

Academic year 2026-27 onwards

MTU

Faculty of Engineering  
Manipur Technical University

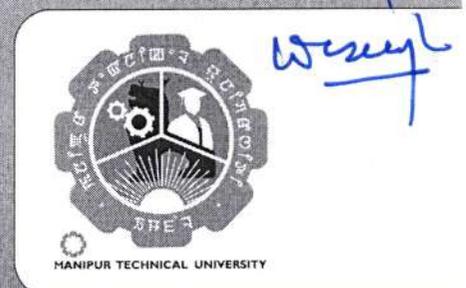
# The Ordinance for Postgraduate Programmes Leading to the Degrees of Master of Technology



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Ordinance **14**

The Manipur Technical University Ordinances, 2016



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## ORDINANCE 14

# The Ordinance for Postgraduate Programmes Leading to the Degrees of Master of Technology

(Approved by the Board of Management vide Resolution No. 05/20.01.2026)

### Preamble

In exercise of the powers conferred by Section 43 and Section 44 of the Manipur Technical University Act, 2016, the Board of Management hereby enacts this Ordinance governing postgraduate programmes leading to the degrees of Master of Technology.

## 1 Short Title, Application, and Commencement

- 1.1 This Ordinance shall be called *The Ordinance for Postgraduate Programmes Leading to the Degrees of Master of Technology*.
- 1.2 This Ordinance establishes the academic and administrative framework governing all postgraduate programmes under the Faculty of Engineering at Manipur Technical University, ensuring alignment with the University's academic policies, the directives of the University Grants Commission (UGC), the All India Council for Technical Education (AICTE) and the National Education Policy (NEP) 2020.
- 1.3 This Ordinance shall apply to all postgraduate programmes under the Faculty of Engineering at Manipur Technical University, including any new disciplines introduced in the future.
- 1.4 This Ordinance shall come into force from the academic year 2026-2027.
- 1.5 The medium of instruction for all postgraduate programmes shall be English, except for language programmes or subjects requiring a different medium. However, efforts shall be made, wherever feasible, to promote the use of regional languages in teaching-learning processes, academic support, and communication.

## 2 Definitions

- 2.1 **ABC (Academic Bank of Credits):** A digital credit repository system that facilitates the storage, accumulation, and transfer of academic credits earned by students across institutions.
- 2.2 **Academic Council:** The body of the University empowered to take decisions regarding all academic matters.
- 2.3 **Academic year:** A structured period, typically spanning two semesters from July to December (odd semester) and January to June (even semester), during which academic activities, coursework, examinations, and assessments are conducted as per the academic calendar.
- 2.4 **AICTE (All India Council for Technical Education):** The statutory body overseeing planning, regulation, and standards in India's technical education,

- including engineering, technology, management, architecture, and applied arts.
- 2.5 **BoM (Board of Management):** The highest administrative body of the University responsible for policy-making, governance, and overall strategic direction.
- 2.6 **BoS (Board of Studies):** The academic body within a department tasked with the design, review, and continuous enhancement of the curriculum, course content, and evaluation methods for postgraduate programmes.
- 2.7 **CBCS (Choice-based credit system):** A flexible academic framework that allows students to choose courses from a predefined set of core, elective, and skill-based subjects, enabling interdisciplinary learning and academic mobility.
- 2.8 **CCFPP (Curriculum & Credit Framework for Postgraduate Programmes):** A regulatory framework developed by the UGC that establishes the curriculum structure, credit allocation, and academic flexibility to enhance the quality and coherence of postgraduate education in India.
- 2.9 **CGPA (Cumulative grade point average):** It represents the cumulative academic performance of a student at the end of a semester, based on all courses in the preceding semesters.
- 2.10 **Course categories:** Includes programme core courses (PCC), programme elective courses (PEC), open elective courses (OEC), and programme research projects (PRP).
- 2.11 **Credit:** A standardised unit of academic measurement, as defined by the National Credit Framework (NCrF), that represents the total student workload, including lectures, tutorials, practical sessions, self-study, and assessments, ensuring uniformity and flexibility in credit accumulation and transfer.
- 2.12 **Credit transfer:** The mechanism by which the HEIs registered with the ABC are able to receive or provide prescribed credits to individual Academic Bank Accounts in adherence to the norms for the courses undergone / experiences gained by the students through the offline/online/ODL/Private/RPL mode.
- 2.13 **Examination Disciplinary Committee (EDC):** A university-appointed body that investigates student misconduct, including academic malpractices, and determines appropriate penalties such as fines, suspension, or debarment.
- 2.14 **GATE (Graduate Aptitude Test in Engineering):** A national-level examination conducted by IISc and IITs for admission to postgraduate programmes and related recruitments.
- 2.15 **HoD:** Head of the Department, the academic leader responsible for overseeing departmental operations, curriculum implementation, and facilitating administrative processes.
- 2.16 **Learning outcomes:** Comprises programme learning outcomes (PLOs) and course learning outcomes (CLOs).
- 2.17 **LOCF (Learning outcome-based curriculum framework):** A well-structured framework that outlines learning outcomes, essential skills, and competencies in

alignment with national higher education standards, ensuring a comprehensive and outcome-driven academic experience.

- 2.18 **MOOCs (Massive open online courses):** Online courses often available through platforms like SWAYAM and NPTEL.
- 2.19 **NCrF (National Credit Framework):** A unified framework that integrates academic and vocational education, enabling credit accumulation, transfer, and recognition across various learning pathways.
- 2.20 **NEP (National Education Policy):** A comprehensive policy framework introduced by the Government of India to reform and modernise the education system, emphasising multidisciplinary learning, flexibility, skill development, and holistic education.
- 2.21 **NHEQF (National Higher Education Qualifications Framework):** A nationally recognised framework defining qualification levels, learning outcomes descriptors, and graduate attributes for higher education programmes.
- 2.22 **NPTEL (National Programme on Technology Enhanced Learning):** A collaborative e-learning initiative by IITs and IISc, offering online certification courses in science, technology, engineering, and mathematics (STEM).
- 2.23 **Postgraduate programme:** A master's programme leading to the degree of Master of Technology, offered by the Faculty of Engineering at Manipur Technical University.
- 2.24 **RPL (Recognition of Prior Learning):** A process by which a student's prior formal, non-formal, or informal learning, acquired through work experience, certifications, or other means, is assessed and credited towards a programme, subject to University guidelines.
- 2.25 **Semester:** A structured academic term comprising coursework, assessments, and evaluation, with a minimum duration as prescribed by University guidelines.
- 2.26 **SGPA (Semester grade point average):** The measure of a student's academic performance in a single semester, calculated as the weighted average of grade points earned in all courses during the semester.
- 2.27 **Supervisor:** A faculty member assigned to guide and oversee the research work of a postgraduate student.
- 2.28 **SWAYAM (Study Webs of Active-Learning for Young Aspiring Minds):** A Government of India initiative providing free online courses across various disciplines, with credit transferability.
- 2.29 **Thesis/Dissertation:** A structured research report submitted as a requirement for the completion of the postgraduate programmes.
- 2.30 **UGC (University Grants Commission):** The statutory body responsible for coordinating, determining, and maintaining the standards of higher education in India.
- 2.31 **University:** Refers to Manipur Technical University (MTU), including all its academic and administrative units.

