

SWAMI VIVEKANAND SUBHARTI UNIVERSITY,
MEERUT



FACULTY OF ENGINEERING & TECHNOLOGY

ORDINANCE No. V (2A) RELATING TO

BACHELOR OF TECHNOLOGY (B.Tech.) PROGRAMME

(Effective from the Session – 2025-26)

Apporved by the Academic Council of the Meeting held on 06 May 2025

Apporved by the Executive Council of the Meeting held on 28 June 2025

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FACULTY OF ENGINEERING & TECHNOLOGY

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CHAPTER – 1

GENERAL PROVISIONS

(As per UGC Regulations 2025, NEP 2020, AICTE Model Curriculum 2024, and NBA OBE Framework)

1.1 Title and Applicability

1. This ordinance shall be called the “Revised Ordinance relating to the Bachelor of Technology (B.Tech.)” Programme at Faculty of Engineering & Technology, a constituent unit of Swami Vivekanand Subharti University (SVSU), Meerut.
2. It shall come into force from the academic session 2025–26.
3. This ordinance supersedes all previous versions of the B.Tech. ordinance and aligns with:
 - University Grants Commission (Minimum Standards of Instruction for UG & PG Degree) Regulations, 2025
 - National Education Policy (NEP) 2020
 - AICTE Model Curriculum 2024
 - National Credit Framework (NCrF)
 - Outcome-Based Education (OBE) model of NBA



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1.2 Scope and Flexibility

1. The B.Tech. programme under this ordinance provides flexibility for:

- **Multiple Entry and Exit** (Certificate/Diploma/Degree/Honours)
- **Accelerated Degree Programme (ADP)** and **Extended Degree Programme (EDP)**
- **Biannual Admission** in July/August and January/February
- **Simultaneous Degrees** in accordance with UGC's dual-degree guidelines
- **Credit Accumulation** through **online/ODL/RPL/MOOCs** with ABC integration

1.3 Institutional Objectives

SVSU, through FET, is committed to:

- Providing high-quality technical education integrating **academic excellence, industry readiness, and societal relevance**
- Promoting a **student-centric, multidisciplinary, and outcome-based** learning ecosystem
- Ensuring **mobility and flexibility** in academic pathways under the **National Higher Education Qualifications Framework (NHEQF)**

1.4 Vision

To be a globally recognized hub of multidisciplinary engineering education, research, and innovation that nurtures technically proficient, socially responsible, and environmentally conscious engineers, committed to fostering sustainable development, national progress, and global well-being.

1.5 Mission

- To provide inclusive and high-quality technical education.
- Foster innovation and multidisciplinary research.
- Nurture socially responsible engineers.
- Drive sustainable development.
- Contribute to global progress.

1.6 Programme Educational Objectives (PEOs)

Graduates of the B.Tech. programme will:

PEO 1:

To prepare graduates who will become successful professionals in various fields such as industry, government, academia, research, entrepreneurship, and consulting firms.

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PEO 2:

To equip graduates with the knowledge and skills to contribute meaningfully to society as well-rounded, expressive, ethical, and responsible citizens, demonstrating expertise in their respective areas.

PEO 3:

To enable graduates to gain peer recognition, both individually and as part of a team, through the demonstration of strong analytical, design, and implementation skills.

PEO 4:

To foster in graduates the drive to pursue lifelong learning, enabling them to continuously fulfill their personal and professional goals.

1.7 Programme Outcomes (POs) (As per NBA Outcome-Based Education model)

The programme prepares graduates to attain the following:

PO Code	Program Outcome
PO1	Engineering Knowledge: Apply mathematics, science, and engineering fundamentals to solve complex engineering problems.
PO2	Problem Analysis: Identify, formulate, and analyze complex problems using research-based knowledge.
PO3	Design/Development: Design systems/processes that meet specified needs with realistic constraints.
PO4	Investigations: Use research methodologies, analysis, and interpretation to provide valid conclusions.
PO5	Modern Tool Usage: Use modern engineering tools with an understanding of their limitations.
PO6	Engineer and Society: Assess societal, legal, and cultural responsibilities in engineering practice.
PO7	Environment and Sustainability: Understand the environmental impact of engineering solutions.
PO8	Ethics: Apply ethical principles and adhere to engineering ethics.
PO9	Teamwork: Function effectively as an individual or team leader in multidisciplinary teams.

