course Code	Course Title
1	PECAD601T	Digital Image Processing
	PECAD601P	Digital Image Processing Lab
2	PECAD602T	Cyber Security
	PECAD602P	Cyber Security Lab
3	PECAD603T	GPU Computing
	PECAD603P	GPU Computing Lab

Program Elective – II and Program Elective – II Lab

Sr. No.	Course Code	Course Title
1	PECAD604T	NLP for Indian Languages
	PECAD604P	NLP for Indian Languages Lab
2	PECAD605T	Cryptography
	PECAD605P	Cryptography Lab
3	PECAD606T	Big Data Analytics and Business Intelligence
	PECAD606P	Big Data Analytics and Business Intelligence Lab

4th YEAR
SEMESTER-VII

Scheme of Teaching & Examination of Bachelor of Technology VII Semester B.Tech. (Artificial Intelligence (AI) and Data Science)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	PEC	**Program Elective-III**	3	0	0	3	40	60	100	3
2	PEC	**Program Elective-III Lab**	0	0	2	1	25	25	50	--
3	PEC	**Program Elective-IV**	3	0	0	3	40	60	100	3
4	PEC	**Program Elective-IV Lab**	0	0	2	1	25	25	50	--
5	PEC	**Program Elective-V**	3	0	0	3	40	60	100	3
6	PEC	**Program Elective-V Lab**	0	0	2	1	25	25	50	--
7	PEC	**Program Elective-VI**	3	0	0	3	40	60	100	3
8	PEC	**Program Elective-VI Lab**	0	0	2	1	25	25	50	--
9	OEC	**Open Elective – IV**	3	0	0	3	40	60	100	3
10	PROJAD701	Practice School-III Evaluation (Internship of 4-6 weeks during Summer Vacations after VI Semester)	-	-	-	2	100	-	100	-
11	PROJAD702	Project-I	0	0	8	4	75	75	150	--
		TOTAL	**15**	**0**	**16**	**25**	**475**	**475**	**950**	--

Program Elective – III and Program Elective – III Lab

Sr. No	Course Code	Course Title
1	PECAD701T	Cloud Computing
	PECAD701P	Cloud Computing Lab
2	PECAD702T	Applications of IoT & Security
	PECAD702P	Applications of IoT & Security Lab
3	PECAD703T	Data Science for NLP
	PECAD703P	Data Science for NLP

Program Elective – IV and Program Elective – IV Lab

Sr. No	Course Code	Course Title
1	PECAD704T	Information Retrieval
	PECAD704P	Information Retrieval Lab
2	PECAD705T	Bitcoins and Cryptocurrencies
	PECAD705P	Bitcoins and Cryptocurrencies Lab
3	PECAD706T	Data Science for Healthcare
	PECAD706P	Data Science for Healthcare Lab

Program Elective –V and Program Elective –V Lab

Sr. No	Course Code	Course Title
1	PECAD707T	CNN for Visual Recognition
	PECAD707P	CNN for Visual Recognition Lab
2	PECAD708T	Digital Forensic
	PECAD708P	Digital Forensic Lab
3	PECAD709T	Dockers and Kubernets
	PECAD709P	Dockers and Kubernets Lab

Program Elective –VI and Program Elective –VI Lab

Sr. No	Course Code	Course Title
1	PECAD710T	Time Series Analysis
	PECAD710P	Time Series Analysis Lab
2	PECAD711T	Data & Internet Security
	PECAD711P	Data & Internet Security Lab
3	PECAD712T	Computational Neuroscience
	PECAD712P	Computational Neuroscience Lab

4th YEAR

SEMESTER-VIII

Scheme of Teaching & Examination of Bachelor of Technology VIII Semester B.Tech. (Artificial Intelligence (AI) and Data Science)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	PROJAD801	Project–II / Industry Internship	0	0	12	6	75	75	150	--
		TOTAL	**0**	**0**	**12**	**6**	**75**	**75**	**150**	--

CURRICULUM SCHEME
FOR
B.TECH. ELECTRICAL ENGINEERING
With Effect from Session 2023-2024

2nd YEAR

SEMESTER-III

Scheme of Teaching & Examination of Bachelor of Technology III Semester B.Tech. (Electrical Engineering)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	BSCEE301T	Engineering Mathematics-III	3	1	0	4	40	60	100	3
2	PCCEE301T	Linear Electric Circuits	3	1	0	4	40	60	100	3
3	PCCEE301P	Linear Electric Circuits Lab	0	0	2	1	25	25	50	-
4	PCCEE302T	Analog Electronics	3	0	0	3	40	60	100	3
5	PCCEE302P	Analog Electronics Lab	0	0	2	1	25	25	50	-
6	PCCEE303T	Electrical Measurement and Instrumentation	2	0	0	2	20	30	50	2
7	PCCEE303P	Electrical Measurement and Instrumentation Lab	0	0	2	1	25	25	50	-
8	PCCEE304P	Algorithms & Data Structures Lab	0	0	4	2	25	25	50	-
9	CCEE301T	Electric Vehicles & Mobility	1	0	0	0	25	-	25	-
10	MCEE301	Essence of Indian Traditional knowledge	2	0	0	0	50	-	50	-
11	PROJEE301	Practice School-I (Internship of 1-2 week)	-	-	-	1	During Summer Vacations after II Semester			
		TOTAL	**14**	**2**	**10**	**19**	315	310	**625**	

2nd YEAR

SEMESTER-IV

Scheme of Teaching & Examination of Bachelor of Technology IV Semester B.Tech. (Electrical Engineering)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	PCCEE401T	Signal Processing	2	1	0	3	40	60	100	3
2	PCCEE402T	Digital Electronics & Microprocessor	3	0	0	3	40	60	100	3
3	PCCEE402P	Digital Electronics & Microprocessor Lab	0	0	2	1	25	25	50	-
4	PCCEE403T	Electrical Machines - I	3	1	0	4	40	60	100	3
5	PCCEE403P	Electrical Machines – I Lab	0	0	2	1	25	25	50	-
6	OEC	**Open Elective - I**	3	0	0	3	40	60	100	3
7	PCCEE404T	Elements of Electromagnetics	3	1	0	4	40	60	100	3
8	PCCEE405P	Electrical Drawing & Simulation Lab	0	0	2	1	25	25	50	-
9	PCCEE406P	Python Programming Lab	0	0	2	1	25	25	50	-
10	CCEE401P	Programming with IoT Boards	0	0	2	0	25	-	25	-
11	HSMCEE401P	Soft Skills-1	0	0	2	1	25	25	50	-
		TOTAL	**14**	**3**	**12**	**22**	350	425	**775**	

3rd YEAR

SEMESTER-V

Scheme of Teaching & Examination of Bachelor of Technology V Semester B.Tech. (Electrical Engineering)											
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	PCCEE501T	Electrical Power System - I	2	1	0	3	40	60	100	3
2	PCCEE502T	Non Conventional Energy Sources	2	0	0	2	20	30	50	2
3	PCCEE503P	Embedded Systems Lab	0	0	2	1	25	25	50	-
4	PCCEE504T	Power Electronics	3	1	0	4	40	60	100	3
5	PCCEE504P	Power Electronics Lab	0	0	2	1	25	25	50	-
6	PCCEE505T	Electrical Machines - II	3	1	0	4	40	60	100	3
7	PCCEE505P	Electrical Machines – II Lab	0	0	2	1	25	25	50	-
8	PEC	**Program Elective - I**	3	0	0	3	40	60	100	3
9	HSMCEE501T	Economics and Finance for Engineers	2	0	0	2	20	30	50	2
10	OEC	**Open Elective - II**	3	0	0	3	40	60	100	3
11	CCEE501P	Interfacing with the Raspberry Pi	0	0	2	0	25	-	25	-
12	HSMCEE502P	Soft Skills-2	0	0	2	1	25	25	50	-
13	PROJEE501	Practice School-II (Internship of 2-3 week)	-	-	-	1	During Summer Vacations after IV Semester			
		TOTAL	**18**	**3**	**10**	**26**	365	460	**825**	