### 3 Programme Structure

3.1 **Programme design:** The following postgraduate programmes shall be offered as a 2-year Master's programme called Master of Technology (MTech):

Table 1: List of postgraduate programmes by Faculty of Engineering.

Sl	Department	Specialisation
1	Civil Engineering	Structural Engineering
2	Computer Science and Engineering	Computer Science and Engineering
3	Electronics and Communication Engineering	Microelectronics and VLSI Design
4	Electrical Engineering	Electric Vehicle Technology
3	Mechanical Engineering	Material and Manufacturing Technology

3.2 **Programme duration:** The normal durations of the postgraduate programmes shall be two years (four semesters). Each programme shall be extendable by a maximum of two academic years beyond its normal duration.

3.3 A student who exits a 2-year Master's programme after successfully completing the first year and a 2-credit summer internship shall be awarded a Postgraduate Diploma in (field of study).

### 4 Eligibility Criteria and Categories of Students

4.1 The qualification required for the MTech programmes for different disciplines are given below:

- (a) **Civil Engineering:** Bachelor's degree in Civil Engineering from a recognized Institution, and a valid Graduate GATE score in Civil Engineering.
- (b) **Computer Science & Engineering:** Bachelor's degree in Engineering/Technology or equivalent in an appropriate area or MSc (Computer Science/Information Technology) or MCA from a recognized Institution, and a valid GATE score in Computer Science and Engineering.
- (c) **Electrical Engineering:** Bachelor's degree in Electrical Engineering or equivalent, and a valid GATE score in Electrical Engineering.
- (d) **Electronics & Communication Engineering:** Bachelor's degree in Electrical Engineering or Electronics & Communication Engineering or equivalent or MSc (Electronics), and a valid GATE score in Electronics & Communication Engineering or Electrical Engineering.
- (e) **Mechanical Engineering:** Bachelor's degree in Mechanical Engineering from a recognized Institution and a valid GATE score in Mechanical Engineering.

4.2 Candidates applying for the postgraduate programmes must have obtained at least 60% aggregate marks (first class) or an equivalent CGPA in the relevant qualification



## 5 Curriculum and Credit Framework

required for admission. A relaxation of 5% in marks or an equivalent CGPA shall be provided to candidates from Scheduled Castes (SC), Scheduled Tribes (ST), Other Backward Classes (OBC) and Persons With Disabilities (PWD).

- 4.3 The University shall admit students in MTech programmes in the following categories: **Regular, Sponsored, Project Staff, and Part-time**. A change of category shall be permitted only from **Regular** or **Project Staff** to **Part-time**, subject to the submission of a No Objection Certificate (NOC) from the employer.
- 4.4 **Regular:** A student in this category pursues the MTech programme on a full-time basis. Such a student may receive an assistantship from the University or from any other recognised funding agency, subject to eligibility.
- 4.5 **Sponsored:** A student in this category is sponsored by a recognised R&D organisation, academic institution, government department, or industry to pursue the MTech programme in the University on a full-time basis. The University does not provide any assistantship to such a student.
- 4.6 **Project Staff:** A student in this category is employed on a sponsored project in the University and is admitted to the MTech programme to study on either a full-time or part-time basis. The remaining duration of the project at the time of admission shall be at least one year. If the project is completed before the student completes the MTech programme, the student's category shall be converted to **Part-time**.
- 4.7 **Part-time:** A student in this category is a professionally employed person (including members of staff of Manipur Technical University) who pursues the MTech programme whilst continuing with his or her professional duties. The University does not provide any assistantship to such a student.
- 4.8 Candidates applying under the Sponsored or Part-time categories must be regular employees of the sponsoring organisation and possess a minimum of two years of professional experience in the relevant field.

## 5 Curriculum and Credit Framework

- 5.1 A minimum of 80 credits shall be required for the completion of MTech programmes of which 40 credits shall be devoted to research or project work.
- 5.2 The minimum semester credit load for a regular MTech programme shall be 20 credits, whereas for a part-time MTech programme it shall be 12 credits.
- 5.3 The credit distribution for each MTech programme in regular mode is given below.

Table 2: Minimum credit requirements for each MTech programme (regular).

Year	Course level	Coursework	Research	Total credits
First year	500	40	0	40
Exit option as PG Diploma after completion of 2-credit summer internship.				
Second year	600	0	40	40

## 5 Curriculum and Credit Framework

- 5.4 The BoS shall develop programme learning outcomes (PLOs) aligned with the learning outcome descriptors for higher education qualifications at level 7 of the NHEQF, ensuring academic rigour, integration of research, and compliance with outcome-based education (OBE) principles.
- 5.5 For each postgraduate programme, the BoS of the respective department shall develop a *learning outcome-based curriculum framework* (LOCF), subject to the provisions outlined in this Ordinance, the guidelines of the UGC and AICTE, and the recommendations of the NEP 2020.
- 5.6 The LOCF shall be integrated with *choice-based credit system* (CBCS), allowing students the flexibility to select courses that align with their interests and career aspirations, thereby promoting a personalised and enriching learning experience.
- 5.7 To provide a well-structured, flexible, and CBCS-oriented curriculum, each programme shall comprise of the following types of courses:
- Programme core course (PCC), a mandatory course (4 credits) that is required by a student to complete the Master's programmes. An additional one to two credits may be allotted for tutorials or practicals.
  - Programme elective course (PEC), a course (3 credits) that a student chooses from a list of such courses offered by the concerned department. An additional one to two credits may be allotted for tutorials or practicals.
  - Open elective course (OEC), a course (2 credits) that a student chooses from a list of such courses offered by other departments.
  - Programme research project (PRP), a research project or dissertation (18 credits for phase 1 and 20 credits for phase 2).
- 5.8 The overall credit structures across the course categories for 2-year Master's programme are given below:

Table 3: Overall credit structure for 2-year Master's programme.