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PO10	Communication: Communicate effectively on technical activities with engineering community and society.
PO11	Project Management & Finance: Apply engineering and management principles to lead projects in diverse environments.
PO12	Lifelong Learning: Engage in lifelong learning for personal and professional development in the context of technological change.

CHAPTER – 2

ADMISSION AND ELIGIBILITY

2.1 Admission Sessions and Intake Planning

1. Biannual Admission:

The University shall offer **two admission cycles each academic year:**

- **Odd Session:** July–August
- **Even Session:** January–February

2. Intake Planning:

Annual intake shall be determined by the **Academic Council** based on:

- AICTE/UGC-approved intake
- Available faculty and and learning resources

3. Reservation: SC/ST/OBC/EWS/PwD as per Government norms.

2.2 Eligibility Criteria for Admission to First Year (Regular Entry)

1. A candidate is eligible for admission to the B.Tech. program if they have:

- Passed **Level 4 / Class 12 or equivalent** (Science/Technical/Vocational streams) through formal schooling or Open Schooling recognized by a board.
- Obtained a minimum **45% aggregate marks (40% for SC/ST/OBC)** in **Physics and Mathematics** along with one of the following: Chemistry/Biology/Biotechnology/Computer Science.

2. Multidisciplinary Entry:

- Students from **any discipline** at Class 12 may apply for B.Tech. upon qualifying a **university/national-level entrance examination** in engineering.
- The university may prescribe **bridge courses** (e.g., Mathematics, Physics, Engineering Basics) in the first year for such students.

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3. Admission Channels:

- JEE (Main) or equivalent national entrance test
- University-level entrance examination
- Direct admission based on merit (for vacant seats after counseling)

4. Age Limit:

- Minimum age: **17 years** as of 31st December of the admission year
- Maximum age: As per prevailing university/admission policy

2.3 Eligibility Criteria for Second Year (Lateral Entry)

1. Diploma Holders:

- Passed a **3-year Engineering Diploma** (AICTE-approved) with **minimum 45% marks** (40% for SC/ST).
- Eligible for **direct admission into 2nd year** (Level 5.5 of NCtF).

2. B.Sc. Graduates:

- Passed **B.Sc. with Mathematics** and at least 40% aggregate marks.
- Must complete **Engineering Mechanics and Graphics** (Level 4.5/5) as bridge courses along with second-year subjects.

3. RPL Pathway (Recognition of Prior Learning):

- Experienced individuals may be admitted through UGC's RPL framework after successful assessment and credit mapping.

4. Seat Allocation:

- Lateral entry shall be limited to **10% supernumerary seats**, as per AICTE norms.

2.4 Admission to B.Tech. (Honours) / Honours with Research

- Students opting for the 4-year Honours track must meet **academic merit criteria (CGPA $\geq$ 7.5)** at the end of 2nd year.
- **Research-based Honours** requires:
 - Participation in a supervised research project
 - Submission of a thesis/dissertation
 - Completion of research methodology modules

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2.5 Admission to Accelerated or Extended Degree Pathways (ADP / EDP)

- Students may apply for **Accelerated Degree Programme (ADP)** or **Extended Degree Programme (EDP)** at the end of the first or second semester.
- Approval is subject to:
 - Review of academic performance
 - Availability of course offerings in requested timeline
 - Recommendation by the **ADP/EDP Committee** of the institute

Degrees earned through ADP or EDP shall be **equal in status** to those completed in standard duration, as per UGC notification.

2.6 Change of Branch/Program

1. After 1st Year:

- Permitted based on **merit**, subject to:
 - **Clearance of all 1st-year courses**
 - **Vacancy in desired branch**
 - **Maintenance of 75% intake rule** in the source department

2. Conditions:

- Change is allowed **only once**.
- Process must be completed before start of 3rd semester.

2.7 Simultaneous Degree Programs

- As per UGC 2022 and reaffirmed in UGC 2025:
 - Students may pursue **two UG degrees simultaneously**, either:
 - One in **online/ODL** and another in **regular mode**
 - Or both in **online / ODL / evening shift**
 - The second program must not conflict with attendance/assessment of the primary B.Tech. degree.

2.8 Available Branches:

The B.Tech. programme is offered in the following disciplines:

1. **Computer Science & Engineering.**
2. **Information Technology.**
3. **Electrical & Electronics Engineering.**

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4. Electronics & Communication Engineering.
5. Mechanical Engineering.
6. Civil Engineering.
7. Computer Science & Engineering (AI & ML).
8. Food Technology.
9. Aerospace Engineering.