Program Elective –I

Sr. No.	Course Code	Course Title
1	PECEE501T	Utilization of Electrical Energy
2	PECEE502T	Industrial Instrumentation and Automation
3	PECEE503T	Electric Drives

3rd YEAR

SEMESTER-VI

Scheme of Teaching & Examination of Bachelor of Technology VI Semester B.Tech. (Electrical Engineering)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	PCCEE601T	Electrical Power System-II	2	1	0	3	40	60	100	3
2	PCCEE602T	Control System	3	1	0	4	40	60	100	3
3	PCCEE602P	Control System Lab	0	0	2	1	25	25	50	-
4	PEC	**Program Elective - II**	3	0	0	3	40	60	100	3
5	PEC	**Program Elective-III**	3	0	0	3	40	60	100	3
6	OEC	**Open Elective-III**	3	0	0	3	40	60	100	3
7	PCCEE603P	Electrical Engineering Workshop	0	0	2	1	25	25	50	-
8	CCEE601P	Web Designing	0	0	2	0	25	-	25	-
9	HSMCEE601P	Soft Skills-3	0	0	2	1	25	25	50	-
		TOTAL	**14**	**2**	**8**	**19**	300	375	**675**	

Program Elective – II

Sr. No.	Course Code	Course Title
1	PECEE601T	Renewable Energy & Green Building Entrepreneurship
2	PECEE602T	PLC & SCADA
3	PECEE603T	Motors and Motor Control Circuits

Program Elective – III

Sr. No	Course Code	Course Title
1	PECEE604T	Solar Energy & Electrical System Design
2	PECEE605T	Advanced Industrial Automation
3	PECEE606T	Advanced Electric Drives

4th YEAR

SEMESTER-VII

Scheme of Teaching & Examination of Bachelor of Technology VII Semester B.Tech. (Electrical Engineering)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	PCCEE701T	High Voltage Engineering	3	0	0	3	40	60	100	3
2	PCCEE701P	High Voltage Engineering Lab	0	0	2	1	25	25	50	-
3	PCCEE702P	Computer Applications in Power Systems Lab	0	0	2	1	25	25	50	-
4	PEC	**Program Elective-IV**	3	0	0	3	40	60	100	3
5	OEC	**Open Elective-IV**	3	0	0	3	40	60	100	3
6	HSMCEE701T	Entrepreneurship Development	2	0	0	2	20	30	50	2
7	PROJEE701	Practice School-III Evaluation (Internship of 4-6 weeks during Summer Vacations after VI Semester)	-	-	-	2	100	-	100	-
8	PROJEE702	Project - I	0	0	6	3	100	-	100	-
		TOTAL	**11**	**0**	**10**	**18**	390	260	**650**	

Program Elective – IV

Sr. No	Course Code	Course Title
1	PECEE701T	Electrical Installation Design
2	PECEE702T	Mechatronics
3	PECEE703T	Power Quality & FACTS

4th YEAR

SEMESTER-VIII

Scheme of Teaching & Examination of Bachelor of Technology VIII Semester B.Tech. (Electrical Engineering)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	PCCEE801T	Switchgear and Protection	3	0	0	3	40	60	100	3
2	PCCEE801P	Switchgear and Protection Lab	0	0	2	1	25	25	50	-
3	PEC	**Program Elective - V**	3	0	0	3	40	60	100	3
4	PEC	**Program Elective-VI**	3	0	0	3	40	60	100	3
5	PROJEE801	Project-II/One Semester Industry Project / Incubation	0	0	12	6	100	100	200	-
		TOTAL	**9**	**0**	**14**	**16**	245	305	**550**	

Program Elective –V

Sr. No	Course Code	Course Title
1	PECEE801T	EHV Substation Design & Erection
2	PECEE802T	Fuzzy & Neural Applications
3	PECEE803T	Power System Dynamics and Control

Program Elective –VI

Sr. No	Course Code	Course Title
1	PECEE804T	HVDC Transmission System
2	PECEE805T	Applications of Artificial Intelligence in Electrical Engineering
3	PECEE806T	Smart Grid Technologies and its applications

CURRICULUM SCHEME
FOR
B.TECH. ELECTRONICS AND TELECOMMUNICATION ENGINEERING

With Effect from Session 2023-2024

2nd YEAR

SEMESTER-III

Scheme of Teaching & Examination of Bachelor of Technology III Semester B.Tech. (Electronics and Telecommunication Engineering)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	BSCET301T	Engineering Mathematics-III	3	1	0	4	40	60	100	3
2	PCCET301T	Electronic Devices & Circuits	3	1	0	4	40	60	100	3
3	PCCET301P	Electronic Devices & Circuits Lab	0	0	2	1	25	25	50	-
4	PCCET302T	Digital Electronics	3	1	0	4	40	60	100	3
5	PCCET302P	Digital Electronics Lab	0	0	2	1	25	25	50	-
6	PCCET303T	Network Theory	3	1	0	4	40	60	100	3
7	PCCET304T	Object Oriented Programming and Data Structures	3	0	0	3	40	60	100	3
8	PCCET304P	Object Oriented Programming and Data Structure Lab	0	0	2	1	25	25	50	-
9	PROJET301	Practice School-I (Internship of 1-2 weeks)	-	-	-	1	During Summer Vacations after II Semester			
		TOTAL	**15**	**4**	**6**	**23**	**275**	**375**	**650**	

2nd YEAR

SEMESTER-IV

Scheme of Teaching & Examination of Bachelor of Technology IV Semester B.Tech. (Electronics and Telecommunication Engineering)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	BSCET401T	Engineering Mathematics-IV	3	1	0	4	40	60	100	3
2	PCCET401T	Electromagnetic Fields	3	1	0	4	40	60	100	3
3	PCCET402T	Signal Processing	3	1	0	4	40	60	100	3
4	PCCET402P	Signal Processing Lab	0	0	2	1	25	25	50	-
5	PCCET403T	Python Programming	3	0	0	3	40	60	100	3
6	PCCET403P	Python Programming Lab	0	0	2	1	25	25	50	-
7	HSMCET401P	Soft Skills–I	0	0	2	1	25	25	50	-
8	OEC	**Open Elective–I**	3	0	0	3	40	60	100	3
9	MCET401	Essence of Indian Traditional Knowledge	2	0	0	0	50	-	50	-
		TOTAL	**17**	**3**	**6**	**21**	325	375	**700**	