Semester	PCC (4 credits)	PEC (3 credits)	PRP (20 credits)	OEC (2 credits)	Total (minimum)
I	PCC 1, PCC 2, PCC 3*	PEC 1, PEC 2	-	OEC 1	20
II	PCC 4, PCC 5, PCC 6	PEC 3, PEC 4	-	OEC 2	20
Summer internship (SI) of 2 credits. Exit option as PG Diploma in (field of study).					
III	-	-	SI and PRP (phase 1)	-	20
IV	-	-	PRP (phase 2)	-	20

\*PCC 3 shall be a dedicated course on Research Methodology.

- 5.9 Wherever applicable, courses on skill enhancement, Indian Knowledge Systems (IKS), and other value-added or enrichment offerings shall be encouraged and may be reflected in the LOCF, subject to the recommendations and guiding principles of the NEP 2020.
- 5.10 Every course shall have a unique code in the format XXxxx, where XX denotes the field of study and xxx indicates the course level. Refer to Section 5.3 for details on course levels. Example: CE501, where CE indicates Civil Engineering, and



501 signifies a course typically offered in the first semester of a 2-year Master's programme in Civil Engineering.

- 5.11 Each course shall have a clearly defined LTPC (Lecture-Tutorial-Practical-Credit) structure and explicitly stated course learning outcomes (CLOs) that are seamlessly aligned with the PLOs to ensure academic coherence and promote an outcome-driven learning experience. Additionally, a course articulation matrix (CLO-PLO mapping) shall be included for each course.
- 5.12 The research component shall be carried out in the form of a project culminating in the submission of a thesis or dissertation, spanning two consecutive semesters.
- 5.13 The allotment of projects and open elective course shall be based on CGPA, and the preference of the student.
- 5.14 Students shall have the option to accumulate and transfer earned credits through the Academic Bank of Credits (ABC), thereby facilitating seamless mobility across institutions and programmes, subject to the provisions outlined in Section 9.
- 5.15 The LOCF shall be reviewed and revised periodically to ensure academic relevance, disciplinary growth, and alignment with national standards. It shall also be integrated with suitable teaching, learning, and evaluation methods as per this Ordinance, UGC and AICTE guidelines, and NEP 2020 recommendations. The respective BoS shall be responsible for its design, development, and ongoing updates.
- 5.16 The department proposing a postgraduate programme shall, through BoS, submit the finalised LOCF along with the PLOs to the Dean of the concerned Faculty. Upon endorsement by the Dean, the LOCF and PLOs shall be submitted to the Academic Council for review. The Academic Council shall examine the submission and forward its recommendations to the BoM for final approval.

## 6 Admission and Reservation Policies

6.1 Admission to postgraduate programmes at the University shall comply with the directives issued by the UGC, AICTE and the Government of Manipur from time to time.

6.2 The selection criteria for admission to postgraduate programmes shall be governed by the regulations prescribed by the UGC, AICTE, or any other competent authority, as amended from time to time. Where applicable, admission shall be based on a valid GATE score. Seats remaining vacant due to the non-availability of candidates with a valid GATE score shall be filled through an entrance examination conducted in accordance with the provisions of this ordinance, followed by an interview.

6.3 The intake capacity of a postgraduate programme offered by a department of the Faculty of Engineering is 15. Seats shall be reserved for candidates belonging to reserved categories in accordance with the prevailing guidelines issued by the Government of Manipur from time to time.

6.4 The Academic Council shall periodically review and determine the eligibility criteria, other admission requirements, and intake capacity for the University's postgraduate programmes.

## 7 Fees and Financial Information

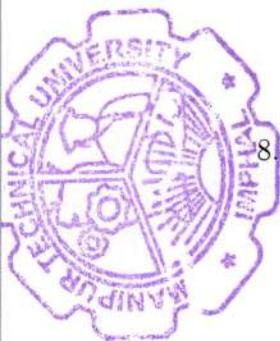
- 7.1 All students admitted to postgraduate programmes shall be required to pay the prescribed fees as determined and notified by the University from time to time.
- 7.2 The University shall publish the detailed fee structure, including all applicable components, on its official website and in the University prospectus well in advance of the commencement of each academic year.
- 7.3 Fees for international students shall be as prescribed by the University and may differ from those applicable to Indian nationals, in accordance with UGC, AICTE and Ministry of External Affairs guidelines.
- 7.4 A student who fails to clear dues within the specified timeline may be barred from course registration, issuance of admit cards, appearance in examinations, or access to academic records. Financial clearance shall be required for graduation, issuance of final transcripts, or award of degree.

## 8 Enrolment and Course Registration

- 8.1 Every student must enrol and register for courses at the beginning of each semester through the online academic portal, within the dates specified in the academic calendar. Compliance with the registration deadline is mandatory for participation in classes, assessments, and examinations.
- 8.2 All course selections shall be submitted online and are subject to digital review and approval by the HoD or the Coordinator of the relevant specialisation or programme.
- 8.3 Students shall be permitted to enrol and register for courses only if they:
  - (a) have cleared all University and hostel dues from previous semesters,
  - (b) have paid the required fees for the current semester, and
  - (c) are not debarred from enrolment or course registration due to disciplinary action or any other specified reason.
- 8.4 A student shall be permitted to register for courses of the third or subsequent semesters provided that the CGPA at the end of the preceding semester is at least 5.0 and the student has earned a minimum of 50% of the total prescribed credits up to that stage. Students who do not satisfy these criteria shall be barred from further course registration until the deficiency is remedied by clearing the backlog courses. Such students must first register for and successfully complete their pending courses before being allowed to enroll in higher-semester courses. This restriction shall not apply to course registration for the first or second semester.

## 9 Flexibility and Credit Transfer

- 9.1 The University shall facilitate credit transfer for postgraduate programmes in accordance with the ABC, the NCrF and the guidelines issued by the UGC and AICTE, ensuring flexibility and academic mobility.