2.9 Allocation of Discipline:

- Selected candidates will be allocated a discipline from those listed in **Clause 2.8** based on merit, choice, and counseling.

CHAPTER – 3

PROGRAM DURATION, EXIT OPTIONS, AND CREDIT REQUIREMENTS

3.1 Duration of the B.Tech. Programme

1. The standard duration of the **B.Tech. Programme** shall be:
 - 4 years (8 semesters) for students admitted in the first year
 - 3 years (6 semesters) for students admitted via lateral entry
2. The programme can be completed through:
 - Standard duration
 - Accelerated Degree Programme (ADP) — completion in 6 or 7 semesters
 - Extended Degree Programme (EDP) — completion in 9 or 10 semesters

All options follow the same curriculum and credit requirements. Degree award is based on credit completion, not time spent.

3.2 Credit Requirements and Academic Load

1. The minimum number of credits required to earn a B.Tech. degree is:
 - 160 credits for standard 4-year programme
 - As per AICTE model curriculum and UGC Credit Framework
2. Students must earn a minimum of 50% of total credits in their major discipline to be awarded a B.Tech. in that specialization.

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3.3 Credit Accumulation and ABC Integration

- Credits earned shall be digitally stored in the **Academic Bank of Credits (ABC)**.
- Credits may be earned through:
 - Regular coursework
 - **Online platforms (SWAYAM, NPTEL)**
 - **Open and Distance Learning (ODL)**
 - **Skill-based and RPL modules**
- Students may **transfer credits** from UGC-approved institutions or platforms to their ABC account.
- Credits remain valid for **7 years**, facilitating re-entry at a later stage.

3.4 Exit Options and Awards (UGC 2025 & NCeF)

Students can voluntarily exit the programme at predefined stages and receive nationally recognized qualifications:

Exit Point	Credits Required	Award	Additional Requirement
After 1st Year	40 credits + 4-credit skill course	Undergraduate Certificate in Engineering	Skill-enhancement course mandatory
After 2nd Year	80 credits + 4-credit skill course	Undergraduate Diploma in Engineering	Skill-enhancement course mandatory
After 3rd Year	120 credits	B.Sc. in Engineering	Eligible to re-enter 4th year for Honours
After 4th Year	160–165 credits	B.Tech. Degree (Honours / Hons. with Research)	Depending on track selected (project or research)

Students may exit and re-enter the programme within 7 years, subject to revalidation/ bridge coursework.

3.5 Accelerated and Extended Degree Options (UGC 2025 Annexure I)

Accelerated Degree Programme (ADP)

- Students may **shorten B.Tech. duration** to:
 - **7 semesters** (normal ADP)
 - **6 semesters** (maximum ADP option)
- **Criteria:**
 - Apply after **first or second semester**

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- Demonstrated academic excellence and capacity to handle additional credits
- Must earn required 160+ credits as per the curriculum

Extended Degree Programme (EDP)

- Students may **extend B.Tech. duration** to:
 - **9 semesters (EDP)**
 - **10 semesters (maximum EDP option)**
- Criteria:
 - Apply after **first or second semester**
 - Academic or personal justification (medical, family, learning pace)
 - Reduced credit load per semester, but total credits remain 160+

ADP/EDP Certification

- Degree is awarded **immediately upon credit completion**, with a note on transcript indicating:
 - "Completed under Accelerated Degree Programme (7 semesters)"
 - or "Completed under Extended Degree Programme (9 semesters)"
- Equal in validity to standard B.Tech. degrees

CHAPTER – 4

CURRICULUM STRUCTURE AND CREDIT FRAMEWORK

4.1 Curriculum Philosophy and Design

The B.Tech. Curriculum shall be designed to ensure:

- **Multidisciplinary learning** with strong engineering fundamentals
- Integration of **vocational education, skill development, and internships**
- Emphasis on **critical thinking, creativity, ethics, sustainability, and innovation**
- Flexibility through **Choice-Based Credit System (CBCS)**
- Full compliance with **National Higher Education Qualifications Framework (NHEQF)** and **NCrF**

The curriculum enables **horizontal and vertical mobility**, as well as **multiple entry and exit** under ABC.