3rd YEAR

SEMESTER-V

Scheme of Teaching & Examination of Bachelor of Technology V Semester B.Tech. (Electronics and Telecommunication Engineering)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	PCCET501P	JAVA Programming Lab	0	0	4	2	25	25	50	-
2	PEC	**Program Elective-I**	3	0	0	3	40	60	100	3
3	PCCET502T	Microprocessor and Microcontroller	3	1	0	4	40	60	100	3
4	PCCET502P	Microprocessor and Microcontroller Lab	0	0	2	1	25	25	50	-
5	PCCET503T	Analog Communication	3	1	0	4	40	60	100	3
6	PCCET503P	Analog Communication Lab	0	0	2	1	25	25	50	-
7	HSMCET501T	Economics and Finance for Engineers	2	0	0	2	20	30	50	2
8	OEC	**Open Elective-II**	3	0	0	3	40	60	100	3
9	HSMCET502P	Soft Skills-II	0	0	2	1	25	25	50	-
10	PROJET501	Practice School-II (Internship of 2-3 weeks)	-	-	-	1	During Summer Vacations after IV Semester			
11	PROJET502	Mini Project	0	0	4	2	25	25	50	-
		TOTAL	**14**	**2**	**14**	**24**	305	395	**700**	

Program Elective-I

Sr. No.	Course Code	Course Title
1	PECET501T	CMOS-VLSI
2	PECET502T	Fuzzy Logic and Neural Network
3	PECET503T	Digital Image Processing

3rd YEAR

SEMESTER-VI

Scheme of Teaching & Examination of Bachelor of Technology VI Semester B.Tech. (Electronics and Telecommunication Engineering)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	PCCET601T	Digital Communication	3	1	0	4	40	60	100	3
2	PCCET602T	Control System Engineering	3	1	0	4	40	60	100	3
3	PCCET603T	Computer Communication Networks	3	0	0	3	40	60	100	3
4	PCCET603P	Computer Communication Networks Lab	0	0	2	1	25	25	50	-
5	PCCET604T	Digital System Design	3	0	0	3	40	60	100	3
6	PCCET604P	Digital System Design Lab	0	0	2	1	25	25	50	-
7	PCCET605P	Software Workshop Lab	0	0	4	2	25	25	50	-
8	HSMCET601P	Soft Skills-III	0	0	2	1	25	25	50	-
9	PEC	**Program Elective-II**	3	0	0	3	40	60	100	3
10	OEC	**Open Elective-III**	3	0	0	3	40	60	100	3
		TOTAL	**18**	**2**	**10**	**25**	340	460	**800**	

Program Elective-II

Sr. No.	Course Code	Course Title
1	PECET601T	VLSI Signal Processing
2	PECET602T	Embedded Systems & RTOS
3	PECET603T	Data Science

4th YEAR

SEMESTER-VII

Scheme of Teaching & Examination of Bachelor of Technology VII Semester B.Tech. (Electronics and Telecommunication Engineering)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	PEC	**Program Elective-III**	3	0	0	3	40	60	100	3
2	PEC	**Program Elective-IV**	3	0	0	3	40	60	100	3
3	PEC	**Program Elective-V**	3	0	0	3	40	60	100	3
4	PEC	**Program Elective-VI**	3	0	0	3	40	60	100	3
5	PROJET701	Project-I	0	0	8	4	75	75	150	-
6	PROJET702	Practice School–III Evaluation (Internship of 4-6 weeks during Summer Vacations after VI Semester)	-	-	-	2	100	-	100	-
7	OEC	Open Elective-IV	3	0	0	3	40	60	100	3
		TOTAL	**15**	**0**	**08**	**21**	375	375	**750**	

Program Elective–III

Sr. No.	Course Code	Course Title
1	PECET701T	VLSI Testing
2	PECET702T	Data Encryption and Decryption
3	PECET703T	Robotics

Program Elective –IV

Sr. No.	Course Code	Course Title
1	PECET704T	Electronic System Design
2	PECET705T	Bio- Medical Electronics
3	PECET706T	Antennas and Wave Propagation

Program Elective-V

Sr. No.	Course Code	Course Title
1	PECET707T	Micro-Electro Mechanical System (MEMS)
2	PECET708T	Machine Learning
3	PECET709T	Industrial Automation

Program Elective-VI

Sr. No.	Course Code	Course Title
1	PECET710T	Optical Communication
2	PECET711T	Satellite Communication
3	PECET712T	Wireless and Mobile Communication

4th YEAR

SEMESTER-VIII

Scheme of Teaching & Examination of Bachelor of Technology VIII Semester B.Tech. (Electronics and Telecommunication Engineering)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	PROJET801	Project-II/Industry Internship	0	0	12	6	75	75	150	-
		TOTAL	**0**	**0**	**12**	**6**	**75**	**75**	**150**	-

CURRICULUM SCHEME
FOR
B.TECH. MECHANICAL ENGINEERING
With effect from 2023-2024

2nd YEAR

SEMESTER-III

Scheme of Teaching & Examination of Bachelor of Technology, III Semester B.Tech. (Mechanical Engineering)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem. Exam	Total	Duration (Hrs.)
1	BSCME301T	Engineering Mathematics - III	3	1	0	4	40	60	100	3
2	PCCME307T	Kinematics of Machines	3	0	0	3	40	60	100	3
3	PCCME302T	Engineering Thermodynamics	4	0	0	4	40	60	100	3
4	PCCME303T	Material Science and Metallurgy	3	0	0	3	40	60	100	3
5	PCCME303P	Material Science and Metallurgy Lab	0	0	2	1	25	25	50	-
6	PCCME304T	Manufacturing Processes	3	0	0	3	40	60	100	3
7	PCCME304P	Manufacturing Processes Lab	0	0	2	1	25	25	50	-
8	PCCME305P	Machine Drawing and Solid Modeling Lab	0	0	2	1	25	25	50	-
9	PCCME306P	Algorithms & Data Structures Lab	0	0	4	2	25	25	50	-
10	PROJME302	Practice School-I (Internship of 1-2 week)	-	-	-	1	During Summer Vacations after II Semester			
TOTAL			**16**	**1**	**10**	**23**	300	400	**700**	-

2nd YEAR

SEMESTER-IV

Scheme of Teaching & Examination of Bachelor of Technology, IV Semester B.Tech. (Mechanical Engineering)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem. Exam	Total	Duration (Hrs.)
1	BSCME401T	Engineering Mathematics-IV	3	1	0	4	40	60	100	3
2	PCCME401T	Strength of Materials	3	0	0	3	40	60	100	3
3	PCCME401P	Strength of Materials Lab	0	0	2	1	25	25	50	-
4	PCCME402T	Fluid Mechanics and Machinery	3	0	0	3	40	60	100	3
5	PCCME402P	Fluid Mechanics and Machinery Lab	0	0	2	1	25	25	50	-
6	PCCME405T	Dynamics of Machines	3	0	0	3	40	60	100	3
7	PCCME405P	Dynamics of Machines Lab	0	0	2	1	25	25	50	-
8	PCCME404P	Python Programming Lab	0	0	2	1	25	25	50	-
9	OEC	**Open Elective - I**	3	0	0	3	40	60	100	3
10	HSMCME401P	Soft Skills - I	0	0	2	1	25	25	50	-
11	MCME401	Essence of Indian Traditional Knowledge	2	0	0	0	50	-	50	-
TOTAL			**17**	**1**	**10**	**21**	375	425	**800**	