## 10 Attendance Requirement

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- 9.2 A student may pursue two postgraduate programmes, including those offered through online modes, simultaneously, subject to the following conditions:
- (a) Both programmes may be undertaken in full-time physical mode, provided that there is no overlap in class timings or academic schedules between the two programmes.
  - (b) Alternatively, a student may enrol in one full-time programme in physical mode and another through Open and Distance Learning (ODL) or online mode.
- 9.3 The Academic Council shall be responsible for overseeing the recognition, equivalence, and transfer of credits earned through recognised institutions, approved online platforms such as SWAYAM, NPTEL, and MOOCs, internships and research projects, ODL, and Recognition of Prior Learning (RPL).
- 9.4 Credit transfer shall be subject to prescribed limits and curriculum alignment, with approvals governed by the Academic Council.
- 9.5 Students seeking credit transfer must submit a formal request to the concerned HoD. The HoD shall forward the request to the BoS for a feasibility assessment and deliberation. Based on its evaluation, the BoS shall submit its recommendation to the concerned Faculty. If endorsed by the Faculty, the Dean shall forward the recommendation to the Academic Council for final approval.

## 10 Attendance Requirement

- 10.1 The duration of each semester shall be such that the number of effective teaching and learning days is 90.
- 10.2 The percentage of attendance for all students shall be calculated from the date of commencement of classes, regardless of their date of registration. However, for first-semester (first-year) students, attendance shall be counted from either the date of admission to the University or the date of commencement of classes, whichever is later.
- 10.3 Students must maintain a minimum attendance of 75% in each course. Attendance shall be counted up to the last instructional day of the semester, which shall precede the end-term examinations by at least three working days to facilitate the processing of admit cards and other examination-related formalities.
- 10.4 Students who fail to meet the minimum attendance requirement shall not be permitted to appear for the end-term examination in the respective course and shall be awarded an F grade.
- 10.5 For attendance calculation, each scheduled practical class shall be considered as a single unit, regardless of the number of contact hours.
- 10.6 If a student is absent for a short duration of up to one week, a leave application must be submitted to the concerned HoD, clearly stating the reason for the leave and attaching supporting documents. The HoD has the authority to approve or reject such leave applications, based on the validity of the reason and the supporting documents provided. If granted, the student shall be marked as absent during

the leave period; however, the approved leave duration shall still be considered for attendance calculation. The student must still meet the minimum 75% attendance requirement to be eligible for the end-term examination.

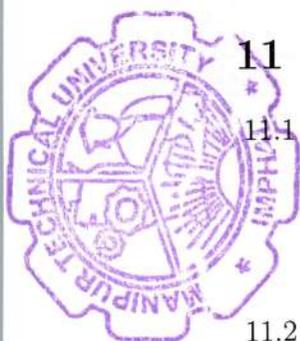
- 10.7 If the period of absence exceeds one week, a prior leave application with supporting documents must be submitted to the Dean of the concerned Faculty through the HoD. The Dean shall decide on the leave based on the HoD's recommendation and provided that the student's aggregate attendance is at least 75%, calculated after excluding the approved leave period from the total number of instructional days.
- 10.8 If a student remains continuously absent from the University for more than four weeks without prior intimation to the Dean of the concerned Faculty, their enrolment for that semester shall be automatically cancelled. However, in exceptional circumstances, the student may submit an appeal for reinstatement, which shall be subject to the approval of the Dean of the concerned Faculty.
- 10.9 A student participating in officially approved extracurricular or academic activities, including sports, cultural events, seminars, workshops, conferences, trainings, short-term courses, interviews arranged through the Placement Cell, NCC/NSS camps, industrial visits, student governance, or other university-sanctioned activities, shall be considered on duty for up to five working days per semester. Prior approval from the HoD is required, and the period of absence shall be recorded as present for attendance calculation.
- 10.10 Academic leave of up to six months for collaborative project work may be granted to a student upon submission of a formal request, along with a consent form from the collaborating organization, to the HoD. The HoD, following a review by the BoS, shall forward the application with a specific recommendation to the concerned Dean. The Dean shall be the final approving authority for all requests falling within the scope of this provision.
- 10.11 The HoD shall ensure that the attendance record of each student, detailing the percentage of attendance in every registered course, is verified and submitted to the CoE within one working day after the last instructional day, to facilitate the timely processing of admit cards and other examination-related procedures.

## 11 Assessment and Evaluation

11.1 Evaluation in postgraduate programmes shall integrate the following three key components: *continuous and comprehensive evaluation* to ensure holistic and ongoing assessment; a *criterion-based grading system* to promote fairness and transparency; and *learning outcome-based evaluation* aligned with the principles of outcome-based education (OBE).

11.2 Each course, irrespective of its type or credit count, shall be evaluated out of 100 marks. Assessment shall encompass both formative evaluation, conducted through a structured internal assessment framework, and summative evaluation, comprising midterm and/or end-term examinations.

11.3 Question papers of all examinations shall normally be set and answered in the English language. However, for courses in languages or literature, question papers



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may be set and answered in the respective languages either fully or partially, in accordance with the pedagogical objectives and requirements of the course.

- 11.4 The weightage distribution for assessment and evaluation is given in the following tables. If allocated marks result in fractions, they may be adjusted to the nearest integer while ensuring the total remains 100, and the changes shall be reflected in the LOCF.

Table 4: Mark distribution for assessment and evaluation of all theory courses.

Sl	Component	Weightage (%)
1	Internal assessment	20%
2	Midterm evaluation or examination	30%
3	End-term evaluation or examination	50%

Table 5: Mark distribution for assessment and evaluation of all projects and practicals.

Sl	Component	Weightage (%)
1	Internal assessment	40%
2	End-term evaluation or examination	60%

- 11.5 The durations of the midterm and end-term examinations for a course shall ordinarily be 90 minutes and 120 minutes, respectively. However, depending on the nature of the course, these durations may be adjusted. The specific durations for midterm and end-term evaluations or examinations shall be indicated in the LOCF.
- 11.6 Internal assessment of a course includes, but is not limited to, the following components: class participation and conceptual engagement, assignments and research-based investigations, quizzes and analytical assessments, presentations and seminars, and project work or case studies.
- 11.7 In addition to the standard components, the internal assessment for a project in postgraduate programmes includes the following key elements: comprehensive literature review and clear problem definition, structured midterm progress report and well-justified methodology, research consistency, adherence to objectives, and integration of supervisor feedback, originality and innovative contributions, practical implementation or application of concepts, and the quality of the final report and presentation.
- 11.8 The internal assessment for project work shall be based on evaluation of project work by a committee consisting of the HoD concerned, guide of the project work and a senior teacher of the Department. The internal assessment mark shall bear the signature of all the members of the committee.
- 11.9 Additionally, the internal assessment for a practical course in postgraduate programmes includes the following key components: proficiency in executing experiments or computational tasks, effective application of theoretical concepts, problem-solving and troubleshooting skills, accurate analysis, logical interpretation, and validation of results, adherence to ethical practices and safety compliance, maintenance of an auxiliary notebook for recording observations and methodologies,

and clarity, organisation, and completeness of documentation and report quality.