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4.2 Structure of the B.Tech. Programme

Curriculum Component	Credit Range	% of Total
Basic Sciences (Math, Physics, Chemistry)	20–25 credits	12–15%
Engineering Sciences (Mechanics, EG, etc.)	25–30 credits	15–18%
Core Subjects (Discipline-specific)	60–65 credits	35–40%
Skill Enhancement Courses	15–20 credits	10–12%
Ability Enhancement Courses	6–9 credits	4–6%
Humanities and Social Sciences	10–12 credits	6–8%
Projects, Internships, Capstone, Seminars	15–20 credits	10–12%
Skill-based Courses (Vocational, RPL, etc.)	≥4 credits per exit level	As required
Total	160–165 credits	100%

Students must earn at least 50% of credits from the major discipline to qualify for a B.Tech. degree in that specialization.

4.3 Credit Hour Definitions (UGC/NCrF Standard)

- **1 Credit =**
 - 1 hour of lecture per week (15 hours/semester)
 - 2 hours of laboratory or fieldwork per week (30 hours/semester)
- **Internships, skill courses, MOOCs, etc.** follow equivalent workload norms approved by BoS and Academic Council.

4.4 Course Types and Delivery Modes

(A) Foundation Courses

- Mathematics I & II, Physics, Chemistry, Engineering Drawing, Computer Fundamentals

(B) Core Engineering

- Branch-specific subjects (e.g., Fluid Mechanics for ME, Data Structures for CSE)

(C) SEC/AEC

- **SEC:** Advanced domain topics within discipline
- **AEC:** Cross-disciplinary (e.g., AI for Civil Engineers, IPR, Public Policy)

(D) Skill-based and Vocational Courses

- Mandatory in each exit year

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- Examples: CAD Tools, Welding, Embedded Systems, Python for Data, Solar Installation
- Delivered via in-house training, **NSQF-aligned vendors**, or online platforms

(E) MOOCs and Online Learning

- Up to **40% of course credits per semester** may be earned through UGC-approved platforms (e.g., **SWAYAM, NPTEL**)
- Such courses are integrated with the curriculum through **pre-approved mapping and ABC upload**

4.5 Multidisciplinary, Minor and Honors Options

Type	Credits	Eligibility
Minor Specialization	18–20	From another discipline
Honors Track	20	CGPA ≥ 7.5 and no backlogs
Dual Major / Integrated	> 50% in each	As per institutional policy

- Students may register from **3rd semester onwards**.
- Courses may be regular, online, or ODL as approved by BoS.

4.6 Capstone Project and Internships

- **Capstone Project:** Final year (typically 7th–8th semester); 6–8 credits
- **Internships:** At least **3 mandatory internships** (after 2nd, 4th, and 6th semester); credit-bearing
- Internship credits are reflected under **skill/project category**

4.7 Academic Flexibility and Modular Learning

- Modular curriculum allows **credit accumulation in customized sequence**.
- Suitable for **working learners, dropouts, and re-entry candidates**.
- Bridge courses shall be provided for **interdisciplinary mobility and entry from non-science backgrounds**.

4.8 Language of Instruction and Communication Courses

- English shall be the primary medium of instruction.
- Communication, report writing, and presentation skills shall be embedded through:
 - **Technical Communication courses**
 - **Soft Skill Workshops**
 - **Seminar and Viva Courses**

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4.9 Induction Program

A 3-week mandatory induction program will be conducted at the start of the first semester, including:

- Physical fitness and wellness
- Universal Human Values
- Digital literacy
- Communication skills
- Local area visits
- Mentorship and psychological counseling
- Cultural, literary, and creative activities

4.10 Academic Calendar

The academic calendar shall be as follows:-

I, III, V, VII Semester (Odd)	Session - 1st Aug. to 30th Nov
	Exam - 1st Dec. to 20th Dec.
II, IV, VI, VIII Semester (Even)	Session - 1st Jan. to 10th May
	Exam - 1st May to 20th May

CHAPTER – 5

ATTENDANCE AND EVALUATION

5.1 Attendance Requirements

1. Flexible Attendance Policy:

In line with UGC 2025 regulations and NEP 2020's flexibility principles, the minimum attendance requirements shall be:

- 75% in theory, practical, tutorials, and project courses in **regular mode**
- Reduced minimum attendance (e.g., 50–60%) may be considered for:
 - Students with **blended/online mode**
 - Students engaged in **startups, internships, fieldwork**, or certified online courses
 - Students with **approved RPL/ODL enrolments**

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2. Condonation of Shortage:

- Up to **10% condonation** may be granted by the Dean, Faculty of Engineering for valid reasons (medical, internships, institutional duty).
- In exceptional cases, the Vice-Chancellor may approve condonation beyond 10% on the recommendation of a university-level committee.