3rd YEAR

SEMESTER-V

Scheme of Teaching & Examination of Bachelor of Technology, V Semester B.Tech. (Mechanical Engineering)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem. Exam	Total	Duration (Hrs.)
1	PCCME501T	Design of Machine Elements	3	0	0	3	40	60	100	3
2	PCCME502T	Heat Transfer	3	0	0	3	40	60	100	3
3	PCCME502P	Heat Transfer Lab	0	0	2	1	25	25	50	-
4	PCCME503T	Manufacturing Technology	3	0	0	3	40	60	100	3
5	PCCME503P	Manufacturing Technology Lab	0	0	2	1	25	25	50	-
6	PEC	**Program Elective - I**	3	0	0	3	40	60	100	3
7	OEC	**Open Elective - II**	3	0	0	3	40	60	100	3
8	HSMCME501P	Soft Skills - II	0	0	2	1	25	25	50	-
9	PROJME501	Mini Project	0	0	4	2	25	25	50	-
10	PROJME502	Practice School - II (Internship of 2-3 week)	-	-	-	1	During Summer Vacations after IV Semester			
TOTAL			**15**	**0**	**10**	**21**	300	400	**700**	

Program Elective – I

Sr. No.	Course Code	Course Title
1	PECME501T	Industrial Economics and Entrepreneurship Development
2	PECME502T	Control Systems Engineering
3	PECME503T	Internal Combustion Engines

3rd YEAR

SEMESTER-VI

Scheme of Teaching & Examination of Bachelor of Technology, VI Semester B.Tech. (Mechanical Engineering)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem. Exam	Total	Duration (Hrs.)
1	PCCME601T	Applied Thermodynamics - I	3	0	0	3	40	60	100	3
2	PCCME602T	Computer Aided Design	3	0	0	3	40	60	100	3
3	PCCME602P	Computer Aided Design Lab	0	0	2	1	25	25	50	-
4	PCCME603T	Instrumentation and Metrology	3	0	0	3	40	60	100	3
5	PCCME603P	Instrumentation and Metrology Lab	0	0	2	1	25	25	50	-
6	PEC	**Program Elective - II**	3	0	0	3	40	60	100	3
7	HSMCME601T	Economics and Finance for Engineers	2	0	0	2	20	30	50	2
8	OEC	**Open Elective - III**	3	0	0	3	40	60	100	3
9	PROJME601	Industrial Case Study	0	0	4	2	50	-	50	-
10	HSMCME602P	Soft Skills - III	0	0	2	1	25	25	50	-
TOTAL			**17**	**0**	**10**	**22**	345	405	**750**	

Program Elective – II

Sr. No.	Course Code	Course Title
1	PECME601T	Statistics and Quality Control
2	PECME602T	Mechatronics
3	PECME603T	Chassis System Design

4th YEAR

SEMESTER-VII

Scheme of Teaching & Examination of Bachelor of Technology, VII Semester B.Tech. (Mechanical Engineering)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs.)
			L	T	P		Continuous Evaluation	End Sem. Exam	Total	
1	PCCME701T	Applied Thermodynamics - II	3	0	0	3	40	60	100	3
2	PCCME701P	Applied Thermodynamics - II Lab	0	0	2	1	25	25	50	-
3	PEC	**Program Elective - III**	3	0	0	3	40	60	100	3
4	PEC	**Program Elective - IV**	3	0	0	3	40	60	100	3
5	OEC	**Open Elective - IV**	3	0	0	3	40	60	100	3
6	PROJME701	Project - I	0	0	6	3	100	0	100	-
7	PROJME702	Practice School – III Evaluation (Internship of 4-6 weeks during Summer Vacations after VI Semester)	-	-	-	2	100	-	100	-
TOTAL			**12**	**0**	**8**	**18**	385	265	**650**	-

Program Elective – III

Sr. No.	Course Code	Course Title
1	PECME701T	Industrial Engineering
2	PECME702T	Robotics
3	PECME703T	Introduction to Automotive Powertrains

Program Elective – IV

Sr. No.	Course Code	Course Title
1	PECME704T	Refrigeration and Air Conditioning
2	PECME705T	Finite Element Method
3	PECME706T	Non-Conventional Energy Sources

4th YEAR

SEMESTER-VIII

Scheme of Teaching & Examination of Bachelor of Technology, VIII Semester B.Tech. (Mechanical Engineering)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem. Exam	Total	Duration (Hrs.)
1	PCCME801T	Design of Mechanical Drives	3	0	0	3	40	60	100	3
2	PEC	**Program Elective - V**	3	0	0	3	40	60	100	3
3	PEC	**Program Elective - VI**	3	0	0	3	40	60	100	3
4	PROJME801	Project – II / One Semester Industry Project / Incubation	0	0	12	6	100	100	200	-
TOTAL			**9**	**0**	**12**	**15**	220	280	**500**	

Program Elective –V

Sr. No.	Course Code	Course Title
1	PECME801T	Production Planning and Control
2	PECME802T	Automation in Production
3	PECME803T	Hybrid Electric Vehicle Propulsion

Program Elective –VI

Sr. No.	Course Code	Course Title
1	PECME804T	Cryogenics
2	PECME805T	Computational Fluid Dynamics
3	PECME806T	Solar Energy Utilization

LIST OF OPEN ELECTIVE COURSES OFFERED BY UNDER GRADUATE PROGRAMMES WEF. 2023-24

OPEN ELECTIVE-I

SN	Semester	Offering Programme	Course Code	Course Name
1	IV	Computer Science and Engineering	OECCS401T	Digital Marketing
2	IV	Electronics and Telecommunication Engineering	OECET401T	Actuators and Sensors
3	IV	Mechanical Engineering	OECME401T	Energy Systems and Technologies
4	IV	Electrical Engineering	OECEE401T	Electric Utilities Fundamentals & Futures
5	IV	Artificial Intelligence and Machine Learning	OECAM401T	R-Programming
6	IV	Artificial Intelligence (AI) and Data Science	OECAD401T	Data Visualization

OPEN ELECTIVE-II

SN	Semester	Offering Programme	Course Code	Course Name
1	V	Computer Science and Engineering	OECCS501T	Java Script Programming
2	V	Electronics and Telecommunication Engineering	OECET501T	Wireless Sensor Networks
3	V	Mechanical Engineering	OECME501T	Optimization Techniques
4	V	Electrical Engineering	OECEE501T	Electrical Energy Conservation & Audit
5	V	Artificial Intelligence and Machine Learning	OECAM501T	Game Development using Python
6	V	Artificial Intelligence (AI) and Data Science	OECAD501T	Web Development using Python

LIST OF OPEN ELECTIVE COURSES OFFERED BY UNDER GRADUATE PROGRAMMES
WEF. 2023-24

OPEN ELECTIVE-III

SN	Semester	Offering Programme	Course Code	Course Name
1	VI	Computer Science and Engineering	OECCS601T	Basics of Computer Graphics
2	VI	Electronics and Telecommunication Engineering	OECET601T	System Design using Raspberry-Pi
3	VI	Mechanical Engineering	OECME601T	Smart Manufacturing Systems
4	VI	Electrical Engineering	OECEE601T	Solar Photovoltaic Systems
5	VI	Artificial Intelligence and Machine Learning	OECAM601T	Basics of Human Computer Interaction
6	VI	Artificial Intelligence (AI) and Data Science	OECAD601T	Business Analytics

OPEN ELECTIVE-IV

SN	Semester	Offering Programme	Course Code	Course Name
1	VII	Computer Science and Engineering	OECCS701T	Mobile Application Development
2	VII	Electronics and Telecommunication Engineering	OECET701T	Internet of Things
3	VII	Mechanical Engineering	OECME701T	Automobile Engineering
4	VII	Electrical Engineering	OECEE701T	Electric Vehicles