11.10 The BoS may establish a detailed mark distribution for the components of internal assessment within the corresponding LOCF.

11.11 The end-term evaluation of theory courses follows an outcome-based approach aligned with revised Bloom's taxonomy, ensuring a well-balanced assessment across various cognitive levels. Each department shall define the distribution of cognitive levels and question difficulty for each course in the LOCF.

11.12 The end-term evaluation of the project consists of the following components:

(a) **Final project report (40 marks):** This component shall assess the student's ability to formulate a clear research problem, undertake a critical review of relevant literature, apply appropriate methodologies and theoretical frameworks, and carry out rigorous analysis and interpretation. It shall also evaluate the conception, design, development, and implementation of any model, algorithm, hardware, software, system, prototype, design, technique, process, product, or patent that constitutes part of the research contribution. Furthermore, it shall consider the clarity, organisation, and academic presentation of the report, the originality, significance, and potential impact of the research output, and adherence to established academic, professional, and ethical standards, ensuring depth, innovation, and coherence throughout the work.

(b) **Viva voce (20 marks):** This component shall evaluate the student's clarity of communication, articulation of research objectives, and ability to present, justify, and demonstrate the methodology, technical content, and any developed model, algorithm, hardware, software, system, prototype, design, process, product, or patent. It shall also assess the overall structure, coherence, and effectiveness of the presentation; the student's capacity for critical and analytical thinking; and their ability to defend and respond effectively to questions during the interactive session.

11.13 The final project report, presented as a thesis or dissertation, along with the viva voce, shall be evaluated by a committee constituted and chaired by the HoD. The committee shall include the HoD, the supervisor, at least one faculty member from the department, and an external expert appointed by the Vice-Chancellor, or by an officer authorised by the Vice-Chancellor, from a panel recommended by the HoD. In the case of a two-semester research project, the first part shall culminate in the presentation of a progress report, which shall serve as the final project report for that semester and shall be followed by a viva voce.

11.14 The end-term evaluation of projects shall follow predefined rubrics and criterion-referenced assessment, with each department required to establish detailed criteria in the LOCF.

11.15 If a student's performance in the final project report is found to be unsatisfactory, an F grade shall be given temporarily. The student shall be given one opportunity to revise and resubmit the report within one month from the date of result notification, under the guidance of the same supervisor.

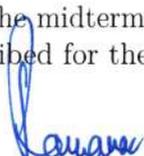
11.16 In exceptional cases, an extension for dissertation submission may be granted for up

to three months by the Dean of the concerned Faculty, based on the recommendation of the BoS. During this period, the student shall receive an Ab grade, and the viva-voce must be completed within the extension. Students granted an extension shall not be eligible for medals or prizes, except in cases of medical leave.

- 11.17 A plagiarism check is compulsory, with a permissible similarity index not exceeding 20%. Reports exceeding this limit require revision or may be rejected. The student shall submit the thesis in spiral form, providing one copy for each examiner, to the HoD within the timeline notified by the HoD. Upon successful completion of the end-term evaluation and incorporation of all examiner remarks, the final thesis shall be submitted by the student in the manner outlined in Section 23.
- 11.18 For the end-term evaluation of practical courses, each department must establish, within the LOCF, a detailed mark distribution for all components of the course, specifying for each component whether it shall be assessed by an internal examiner, an external examiner, or without an examiner, as applicable. This evaluation, including the viva-voce, shall be evaluated by a committee constituted by the HoD. The committee shall be chaired by the course instructor or lab supervisor and shall include, where applicable, an external expert appointed by the Vice-Chancellor, or by an officer authorised by the Vice-Chancellor, from a panel recommended by the BoS.
- 11.19 For backlog examinations, the latest version of the syllabus will be used for paper setting. Hence for a particular examination season the same paper shall be used for both regular and backlog students. However, a separate backlog paper will be set only in case of the title or credits changes. With prior permission of HoD, the student may attend classes to cover new topic with a convenient batch or any arrangement as provided therein.
- 11.20 Students need to appear in the practical examination of the backlog courses where no separate credit is assigned for practical. In such cases where separate credit is assigned to the practical of those backlog courses, students need not to appear in the practical examination provided he or she has not obtained Ab or F grade. A student awarded Ab grade in a course need to appear both theory and practical examination.
- 11.21 It is mandatory for students to appear in the end-term examination for both theory and laboratory courses (if conducted). Failure to appear for the end-term examination shall result in a temporary Ab grade, which may be replaced by an F grade if the student does not qualify for the next scheduled end-term examination in the following academic year.

## 12 Guidelines for Paper Setting

- 12.1 The question paper for examination of a course shall be set by the faculty member who is teaching that course and that he or she shall also be the evaluator.
- 12.2 The question papers for the midterm examination shall be based on at least 50% of the course content prescribed for the semester.



- 12.3 The question papers for the end-term examination shall be based on the total course content prescribed for the semester.
- 12.4 The question papers for the midterm and end-term examinations shall be set in such a manner to encompass the total course content covered with limited internal choices so as to make it imperative for the student to study the prescribed course content in full and deter them from selective study.
- 12.5 The paper setter shall set the question paper for the midterm examination in the prescribed format and shall arrange to make adequate number of copies/printouts, which shall be submitted under sealed cover marked as **Confidential** to the HoD or the Director of the Centre, at least ten days prior to the commencement of the midterm examination.
- 12.6 Each paper setter shall be responsible for ensuring secrecy and confidentiality of the question paper set by him or her.
- 12.7 For midterm examination the CoE shall keep the question papers received from the paper setters in the safe custody till the date of examination and shall arrange to issue the same on the date of examination to the invigilator concerned.
- 12.8 The paper setter for the end-term examination shall set the question paper in the prescribed format and shall submit the same under sealed cover marked as **Confidential** to the CoE, at least fifteen days prior to the commencement of the end-term examination.
- 12.9 The question papers set by the paper setters shall be reviewed in the meeting of the BoS of the Department/Centre concerned held immediately after the examination is over and the comments and feedback for further improvement in future shall be recorded and furnished to the paper setter through the CoE.