3. Attendance Incentives:

- **Attendance > 90%** in a subject may earn bonus marks (up to **5 marks** as internal incentive).
- May be included in **CIE (Continuous Internal Evaluation)**.

5.2 Credit and Evaluation Requirements (UGC 2025)

1. No credit shall be awarded unless the student has been **formally assessed** for learning outcomes.
2. Evaluation will comprise:
 - **Continuous Internal Evaluation (CIE)** (formative)
 - **End Semester Examination (ESE)** (summative)
 - **Alternative assessments** such as viva, practicals, field projects, and presentations
3. Each course will carry a **fixed number of credits**, and assessment must ensure **competency demonstration** for those credits.

5.3 Components of Assessment

Component	Weightage
Continuous Internal Evaluation (CIE)	30%
End Semester Examination (ESE)	70%

- The **Academic Council** may revise weightage distribution in specific cases (labs, design studios, RPL).

5.4 Continuous Internal Evaluation (CIE)

- Conducted by faculty member(s) during the semester.
- Includes:
 - Class tests (objective and descriptive)
 - Assignments and quizzes
 - Group discussions
 - Oral/viva-voce exams
 - Case studies, simulations, and design exercises
 - Seminar, attendance, and class participation

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- Evaluation must be **transparent** and **student-informed**. Assessment plan must be:
 - Shared at course outset
 - Approved by Departmental Academic Committee
 - Retained for academic audit

5.5 Continuous Comprehensive Assessment (CCA)

- **Award of Sessional Marks:** Sessional marks for theory subjects and practical shall be awarded as per the breakup of sessional marks given below:-

Theory Subjects:

- a) Class test will comprise two mid-term test of equal weight age. - 20 Marks
- b) Marks for regular class attendance - 10 Marks

Practical:

- a) Two-mid-term viva-voce test of equal weight age. - 05 Marks
- b) Teacher's assessment (including 5 marks for regular attendance) based on lab record attendance - 10 Marks

- Make-up test may be held for those students who fail to appear in any one of the mid-term class test due to genuine unavoidable reasons, provided prior permission was consented from the Principal.
- A maximum of 10 marks in each subject shall be awarded for attending classes (theory/practical) as per the following norms:

85 % or more attendance	10 Marks
80 % or more but less than 85 % attendance	9 Marks
75 % or more but less than 80 % attendance	8 Marks
70 % or more but less than 75 % attendance	7 Marks
65 % or more but less than 70 % attendance	6 Marks
60 % or more but less than 65 % attendance	5 Marks
51 % or more but less than 60 % attendance	4 Marks
50 % attendance	3 Marks
Less than 50 % attendance	0 Marks



5.6 End Semester Examination (ESE)

- Conducted centrally by the **Controller of Examinations**
- Scheduled at the end of each semester
- May include:
 - **Written exam (offline/online)**
 - **Oral viva**
 - **Project demonstration**
 - **Hybrid assessments**
- Question papers must:
 - Align with **course outcomes (COs)**
 - Cover all Bloom's taxonomy levels (Remember, Understand, Apply, Analyze, Evaluate, Create)
- The marks for seminar, industrial training and educational tour shall be awarded on the following basis:
 - Write-up/Report - 50%
 - Presentation- 50%

5.7 Transparency and Student Rights

- As per UGC 2025, students shall be allowed to:
 - **Access their evaluated answer scripts** on request
 - Raise re-evaluation or review requests through the prescribed format
 - Seek **clarification/explanation** from the course instructor within 7 days of result publication

5.8 Passing Criteria and Promotion

Component	Pass Requirement
Theory Course	40% in CIE + 40% in ESE
Lab/Project/Design Course	50% overall
Internship/Capstone/Skill	Satisfactory grade (Pass/Fail)

- A student must achieve **minimum 4.0 Grade Point (D grade)** to earn credit in any subject.

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- Students with arrears/ backlogs may progress to the next semester but must complete all courses within the maximum duration (7 years).

5.9 Grading System

Marks Range (%)	Letter Grade	Grade Point	Classification
90–100	O (Outstanding)	10	First Class with Distinction
80–89	A+	9	First Class with Distinction
70–79	A	8	First Class
60–69	B+	7	First Class
50–59	B	6	Second Class
45–49	C	5	Pass
40–44	D	4	Pass
< 40	F (Fail)	0	Fail
Absent	AB	0	Fail

- SGPA and CGPA calculated as per UGC 10-point system
- University shall provide a **conversion table** for GPA to percentage and vice versa

CHAPTER – 6

PROMOTION, CREDIT TRANSFER, MINOR/HONORS DEGREES, AND EXIT OPTIONS

6.1 Promotion Policy

1. Semester-to-Semester Promotion

- A student shall be promoted to the next semester **irrespective of backlogs**, provided the academic load per semester is within permissible limits as per curriculum.