CURRICULUM SCHEME
FOR
M. TECH. ELECTRONICS ENGINEERING
W.E.F. 2023-24

1st YEAR

SEMESTER-I

Scheme of Teaching & Examination of Master of Technology, I Semester M. Tech. (Electronics Engineering)									
Sr. No.	Course Code	Course Title	Hours per week		Credits	Maximum Marks			ESE
			L	P		Continual Evaluation	End Sem. Exam	Total	Duration (Hrs)
1	PCCEN101T	Advanced Digital Signal Processing	3	-	3	40	60	100	3
2	PCCEN102T	Advanced Digital Communication	3	-	3	40	60	100	3
3	PCCEN103T	CMOS-VLSI	4	-	4	40	60	100	3
4		Program Elective-I	4	-	4	40	60	100	3
5		Program Elective –II	4	-	4	40	60	100	3
6	PCCEN101P	Advanced Digital Signal Processing (Laboratory-I)	-	2	1	25	25	50	-
7	PCCEN102P	Advanced Digital Communication (Laboratory-II)	-	2	1	25	25	50	-
		Total	**18**	**04**	**20**	**250**	**350**	**600**	-

Program Elective-I			Program Elective-II		
Sr. No.	Course Code	Course Title	Sr. No.	Course Code	Course Title
1	PECEN101T	Analog IC Design	1	PECEN104T	Wireless Sensor Network
2	PECEN102T	Digital Image Processing	2	PECEN105T	Pattern Recognition
3	PECEN103T	Wireless Communication	3	PECEN106T	RF Circuit Design

1st YEAR

SEMESTER-II

Scheme of Teaching & Examination of Master of Technology, II Semester M. Tech. (Electronics Engineering)									
Sr. No.	Course Code	Course Title	Hours per week		Credits	Maximum Marks			ESE
			L	P		Continual Evaluation	End Sem. Exam	Total	Duration (Hrs.)
1	PCCEN201T	Digital System Design and Modeling	3	-	3	40	60	100	3
2	PCCEN202T	Advanced Embedded System Design	3	-	3	40	60	100	3
3	PCCEN203T	Research Methodology	4	-	4	40	60	100	3
4		Program Elective-III	4	-	4	40	60	100	3
5		Program Elective – IV	4	-	4	40	60	100	3
6	PCCEN201P	Digital System Design and Modeling (Laboratory-I)	-	2	1	25	25	50	-
7	PCCEN202P	Advanced Embedded System Design (Laboratory-II)	-	2	1	25	25	50	-
		Total	**18**	**04**	**20**	**250**	**350**	**600**	-

Program Elective-III			Program Elective-IV		
Sr. No.	Course Code	Course Title	Sr. No.	Course Code	Course Title
1	PECEN201T	Data Compression and Cryptography	1	PECEN204T	Cloud Computing and Applications
2	PECEN202T	Soft Computing	2	PECEN205T	Human Machine Interface
3	PECEN203T	VLSI Testing	3	PECEN206T	Micro-Electromechanical Systems

2nd YEAR

SEMESTER-III

Scheme of Teaching & Examination of Master of Technology, III Semester M. Tech. (Electronics Engineering)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	PCCEN301T	High Performance Computer Architecture	4	-	-	4	40	60	100	3
2	PROJEN301	Project Dissertation (Phase – I)	-	-	8	8	200	-	200	-
		TOTAL	**4**	**-**	**8**	**12**	240	60	**300**	

SEMESTER-IV

Scheme of Teaching & Examination of Master of Technology, IV Semester M. Tech. (Electronics Engineering)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs)
1	PROJEN401	Project Dissertation (Phase – II)	-	-	16	16	200	200	400	-
		TOTAL	**-**	**-**	**16**	**16**	200	200	**400**	

CURRICULUM SCHEME
FOR
MASTER OF BUSINESS ADMINISTRATION
W.E.F. 2023-24

1st YEAR

SEMESTER I

Scheme of Teaching & Examination of Master of Business Administration I Semester									
S. No.	Course Code	Course Name	L	P	Credits	Maximum Marks			ESE Duration (Hrs)
						Continuous Evaluation	End-Sem. Exam	Total	
1.	MBC102	Financial Accounting	4	-	4	40	60	100	3
2.	MBC103	Business Law	3	-	3	40	60	100	3
3.	MBC104	Business Economics	3	-	3	40	60	100	3
4.	MBC105	Business Statistics	4	-	4	40	60	100	3
5.	MBC109	Organization Behaviour	3	-	3	40	60	100	3
6.	MBC110	Operations Management	3	-	3	40	60	100	3
7.	MBC111	Principles of Management (MOOCs)	3	-	3	40	60	100	3
8.	MBP101	Spreadsheet for Managers	-	2	1	25	25	50	-
9.	MBP102	Employability Skill Enhancement I	-	4	2	25	25	50	-
10.	MBA102	Environment Management	2	-	-	50	-	50	-
			25	**6**	**26**	**380**	**470**	**850**	

1st YEAR

SEMESTER II

Scheme of Teaching & Examination of Master of Business Administration II Semester									
S. No.	Course Code	Course Name	L	P	Credits	Maximum Marks			ESE Duration (Hrs)
						Continuous Evaluation	End-Sem. Exam	Total	
1.	MBC215	Cost and Management Accounting	3	-	3	40	60	100	3
2.	MBC202	Strategic Management	3	-	3	40	60	100	3
3.	MBC205	Research Methodology	3	-	3	40	60	100	3
4.	MBC209	Project Management	3	-	3	40	60	100	3
5.	MBC210	Financial Management	3	-	3	40	60	100	3
6.	MBC211	Human Resource Management	3	-	3	40	60	100	3
7.	MBC212	Marketing Management	3	-	3	40	60	100	3
8.	MBC213	Entrepreneurship and Innovation	2	-	2	20	30	50	2
9.	MBC214	Leadership and Team Effectiveness (MOOCs)	3	-	3	40	60	100	3
10.	MBP201	Employability Skill Enhancement II	-	4	2	25	25	50	-
11.	MBA202	Business Ethics	2	-	-	50	-	50	-
			28	**4**	**28**	**415**	**535**	**950**	

CURRICULUM SCHEME
FOR
MASTER OF BUSINESS ADMINISTRATION
W.E.F. 2023-24

2nd YEAR

SEMESTER III

Scheme of Teaching & Examination of Master of Business Administration III Semester										
Sr. No.	Course Code	Course Name		L	P	Credits	Maximum Marks			ESE
							Continuous Evaluation	End Sem. Exam	Total	Duration (Hrs)
1.	MBS	Three courses from the core specialization group offered	Course 1	4	-	4	40	60	100	3
2.			Course 2	4	-	4	40	60	100	3
3.			Course 3	4	-	4	40	60	100	3
4.	MBS	Three courses from the core/complementary specialization group offered	Course 1	4	-	4	40	60	100	3
5.			Course 2	4	-	4	40	60	100	3
6.			Course 3	4	-	4	40	60	100	3
7.	MBP302		Internship Program	-	-	4	50	50	100	-
				24		**28**	**290**	**410**	**700**	