## 13 Guidelines for Evaluation

- 13.1 It shall be the bounden duty of the concerned faculty member(s) to: (a) evaluate all assignments, quizzes, tests, etc., and return the same to the students within one week of the date of such examination; (b) address questions of students, explain and satisfy them about the marks or grades awarded to them; (c) display the marks or grades awarded to each student on the notice board of the Department or the Centre; and (d) submit the marks or grades awarded to the students to the HoD or the Director of the Centre concerned.
- 13.2 Each examiner shall be required to evaluate the answer scripts of the end-term examination within one week of the date of examinations and shall be required to return to CoE, the evaluated answer scripts along with the award list.
- 13.3 The HoD or the Director of the Centre concerned, shall forward to the CoE, the consolidated award list of marks or grades awarded to the students in the continuous internal assessment of each course offered by the Department before the commencement of the end-term examinations.

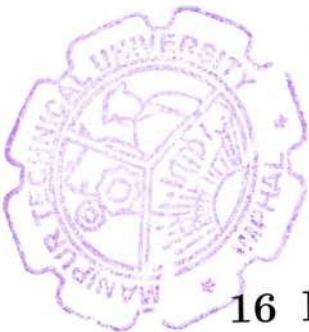
## 14 Re-evaluation of Answer Scripts

- 14.1 A student may apply on the prescribed application form along with the prescribed fees, for re-evaluation of his or her answer scripts to the CoE within seven working days from the date of declaration of the results.
- 14.2 Candidates appearing at the University examinations are eligible to apply for re-evaluation of his or her answer-scripts in any number of papers per semester in which he or she has appeared at the end-term examination.
- 14.3 The re-evaluation of the answer-scripts, shall not be permitted in respect of scripts of practical examination, internal assessment, dissertation, thesis, MCQ, viva voce, etc.
- 14.4 A candidate applying for re-evaluation should note that the result of the re-evaluation of his or her answer-book of the theory papers shall be binding on him or her and that he or she shall accept the revised marks or grades to his or her theory papers after re-evaluation.
- 14.5 Re-evaluation of the answer-scripts of the theory papers shall be deemed to be an additional facility provided to the students with a view to improving upon their results at the preceding University examination, it being understood that delay in the declaration of re-evaluation result for any reason whatsoever shall not confer any right upon them for admission to the next higher class which matter shall always be regulated in accordance with the relevant rules or regulations framed by the University on that behalf.
- 14.6 If the student is not satisfied with re-evaluation result, he or she may submit an application for review of answer scripts to the Head of the Institute/Department after paying the requisite fees within one week from the date of declaration of re-evaluation result.
- 14.7 The institute/department will forward this application to CoE within two working days of the receipt of such application.
- 14.8 The decision of the process is communicated to the Head of the Institute/Department and the student.
- 14.9 In case of increase in marks by at least 10% of total marks in the review of answer scripts, revised grade sheet is issued and fee is refunded.

## 15 Conduct of Examination

- 15.1 All examinations of the University (except the entrance examinations for admission in different programmes of studies) shall be conducted and held at the University campus only.
- 15.2 The date sheet for midterm and end-term examinations shall be notified by the CoE in consultation with HoDs or Directors of the Centres or Deans of the Faculties at least fifteen days prior to the commencement of the examinations.

- 15.3 The midterm and end-term examinations shall be conducted under the general supervision of the HoD, who shall act as Centre Superintendent for all examinations of the courses of his or her Department. He or she shall arrange for the invigilation duties from amongst the faculty members and shall be responsible for the fair and orderly conduct of the examination.
- 15.4 The Centre Superintendent shall notify or display the seating plan one day before the examination commences. He or she shall verify the subject or paper, date and time of examination given on the cover of each packet upon receiving the confidential packet(s) from the CoE or any Officer of the Examination Section of the University duly authorized by the CoE. Centre Superintendent shall be responsible for the safe custody of the answer books, question papers, additional loose sheets and other materials supplied by the University and shall be responsible for any loss or theft of the same. Centre Superintendent before room-wise distribution shall count the copies of question papers and ascertain if the number tallies with that shown on the sealed envelope. He shall issue question papers to the invigilator in-charge of each room/hall according to the number of candidates shown in the seating plan. He shall ensure that the relevant ordinances, rules, regulations, etc. are strictly followed. He shall supervise the works of the invigilators personally on each day of the examination. Discrepancy, if any, must be investigated immediately and reported to the CoE.
- 15.5 The Centre Superintendent shall forward or furnish the following documents to the CoE as soon as the examination is over:
- a statement of number of answer scripts distributed amongst the examinees each day;
  - a sheet plan showing the relative position of the candidates and their numbers;
  - roll sheets containing the signatures of the examinees present and absent;
  - a list of absentees in a separate cover; and
  - names and addresses of the invigilators and their specimen signatures or initials countersigned by the Centre Superintendent. The Centre Superintendent shall forward to the CoE a statement showing the names of invigilators, total number of shifts or sessions, and the amount of remuneration payable to each of them.



## 16 Indiscipline and Unfair Means in Examination

- 16.1 There shall be zero-tolerance against use of unfair means and unfair practices in connection with examination and each examinee shall be required to strictly adhere to the instructions for taking examination. Non adherence to such instructions shall attract disciplinary action.
- 16.2 Use of unfair means is strictly prohibited and shall invite serious disciplinary action for anyone found using unfair means during any examination. Unfair practices and unfair means relating to examination shall mean and include:
- Exerting pressure, coercion and undue influence for postponement and change of dates and timings of examination.

- (b) Threatening the invigilator or any other behaviour amounting to insubordination as reported by the invigilator or the Centre Superintendent.
- (c) Seeking favours from and/or threatening the examiners, paper setters, evaluators, invigilators, co-examinees or any other officer or staff of the university.
- (d) Resorting to such practices and engaging into activities that are specifically prohibited during the course of examination.
- (e) Keeping in possession of materials of any kind related to the subject of the examination concerned including mobile, cell phones or electronic aids, unless otherwise permitted as a component of examination and/or copying or attempting to copy from the materials in possession or from other persons within or outside the examination hall.
- (f) Exchanging notes, inter-changing answer scripts, helping other examinees, seeking help from and/or consulting other examinees or any other person inside or outside the examination hall.
- (g) Attempts of impersonation including writing some other candidate's registration number or roll number in the answer paper and/or exchanging or attempting to exchange answer sheets or other materials during the course of examination.
- (h) Sitting or occupying seats other than the one allotted to the candidate or changing the seat during the course of examination without the permission of the invigilator.
- (i) Boycott or walkout of the examination and or causing disturbances of any kind during the conduct of examination.
- (j) Any other act of omission or commission as may be declared by the Academic Council as unfair means in respect of any or all the examinations.