2. Year-to-Year Transition Advisory

- For academic advisory purposes, it is recommended that students earn at least **50% of cumulative credits** for smooth progression. However, this is **not mandatory** under the flexible credit system.

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3. Program Completion Window

- Students must complete the program within:
 - 7 years for regular-entry students (first year)
 - 6 years for lateral-entry students (second year)

6.2 Credit Accumulation and Transfer via ABC

1. Students must register on the **Academic Bank of Credits (ABC)** portal and maintain an ABC ID.
2. Credits earned through the following are fully recognized:
 - **Online Platforms** (e.g., SWAYAM, NPTEL)
 - **ODL Mode** (from UGC-DEB-recognized universities)
 - **Vocational Training or Skill Development Courses** (e.g., NSQF, PMKVY)
 - **Recognition of Prior Learning (RPL)** pathways
3. **Credit Transfer Conditions:**
 - Maximum of **40% credits per semester** can be earned through online/ODL/RPL mode.
 - All credit transfer must adhere to **UGC ABC Operational Guidelines (2021, amended)**.
 - ABC records shall be regularly updated by the university's **ABC Nodal Officer**.

6.3 Minor and Honors Specializations

A. Minor Degree

- Students may opt to earn a **Minor** in a different discipline by earning **18–20 additional credits**.
- May include regular/offered electives, MOOCs, or certified online modules.
- Examples:
 - B.Tech. (ECE) with Minor in AI or B.Tech. (ME) with Minor in Entrepreneurship

B. Honors and Honors with Research Track

- Requires **20 additional credits** in advanced-level courses within the major discipline.
- Eligibility:
 - Minimum **CGPA of 7.5**
 - No history of disciplinary action or backlogs

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- **Honors with Research** additionally requires:
 - Completion of **8-credit research project**
 - Presentation/publication in conference/journal

C. Dual Major / Dual Degree

- Permitted if the student earns at least **50% credits in both specializations**
- Subject to approval by the **Board of Studies** and capacity of departments

6.4 Exit Options and Awards (UGC 2025 – National Credit Framework Compliant)

Exit After	Credits Required	Award	Skill Course Required
1 year (2 sem)	40 + 4	UG Certificate in Engineering	Yes
2 years (4 sem)	80 + 4	UG Diploma in Engineering	Yes
3 years (6 sem)	120	B.Sc. in Engineering	No
4 years (8 sem)	160–165	B.Tech. / B.Tech. (Hons.) / Hons. with Research	No

- Each exit is based on **learning outcomes achieved + minimum credits + skill component** as mandated in UGC 2025.
- Exit students will receive a **formal qualification and transcript**.
- **Exit credentials are valid for re-entry.**

6.5 Re-entry and Credit Redemption

1. Students who exit early may **rejoin within 7 years** using their ABC-stored credits.
2. Bridge courses may be required to address **curriculum changes or gap years**.
3. Upon re-entry, students must fulfill the **latest program outcomes and assessment requirements**.

6.6 Curriculum Mobility and Elective Flexibility

- **Open Electives** can be selected from:
 - Other engineering branches
 - Management and law departments
 - Online and interdisciplinary platforms
- Students can **custom-design their degree** using the university's elective catalog and approved MOOCs.

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CHAPTER – 7

INTERNSHIPS, CAPSTONE PROJECTS, AND INDUSTRY LINKAGES

7.1 Rationale and Objectives

The B.Tech. programme shall integrate **experiential learning components** including internships, fieldwork, capstone projects, and apprenticeships to:

- Bridge the gap between academics and industry practices
- Promote hands-on technical competence and 21st-century skills
- Enhance employability and entrepreneurship through real-world exposure
- Fulfill UGC's minimum skill credit requirement (≥ 4 credits per exit level)

7.2 Mandatory Internships and Apprenticeship Framework

As per AICTE and UGC regulations:

Internship Requirements:

Internship	Duration	When	Credits	Purpose
Foundation Internship	2–3 weeks	After 2nd semester	1–2	Community service, NGO, rural immersion
Technical Internship I	4–6 weeks	After 4th semester	2–3	Domain exposure, lab or training work
Technical Internship II	6–8 weeks	After 6th semester	3–4	Industry/Startup/Field Project