2nd YEAR

SEMESTER IV

Scheme of Teaching & Examination of Master of Business Administration IV Semester										
Sr. No.	Course Code	Course Name		L	P	Credits	Maximum Marks			ESE
							Continuous Evaluation	End Sem. Exam	Total	Duration (Hrs)
1.	MBS	Two courses from the core specialization group offered	Course 1	4	-	4	40	60	100	3
2.			Course 2	4	-	4	40	60	100	3
3.	MBS	Two courses from the core/complementary specialization group offered	Course 1	4	-	4	40	60	100	3
4.			Course 2	4	-	4	40	60	100	3
5.	MBP401		Project Work	-	-	4	50	50	100	-
				16		**20**	**210**	**290**	**500**	

List of Specialization Courses

Core Specialization Group

Specialization 1: Financial Management

S. No.	Course Code	Course Name
1.	MBS101	Derivatives and Risk Management
2.	MBS102	Security Analysis & Portfolio Management
3.	MBS103	Bank Management
4.	MBS104	Financial Market and Services
5.	MBS105	Strategic Financial Management
6.	MBS106	Corporate Taxation
7.	MBS107	Behavioural Finance
8.	MBS108	Project Planning and Financing

Specialization 2: Marketing Management

S. No.	Course Code	Course Name
1.	MBS201	Sales and Distribution Management
2.	MBS202	Digital and Social Media Marketing
3.	MBS203	Retail Management
4.	MBS204	Consumer Buying Behaviour
5.	MBS205	Integrated Marketing Communication and Advertising Management
6.	MBS206	Brand Management
7.	MBS207	Customer Relationship Management
8.	MBS208	Service Marketing

Specialization 3: Human Resource Management

S. No.	Course Code	Course Name
1.	MBS301	Learning and Development
2.	MBS302	Human Resource Analytics
3.	MBS303	Industrial Relations and Labour Laws
4.	MBS304	International Human Resource Management
5.	MBS305	Strategic Human Resource Management
6.	MBS306	Recruitment and Selection
7.	MBS307	Employee Engagement
8.	MBS308	Performance and Compensation Management

Complementary Specialization Group

Specialization 4: Operations Management

S. No.	Course Code	Course Name
1.	MBS401	Supply Chain Management
2.	MBS402	Logistics Management
3.	MBS403	Service Operations
4.	MBS404	Quality Management
5.	MBS405	Production and Materials Management
6.	MBS406	Operation Research
7.	MBS407	Operations Planning and Control
8.	MBS408	Lean Management (Six Sigma)

Specialization 5: International Business Management

S. No.	Course Code	Course Name
1.	MBS501	International Business
2.	MBS502	International Marketing
3.	MBS503	Export Import Procedures and Documentation
4.	MBS504	International Finance
5.	MBS505	International Logistics Management
6.	MBS506	International Supply Chain Management
7.	MBS507	International Economics
8.	MBS508	International Human Resource Management

Specialization 6: Business Analytics

S. No.	Course Code	Course Name
1.	MBS601	Foundation of Business Analytics
2.	MBS602	Data Analytics for Business
3.	MBS603	Data Mining for Business
4.	MBS604	Web Analytics
5.	MBS605	Data Analytics using Python
6.	MBS606	Data Analytics using R
7.	MBS607	Customer Analytics
8.	MBS608	Power BI for Managers

ANNEXURE -II

HONORS/ MAJOR SPECIALIZATION SCHEME
WEF. 2023-24

Name of Programme: Electronics and Telecommunication Engineering

Specialization Group-I: VLSI

LIST OF COURSES

Sr. No	NPTEL Course ID	Course Name	SME Name	Offering Institute	Duration	Credits
1	108107142	Microelectronics: Devices to Circuits	Prof. Sudeb Dasgupta	IIT Roorkee	12 weeks	3
2	106105161	VLSI Physical Design	Prof. Indranil Sengupta	IIT Kharagpur	12 weeks	3
3	108106149	Mapping Signal Processing Algorithms to Architectures	Prof. Nitin Chandrachoodan	IIT Madras	12 weeks	3
4	108106158	Digital IC Design	Prof. Janakiraman	IIT Madras	12 weeks	3
5	108106159	Power Management Integrated Circuits	Prof. Qadeer Ahmad Khan	IIT Madras	12 weeks	3
6	108103179	System Design Through VERILOG	Prof. Shaik Rafi Ahamed	IIT Guwahati	8 Weeks	2
7	117106148	Circuit Analysis for Analog Designers	Prof. Shanthi Pavan	IIT Madras	12 weeks	3
8	117107149	Physics of Nanoscale Devices	Prof. Vishvendra Singh Poonia	IIT Roorkee	12 weeks	3

HONORS/ MAJOR SPECIALIZATION SCHEME
WEF. 2023-24

Name of Programme: Electronics and Telecommunication Engineering

Specialization Group-II : Communication & Signal Processing

LIST OF COURSES

Sr. No	NPTEL Course ID	Course Name	SME Name	Offering Institute	Duration	Credits
1	108104092	An Introduction to Coding Theory	Prof. Adrish Banerjee	IIT Kanpur	8 weeks	2
2	108108168	Information Theory	Prof. Himanshu Tyagi	IISc Bangalore	12 weeks	3
3	108105154	Principles and Techniques of Modern Radar Systems	Prof. Amitabha Bhattacharya	IIT Kharagpur	12 weeks	3
4	108106179	Stochastic Modeling and the Theory of Queues	Prof. Krishna Jagannathan	IIT Madras	12 weeks	3
5	108106171	Applied Linear Algebra	Prof. Andrew Thangaraj	IIT Madras	12 weeks	3
6	108106136	Multirate DSP	Prof. R. David Koilpillai	IIT Madras	12 weeks	3
7	108103158	Statistical Signal Processing	Prof. Prabin Kumar Bora	IIT Guwahati	12 weeks	3
8	108105179	Signal Processing for mm Wave communication for 5G and beyond	Prof. Amit Kumar Dutta	IIT Kharagpur	12 Weeks	3
9	108108181	Concentration Inequalities	Prof. Himanshu tyagi Prof. Aditya gopalan	IISc Bangalore	8 weeks	2

HONORS/ MAJOR SPECIALIZATION SCHEME
WEF. 2023-24

Name of Programme: Computer Science and Engineering
Specialization Group-I: Data Science
LIST OF COURSES

Sr. No.	NPTEL Course ID	Course Name	SME Name	Offering Institute	Course Duration	Credits
1	106106179	Data Science for Engineers	Prof. Ragunathan Rengasamy, Prof. Shankar Narasimhan	IIT Madras	8 weeks	2
	106107220	OR Data Analytics with Python	Prof. A. Ramesh	IIT Roorkee	12 weeks	3
2	106106145	Programming, Data Structures and Algorithms in Python	Prof. Madhavan Mukund	Chennai Mathematical Institute	8 weeks	2
3	106105152	Introduction to Machine Learning	Prof. Sudeshna Sarkar	IIT Kharagpur	8 weeks	2
	106106139	OR Introduction to Machine Learning	Prof. Balaraman Ravindran	IIT Madras	12 weeks	3
4	106106184	Deep Learning	Prof. Mitesh Khapra	IIT Madras	12 weeks	3
	106105215	OR Deep Learning	Prof. Prabir Kumar Biswas	IIT Kharagpur	12 weeks	3
	106106224	OR Deep Learning for Computer Vision	Prof. Vineeth N Balasubramanian	IIT Hyderabad	12 weeks	3
5	106106143	Reinforcement Learning	Prof. Balaraman Ravindran	IIT Madras	12 weeks	3
6	106102220	An Introduction to Artificial Intelligence	Prof. Mausam	IIT Delhi	12 weeks	3
7	106106140	Artificial Intelligence: Knowledge Representation and Reasoning	Prof. Deepak Khemani	IIT Madras	12 weeks	3
8	106105216	Computer Vision	Prof. Jayanta Mukhopadhyay	IIT Kharagpur	12 weeks	3
9	106101224	Learning Analytics Tools	Prof. Ramkumar Rajendran	IIT Bombay	12 weeks	3
10	106106212	Python for Data Science	Prof. Raghunathan Rengasamy	IIT Madras	4 weeks	1