16.3 Detection of unfair means, indiscipline and disturbances during the examination shall be brought to the notice of the Centre Superintendent by the invigilator concerned in writing.

16.4 The Centre Superintendent shall report to the CoE without delay, each case of alleged use of unfair means in the examination with full details of the evidence in support thereof and the statement of the candidate concerned, if any, on the forms supplied by the CoE for the purpose.

16.5 In case a candidate found using unfair means in examination refuses to make and sign the said statement, the incident shall be recorded by the invigilator and countersigned by the Centre Superintendent.

16.6 The answer book of the candidate found using unfair means in the examination shall be seized and the candidate may be permitted to write his or her examination on a separate answer-book to be issued to him or her. The Centre Superintendent shall send both the answer-books to the CoE along with his or her report.

16.7 All individual cases of reported use of unfair means in examination shall be referred to the Examination Discipline Committee. Provided that in case of use of unfair



means on a mass scale at an examination centre, the Vice-Chancellor shall have the power to cancel the examination of all the candidates appearing from the centre concerned and order re-examination and initiate further disciplinary action against all concerned.

## 17 Examination Disciplinary Committee

17.1 The Examination Disciplinary Committee (EDC) shall consist of the following members:

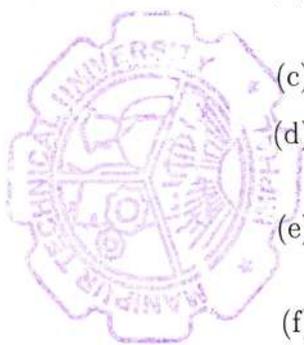
- (a) The Dean of Students' Welfare, who shall be the Chairperson.
- (b) Four faculty members to be nominated by the Vice-Chancellor.
- (c) An Officer of the University to be nominated by the Vice-Chancellor as non-member Secretary.

Provided, the Vice-Chancellor may nominate a different Chairperson or member in the above committee in case any allegation on the use of unfair means in the examination involves any of the above mentioned members/Chairman. The terms of office of the members of the EDC, other than the ex-officio members, shall be three years from the date of appointment and that three members of the committee shall constitute the quorum.

17.2 Centre Superintendent concerned shall be a special invitee to the meetings of the EDC while considering the reported cases of unfair means.

17.3 Depending upon the extent and severity, the punishment for the use of unfair means may include:

- (a) Obtaining written apology and undertaking for good behaviour and conduct;
- (b) Lowering the marks or grades in the examination in which the unfair means was used;
- (c) Lowering the marks or grades in all examination of the semester;
- (d) Awarding F grade to the candidate in the particular examination in which the unfair means was used;
- (e) Awarding F grade in all examinations taken by the candidate during the semester;
- (f) Debarring for certain specified number of semesters from appearing in examination of the University;
- (g) Cancellation of admission from the University;
- (h) Rustication from the University and debarring the student from taking admission in any programme of studies of the university for certain specified period of time;
- (i) Rustication from the University and debarring the student from taking admission in any programme of studies of the university forever.



- 17.4 The EDC shall decide the extent, and magnitude of punishment to those found guilty of using unfair means in examination with due regard to the nature and extent of offence committed by a candidate in use of unfair means and shall ensure that the punishment is commensurate to the offence committed and in accordance with the principle of natural justice and is seen to be consistent.
- 17.5 All decisions taken by the committee will be placed before the Vice-Chancellor for approval.
- 17.6 A candidate found guilty of using unfair means in examination by the EDC, may appeal to the Vice-Chancellor, in writing, within one month of the receipt of the decision of the University; and if the Vice-Chancellor is satisfied that the representation merits consideration, he or she may refer the case back to the EDC for reconsideration.

## 18 Grading System

- 18.1 The academic performance of a student shall be evaluated using a 10-point grading scale, following an absolute grading system to ensure transparency and consistency, as outlined in the CCFPP.
- 18.2 The letter grades, corresponding descriptions, grade points, and mark ranges for absolute grading are provided in the following table.

Table 6: Letter grades, descriptions, grade points, and mark ranges.

Letter grade	Description	Grade point	Mark range
O	Outstanding	10	[90, 100]
A+	Excellent	9	[80, 90)
A	Very good	8	[70, 80)
B+	Good	7	[60, 70)
B	Above average	6	[50, 60)
C	Average	5	[45, 50)
P	Pass	4	[40, 45)
F	Fail	0	[0, 40)
Ab	Absent	0	–

The mark ranges use mathematical interval notation, where square brackets [ , ] include the endpoint and round brackets ( , ) exclude it, ensuring each mark falls into exactly one non-overlapping grade category.

- 18.3 The SGPA is the ratio of the sum of the product of the number of credits with the grade points scored by a student in all the courses taken by a student and the sum of the number of credits of all the courses undergone by a student, i.e.,

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

where  $C_i$  is the number of credits of the  $i$ th course of the current semester, and  $G_i$

is the grade point scored by the student in the  $i$ th course.

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

$$\text{CGPA} = \frac{\sum C_i \times S_i}{\sum C_i},$$

where  $S_i$  is the SGPA of the  $i$ th semester and  $C_i$  is the total number of credits in that semester.

- 18.5 The SGPA and CGPA shall be calculated and rounded off to two decimal places.
- 18.6 The CGPA of a student may be converted to percentage by multiplying it by a factor of 10.
- 18.7 A student shall be awarded First Class for a CGPA of 6.00 or above, and Second Class for a CGPA from 5.00 to 5.99.
- 18.8 **F grade:** The F grade signifies failure in a course, either due to inadequate performance, being barred from the end-term examination for insufficient attendance, or disciplinary action for malpractice. A student who receives an F grade in a course must appear in the next legitimate opportunity.
- 18.9 **Ab grade:** The Ab grade is assigned when a student, despite being otherwise eligible to appear for the end-term examination, is unable to do so. Students must clear the Ab grade by appearing in the next scheduled end-term examination in the following academic year. In the case of a project or dissertation, the Ab grade may also be assigned if, in exceptional cases, an extension for submission is granted by the Dean of the concerned Faculty based on the recommendation of the BoS.
- 18.10 A student who has successfully completed a course may be permitted to improve the grade by reappearing in the end-term examination, with the approval of the BoS. The student must submit a formal request through the HoD to the BoS, stating valid reasons for improvement. Such improvement shall be allowed for a maximum of two passed courses during the entire programme. The grade obtained in the latest attempt shall be used for CGPA computation, even if it is lower than the previous one.