- Internships may be conducted in hybrid/remote/on-site mode.
- Students must maintain:
 - Daily activity log
 - Internship completion certificate
 - Internship evaluation form signed by supervisor

Evaluation Rubric (Internship Reports):

Component	Weight age (%)
Daily Log & Attendance	20
Supervisor Assessment	30
Report Quality	25
Viva-Voce / Presentation	25
Total	100



7.3 Apprenticeship or Industry-Integrated Training (Optional)

- Students may opt for UGC-approved apprenticeship programs (up to 1 semester) as per:
 - National Apprenticeship Promotion Scheme (NAPS)
 - AICTE's NEEM/NAPS guidelines
- Recognized as **skill/industry credits** (4–12 credits)
- Can replace one internship or be taken as part of a **minor specialization** or **vocational pathway**

7.4 Capstone Project / Final Year Project

Project Guidelines:

- **Mandatory** for all students in the final year (typically 7th and 8th semesters)
- Team size: **1–4 students**, including interdisciplinary teams
- Nature:
 - Design-based
 - Research-based
 - Innovation/startup-based
 - Industry-sponsored

Project Credits:

- 6–8 credits across two semesters

Project Phases:

1. **Proposal Submission**
2. **Mid-Term Review** (evaluation of methodology and progress)
3. **Final Demonstration & Viva**

Evaluation Components:

Component	Weight (%)
Problem Definition & Relevance	10
Innovation/Originality	20
Methodology & Implementation	30
Report Writing & Documentation	20
Final Viva & Presentation	20
Total	100

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- Projects are mapped to Course Outcomes (COs) and Program Outcomes (POs) for NBA compliance.

7.5 Industry Interaction and Linkages

The institute shall actively pursue:

- **MoUs with industries, R&D labs, and startups for:**
 - Internships
 - Industry mentorship
 - Capstone projects
 - Curriculum co-design
- **Guest lectures, tech talks, and mentoring by industry experts**

Faculty Involvement:

- Each student/project group shall be assigned a **faculty mentor** and, where possible, an **industry co-guide**.

7.6 Startup and Innovation-Based Projects

- Students may convert their capstone project into a startup prototype under the university's Incubation Cell.
- Eligible for:
 - Project credit equivalence
 - Recognition as innovation or entrepreneurship elective
 - Support from NISP, IIC, or funding cells

7.7 Documentation and Credit Submission

- All internship/project records must be:
 - Digitally uploaded to the university LMS/portal
 - Credited into ABC for future use or transfer
 - Retained for academic audit and industry verification

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CHAPTER – 8

GRADUATION REQUIREMENTS, RESULTS, AND AWARD OF DEGREE

8.1 Minimum Requirements for Award of B.Tech. Degree

A student shall be eligible for the award of the **Bachelor of Technology (B.Tech.)** degree if:

1. Credit Completion:

- Successfully earned a **minimum of 160–165 credits**, as prescribed by the curriculum.
- At least **50% of total credits must be from the major discipline.**

2. Mandatory Components Passed:

- All core, elective, and skill courses (including internships, projects, and practicals)
- UGC-mandated **skill-based courses** at each exit level (minimum 4 credits)

3. Programme Completion Timeline:

- Within **7 years** from date of admission (6 years for lateral entry)
- Early completion allowed under **Accelerated Degree Programme (ADP)**

4. Administrative Compliance:

- Cleared all dues to the university
- Returned books/equipment borrowed from university departments

5. Minimum Academic Performance:

- Secured a minimum **CGPA of 5.0** (or 50%) at the end of the programme

8.2 Classification of Results and CGPA Ranges

CGPA Range	Letter Grade	Division/Class
≥ 7.5	A++	First Class with Distinction
6.5 – 7.49	A+	First Class
5.5 – 6.49	A	Second Class
5.0 – 5.49	B	Pass
< 5.0	F	Fail – Not Eligible for Degree Award

Distinction is awarded only if the candidate has passed all subjects in the first attempt.

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8.3 Calculation of SGPA and CGPA

- SGPA (Semester Grade Point Average):

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

- CGPA (Cumulative Grade Point Average):

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

Where:

- C_i = number of credits for the i^{th} course
- G_i = grade point obtained in that course

The university shall provide a **GPA-to-Percentage Conversion Table** as per UGC norms.