HONORS/ MAJOR SPECIALIZATION SCHEME
WEF. 2023-24

Name of Programme: Artificial Intelligence and Machine Learning / Artificial Intelligence (AI) and Data Science

Specialization Group-I: Cutting Edge Technologies of Computer Science

Sr. No.	NPTEL Course ID	Course Name	SME Name	Offering Institute	Course Duration	Credits
1	106106158	AI: Constraint Satisfaction	Prof. Deepak Khemani	IIT Madras	8 weeks	2
2	106106140	AI: Knowledge Representation and Reasoning	Prof. Deepak Khemani	IIT Madras	12 weeks	3
3	106106143	Reinforcement Learning	Prof. Balaraman Ravindran	IIT Madras	12 weeks	3
4	108105103	Deep Learning for Visual Computing	Prof. Debdoot Sheet	IIT Kharagpur	12 weeks	3
5	106106244	Affective Computing	Prof. Jainendra Shukla, Prof. Abhinav Dhall	IIIT Delhi, IIT Ropar	12 weeks	3
6	106106126	Artificial Intelligence : Search Methods For Problem solving	Prof. Deepak Khemani	IIT Madras	12 weeks	3
7	106101224	Learning Analytics Tools	Ramkumar Rajendran	IIT Bombay	12weeks	3
8	102103092	Data Analysis for Biologists	Prof. Biplab Bose	IIT Guwahati	8 weeks	2
9	106105217	Ethical Hacking	Prof. Indranil Sengupta	IIT Kharagpur	12 weeks	3
10	106104242	Foundation of Cloud IoT Edge ML	Prof. Rajiv Misra	IIT Patna	8 weeks	2

HONORS/ MAJOR SPECIALIZATION SCHEME
WEF. 2023-24

Name of Programme: Electrical Engineering

Specialization Group-I: Power Systems and Power Electronics

LIST OF COURSES

Sl. No	NPTEL Course ID	Course Name	SMS Name	Offering Institute	Course Duration	Credits
1	108107127	Computer Aided Power System Analysis	Prof. Biswarup Das	IIT Roorkee	12 weeks	3
2	108102157	High Power Multilevel Converters-Analysis, Design and Operational Issues	Prof. Anandarup Das	IIT Delhi	12 weeks	3
3	108106159	Power Management Integrated Circuits	Prof. Qadeer Ahmad Khan	IIT Madras	12 weeks	3
4	108106160	DC Power Transmission Systems	Prof. Krishna S	IIT Madras	12 weeks	3
5	117103148	Design of Power Electronic Converters	Prof. Shabari Nath	IIT Guwahati	8 weeks	2
6	108107113	Introduction to Smart Grid	Prof. N. P. Padhy, Prof. Premalata Jena	IIT Roorkee	8 weeks	2
7	108102179	Power Quality	Prof. Bhim Singh	IIT Delhi	12 weeks	3
8	108105180	Control and Tuning Methods in Switched Mode Power Converters	Prof. Santanu Kapat	IIT Kharagpur	12 weeks	3
9	117103149	Operation and Planning of Power Distribution Systems	Prof. Sanjib Ganguly	IIT Guwahati	12 weeks	3
10	117107148	Digital Protection of Power System	Prof. Bhaveshkumar R. Bhalja	IIT Roorkee	8 weeks	2

HONORS/ MAJOR SPECIALIZATION SCHEME
WEF. 2023-24

Name of Programme: Electrical Engineering

Specialization Group-II: Control and Instrumentation

LIST OF COURSES

Sl. No	NPTEL Course ID	Course Name	SMS Name	Institute	Course Duration	Credits
1	108107142	Microelectronics: Devices to Circuits	Prof. Sudeb Dasgupta	IIT Roorkee	12 weeks	3
2	108106171	Applied Linear Algebra	Prof. Andrew Thangaraj	IIT Madras	12 weeks	3
3	108106150	Linear System Theory	Prof. Ramkrishna Pasumarthy	IIT Madras	12 weeks	3
	OR					
	108106164	Linear Dynamical Systems	Prof. Tushar Jain	IIT Mandi	8 weeks	2
4	115108104	Control System Design	Prof. G R Jayanth	IISc Bangalore	12 weeks	3
5	108103158	Statistical Signal Processing	Prof. Prabin Kumar Bora	IIT Guwahati	12 weeks	3
6	108106162	Nonlinear System Analysis	Prof. Ramkrishna Pasumarthy , Prof. Arunkumar D Mahindrakar	IIT Madras	12 weeks	3
7	108108180	Mathematical Aspects of Biomedical Electronic System Design	Prof. Chandramani Singh	IISc Bangalore	12 weeks	3
8	102105090	Introduction to Biomedical Imaging Systems	Prof. Arun K. Thittai	IIT Madras	12 weeks	3

HONORS/ MAJOR SPECIALIZATION SCHEME

WEF. 2023-24

Name of Programme: Mechanical Engineering

Specialization Group-I: Manufacturing Processes and Technology

LIST OF COURSES

Sr. No.	NPTEL Course ID	Course Name	SME Name	Offering Institute	Course Duration	Credits
1	112105231	Introduction to Mechanical Micro Machining	Prof. Ajay M Sidpara	IIT Kharagpur	12 weeks	3
2	112104225	Sustainability through Green Manufacturing Systems: An Applied Approach	Prof. Deepu Philip Prof. Amandeep Singh	IIT Kanpur	8 weeks	2
3	112104265	Rapid Manufacturing	Prof. J. Ramkumar	IIT Kanpur	12 weeks	3
4	112106249	Design for Quality, Manufacturing and Assembly	Prof. Palaniappaan Ramu	IIT Madras	8 weeks	2
5	112104289	Computer Integrated Manufacturing	Prof. J. Ramkumar Prof. Amandeep Singh	IIT Kanpur	12 weeks	3
6	112108298	Robotics: Basics and Selected Advanced Concepts	Prof. Ashitava Ghosal	IISc Bangalore	12 weeks	3
	OR					
	112104298	Introduction to Robotics	Prof. Ashish Dutta	IIT Kanpur	12 weeks	3
7	112103306	Fundamentals of Additive Manufacturing Technologies	Prof. Sajan Kapil	IIT Guwahati	12 weeks	3
8	113106070	Theory and Practice of Non-Destructive Testing	Prof. Ranjit Bauri	IIT Madras	8 weeks	2
9	112107292	Principles of Industrial Engineering	Prof. D K Dwivedi	IIT Roorkee	12 weeks	3
10	112103279	Plastic Working of Metallic Materials	Prof. P. S. Robi	IIT Guwahati	12 weeks	3

Minor Specialization in
'Computer Science and Engineering'
For the students of
Electronics and Telecommunication Engineering
WEF. 2023-24