8.4 Exit Awards and Exit Credentials

Students who exit the B.Tech. programme at intermediary levels shall receive:

Exit After	Credits	Credential Awarded
1 year (2 semesters)	40 + skill	Undergraduate Certificate in Engineering
2 years (4 semesters)	80 + skill	Undergraduate Diploma in Engineering
3 years (6 semesters)	120	B.Sc. in Engineering Degree
4 years (8 semesters)	160–165	B.Tech. / B.Tech. (Hons.) / B.Tech. (Hons. with Research)

Each credential shall be accompanied by a National Skills Qualification-aligned transcript and recorded on the Academic Bank of Credits (ABC).

8.5 Re-entry and Completion of Degree

1. Students who exited at any point may **re-enter within 7 years**, subject to:
 - Valid credits in ABC
 - Curriculum compatibility
 - Completion of bridge modules if curriculum has changed
2. Upon fulfilling all requirements, such students are awarded the **B.Tech. degree** or appropriate exit credential.

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8.6 Award of Honors, Minor, and Research Degree

Track	Requirements
B.Tech. with Honors	+20 credits in major discipline; CGPA $\geq$ 7.5
B.Tech. with Minor	+18–20 credits in other discipline
B.Tech. with Research	+8-credit research project + CGPA $\geq$ 7.5

These are mentioned on the degree certificate and transcript.

8.7 Awarding of Degree and Transcript

Upon successful completion:

- The student shall receive:
 - Degree Certificate (printed + digital via DigiLocker)
 - Consolidated Grade Sheet with CGPA
 - Transcript showing all credits, levels, modes of learning, and skill tags
- Awarding is done during:
 - Annual Convocation
 - Digitally issued within 30 days via UGC Digilocker/NAD as per UGC 2025

8.8 Improvement, Grace Marks, and Re-Evaluation

1. Improvement:

- Allowed for **2 theory papers** (Grade < B), once only.
- Final marks are based on the better of two attempts.

2. Grace Marks:

- Upto **5 grace marks** may be awarded in one subject to a final year student if:
 - All other courses are cleared
 - Student is short of passing marks only in that paper, or
 - As per prevailing University policy.

3. Re-evaluation:

- Students may apply for **re-evaluation of ESE answer scripts**.
- Applications to be submitted within **10 days of result declaration**, or
- As per prevailing University policy.

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CHAPTER – 9

AMENDMENT, INTERPRETATION, AND EMERGENCY PROVISIONS

9.1 Amendment and Review of Ordinance

1. The **B.Tech. ordinance** shall be reviewed every **3 to 5 years** or earlier if required, to incorporate:
 - Changes in AICTE/UGC/NEP/NBA guidelines
 - Academic innovations or new regulatory mandates
 - Stakeholder feedback (faculty, students, industry)
2. Any **amendment** to this ordinance must be:
 - Initiated by the **Board of Studies (BoS)** of the concerned department
 - Approved by the **Academic Council** of the university
 - Notified officially and shall be applicable **prospectively**, unless otherwise stated

9.2 Interpretation of Ordinance

1. In case of any **ambiguity, contradiction, or dispute** regarding the interpretation of this ordinance:
 - The matter shall be referred to the **Dean of Engineering/Chairman of BoS**, who shall consult relevant regulatory documents.
 - The **Vice-Chancellor's decision** in such cases shall be **final and binding**.

9.3 Emergency Provisions

1. In the event of any **unforeseen situation** such as:
 - Pandemic or natural calamity
 - National emergencies or administrative shutdowns
 - Technical issues disrupting the academic process

The **Vice-Chancellor is empowered** to:

- Modify academic processes (exams, classes, internships)
- Permit deviations from the ordinance on a **temporary basis**
- Issue notifications to that effect, which must be **ratified by the Executive Council** subsequently



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9.4 Power of the University

- The university reserves the right to introduce **new policies, academic formats, technology platforms, or credit systems** for better implementation of NEP and OBE, including:
 - Fully online credit-based courses
 - AI-based academic tracking
 - Block chain-based degree issuance
- All such changes shall comply with **regulatory frameworks** and will be communicated officially.

9.5 Repeal and Savings

- All previous ordinances relating to the B.Tech. program at Faculty of Engineering and Technology **stand repealed** from the date of enforcement of this ordinance (academic session 2025–26).
- However, students already admitted prior to this ordinance shall continue to be governed by the **ordinance(s) in effect at their time of admission**, unless they opt for migration.



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