LIST OF COURSES

Sr. No.	NPTEL Course ID	Course Name	SME Name	Offering Institute	Course Duration	Credits
1	106107220	Data analytics with Python	Prof. A Ramesh	IIT Roorkee	12 weeks	3
2	106105175	Database Management System	Prof. Partha Pratim Das	IIT Kharagpur	8 weeks	2
	OR					
	106106220	Introduction to Database Systems	Prof. Sreenivasa Kumar	IIT Madras	12 weeks	3
3	106102157	Computer Architecture	Prof. Smruti Ranjan Sarangi	IIT Delhi	12 weeks	3
4	106101234	Design and Engineering of Computer Systems	Prof. Mythili Vutukuru	IIT Bombay	8 Weeks	2
5	106105182	Software Engineering	Prof. Rajib Mall	IIT Kharagpur	12 weeks	3
6	106105150	Software Testing	Prof. Rajib Mall	IIT Kharagpur	4 weeks	1
7	106106144	Introduction to Operating Systems	Prof. Chester Rebeiro	IIT Madras	8 weeks	2
8	106102220	An Introduction to Artificial Intelligence	Prof. Mausam	IIT Delhi	12 weeks	3
9	106106222	Modern Application Development	Prof. Aamod Sane, Prof. Abhijat Vichare, Prof. Madhavan Mukund	Persistent Computing Systems & CMI	12 weeks	3

Minor Specialization in 'Computer Science and Engineering'

For the students of

Electrical Engineering

WEF. 2023-24

LIST OF COURSES

Sr. No.	NPTEL Course ID	Course Name	SME Name	Offering Institute	Course Duration	Credits
1	106105225	Data Structure and Algorithms using Java	Prof. Debasis Samanta	IIT Kharagpur	12 weeks	3
2	106105151	Programming in C++	Prof. Partha Pratim Das	IIT Kharagpur	8 weeks	2
	OR					
	106101208	An Introduction to Programming through C++	Prof. Abhiram Ranade	IIT Bombay	12 weeks	3
3	106105191	Programming in Java	Prof. Debasis Samanta	IIT Kharagpur	12 weeks	3
	OR					
	106105224	Object Oriented System Development using UML, Java and Patterns	Prof. Rajib Mall	IIT Kharagpur	12 weeks	3
4	106107220	Data Analytics with Python	Prof. A Ramesh	IIT Roorkee	12 weeks	3
5	106105175	Database Management System	Prof. Partha Pratim Das	IIT Kharagpur	8 weeks	2
	OR					
	106106220	Introduction to Database Systems	Prof. Sreenivasa Kumar	IIT Madras	12 weeks	3
6	106102157	Computer Architecture	Prof. Smruti Ranjan Sarangi	IIT Delhi	12 weeks	3
7	106101234	Design and Engineering of Computer Systems	Prof. Mythili Vutukuru	IIT Bombay	8 Weeks	2
8	106105183	Computer Networks and Internet Protocol	Prof. Soumya Kanti Ghosh, Prof. Sandip Chakraborty	IIT Kharagpur	12 weeks	3
9	106105182	Software Engineering	Prof. Rajib Mall	IIT Kharagpur	12 weeks	3
10	106105150	Software Testing	Prof. Rajib Mall	IIT Kharagpur	4 weeks	1
11	106106144	Introduction to Operating Systems	Prof. Chester Rebeiro	IIT Madras	8 weeks	2
12	106102220	An Introduction to Artificial Intelligence	Prof. Mausam	IIT Delhi	12 weeks	3
13	106106222	Modern Application Development	Prof. Aamod Sane, Prof. Abhijat Vichare, Prof. Madhavan Mukund	Persistent Computing Systems & CMI	12 weeks	3

Minor Specialization in

'Computer Science and Engineering'

For the students of

Mechanical Engineering

WEF. 2023-24
LIST OF COURSES

Sr. No.	NPTEL Course ID	Course Name	SME Name	Offering Institute	Course Duration	Credits
1	106106145	Programming, Data Structures and Algorithms in Python	Prof. Madhavan Mukund	Chennai Mathematical Institute	8 weeks	2
			OR			
	106105225	Data Structure and Algorithms using Java	Prof. Debasis Samanta	IIT Kharagpur	12 weeks	3
2	106105151	Programming in C++	Prof. Partha Pratim Das	IIT Kharagpur	8 weeks	2
			OR			
	106101208	An Introduction to Programming through C++	Prof. Abhiram Ranade	IIT Bombay	12 weeks	3
3	106105191	Programming in Java	Prof. Debasis Samanta	IIT Kharagpur	12 weeks	3
			OR			
	106105224	Object Oriented System Development using UML, Java and Patterns	Prof. Rajib Mall	IIT Kharagpur	12 weeks	3
4	106107220	Data Analytics with Python	Prof. A Ramesh	IIT Roorkee	12 weeks	3
5	106105175	Database Management System	Prof. Partha Pratim Das	IIT Kharagpur	8 weeks	2
			OR			
	106106220	Introduction to Database Systems	Prof. Sreenivasa Kumar	IIT Madras	12 weeks	3
6	106102157	Computer Architecture	Prof. Smruti Ranjan Sarangi	IIT Delhi	12 weeks	3
7	106101234	Design and Engineering of Computer Systems	Prof. Mythili Vutukuru	IIT Bombay	8 Weeks	2
8	106105183	Computer Networks and Internet Protocol	Prof. Soumya Kanti Ghosh, Prof. Sandip Chakraborty	IIT Kharagpur	12 weeks	3
9	106105182	Software Engineering	Prof. Rajib Mall	IIT Kharagpur	12 weeks	3
10	106105150	Software Testing	Prof. Rajib Mall	IIT Kharagpur	4 weeks	1
11	106106144	Introduction to Operating Systems	Prof. Chester Rebeiro	IIT Madras	8 weeks	2
12	106102220	An Introduction to Artificial	Prof. Mausam	IIT Delhi	12 weeks	3

		Intelligence				
13	106106222	Modern Application Development	Prof. Aamod Sane, Prof. Abhijat Vichare, Prof. Madhavan Mukund	Persistent Computing Systems & CMI	12 weeks	3

Prof. (Dr.) Sanjay Badjate Principal & Chairman	
Dr. Narendra Bawane University Nominee	
Dr. Manoj Chandak University Nominee	
Dr. Mahendra Kadu University Nominee	
Dr. Abhijeet Agashe Educationalist	
Dr. Rajendra Patrikar Educationalist	
Mr. Ranjit Singh Industry Representative	
Dr. Pankaj Thote Dean Academics & HoD Electrical Engineering	
Dr. Abhay Kasetwar HoD Electronics and Telecommunication Engineering	
Dr. Mrudula Nimbarte HoD Computer Science and Engineering	
Mr. Amit Tajne HoD Mechanical Engineering and 1st Year B.Tech.	

Dr. Hemant Turkar HoD Emerging Technologies	
Dr. Shrikrishna Dhale HoD Dept. of Management	
Dr. Harish Bhatkulkar Teacher Representative	
Dr. Mohammad Wasim Khanooni Teacher Representative	
Dr. Khushi Sindhi Dean R&D, Teacher Representative	
Dr. Chandrakant Rathore Teacher Representative	
Mr. Vinod Suple Special Invitee	
Mrs. Roshani Talmale Special Invitee	
Dr. Mrs. Rupali Kelkar Member Secretary	