## 19 Supervisor and Co-Supervisor

- 19.1 Each postgraduate student shall be assigned a supervisor for the thesis or project work. Where necessary, a co-supervisor may also be appointed, subject to the provisions of this ordinance.
- 19.2 The supervisors and co-supervisors shall be regular faculty members having at least two research publications in peer-reviewed journals.
- 19.3 A co-supervisor, if appointed, shall be from within the University or from a recognised research institution or industry, provided they possess suitable academic or professional credentials.

- 19.4 The HoD shall appoint the supervisors and co-supervisors, subject to BoS approval; co-supervisors from another department or faculty require additional approval by the concerned Deans, while co-supervisors from outside the University require approval by the Dean of the faculty to which the student belongs along with written consent from the external co-supervisor.
- 19.5 In case of unforeseen circumstances such as long leave, resignation, retirement, or any other reason that prevents the supervisor or co-supervisor from continuing, the HoD shall assign a replacement, subject to the approval of the BoS.
- 19.6 If the thesis work is substantially complete, the newly assigned supervisor may serve in an advisory or administrative role, as deemed appropriate by the BoS.
- 19.7 All changes in supervision must be formally reported to the Dean of the concerned Faculty and the CoE, and shall be duly recorded in the student's academic file.

## 20 Collaborative Research and Summer Internship

- 20.1 To enhance experiential learning and industry-academia collaboration, students may, with the approval of the HoD, visit industries, research laboratories, or field sites for data collection, experimental work, surveys, or discussions related to their dissertation.
- 20.2 Industry- and research-sponsored projects undertaken through Memoranda of Understanding (MoUs) with external organisations are encouraged to enhance practical applications and foster interdisciplinary learning. The University may grant academic leave for a period of up to six months to enable a student to carry out a part of the project work at the collaborating or external organisation. During this period, the student shall remain under the academic supervision of the assigned internal supervisor.
- 20.3 The internal assessment shall be conducted through periodic progress reports, online presentations, and evaluations of interim submissions. The final evaluation, including the submission and viva voce examination, shall be conducted by the University in accordance with the provisions of this ordinance.
- 20.4 The contribution of the external organisation must be appropriately acknowledged in the dissertation. The certificate page shall include the signatures of both the external supervisor and the internal supervisor.
- 20.5 To maintain academic integrity, students conducting dissertation work in an industry or R&D organisation (in India or abroad) must fully disclose all research data. Confidentiality cannot be claimed if it conflicts with the University's academic and ethical guidelines. Intellectual property, except for dissertation copyright, shall be governed by the University's prevailing IPR policy.
- 20.6 Students enrolled in the 2-year Master's programme may opt for a summer internship for a duration of up to six weeks after the completion of the first year (second semester).
- 20.7 The internship may be undertaken in academic research institutions, industries, government organisations, or community engagement projects, aligning with the



student's field of study and career aspirations.

- 20.8 The internship experience should contribute to skill development, research exposure, or industry readiness. Students are encouraged to document their learning outcomes, which may be considered for academic credit or value-added certification.

## 21 Temporary Withdrawal

21.1 A student enrolled in a postgraduate programme may be granted temporary withdrawal from the University for a period of one semester or more under valid circumstances such as prolonged illness, unforeseen family emergencies, or other exceptional situations requiring their absence. The following conditions must be met:

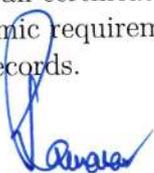
- (a) The student must submit a formal request to the concerned HoD within fifteen days of their last date of class attendance or the commencement of the semester, whichever occurs later. The request must be accompanied by supporting documents and a written endorsement from a parent or guardian.
- (b) The HoD shall review the request and forward it, with recommendations, to the Dean of the concerned Faculty. The Dean of the Faculty, in consultation with the Dean of Students' Welfare, shall assess the validity of the request.
- (c) The recommendation shall be submitted for final approval to the Vice-Chancellor or a designated academic committee.
- (d) The University must ensure that, including the period of withdrawal, the student can complete all degree requirements within the maximum permissible time limit specified in this Ordinance.
- (e) The student must settle all outstanding dues and fulfil any pending obligations with the University, including its academic departments, hostels, library, or any other constituent unit.

21.2 If a student is granted temporary withdrawal, their enrolment status shall be maintained, but they shall not be assigned grades for the withdrawn semester. The student must rejoin the programme in the following approved semester and complete the pending academic requirements. Upon rejoining, they must pay the tuition and other applicable fees for the semester.

21.3 A student is allowed to avail of temporary withdrawal only once during their academic tenure, though the period of withdrawal may extend beyond one semester if approved.

## 22 Transcripts, Certificates, and Academic Honours

22.1 The University shall issue all certificates and transcripts to students upon successful completion of their academic requirements, subject to the clearance of outstanding dues and verification of records.



22.2 A semester-wise transcript shall be issued at the end of each semester, documenting the student's academic performance, including course titles, letter grades, grade points, earned credits, SGPA, and CGPA. Upon completion of the programme, a consolidated transcript shall be issued, summarising academic performance across all semesters and indicating total credits earned, final CGPA, the class of award (if applicable), and any academic distinctions.

22.3 Degree certificates shall bear the signatures of the Vice-Chancellor and the Registrar. Other academic documents, including provisional certificates and transcripts, shall be signed by the CoE or by an officer authorised by the Vice-Chancellor.

22.4 The University shall issue the following certificates:

- (a) **Degree certificate:** Certifying the successful completion of the postgraduate programme.
- (b) **Provisional certificate:** Issued before the final degree certificate for interim academic validation.
- (c) **Migration certificate:** Provided upon request for students transferring to another institution.
- (d) **Transfer certificate:** Confirming the student's departure from the University.
- (e) **Merit and rank certificates:** Issued for academic excellence, in accordance with University policies.
- (f) **Diploma certificate:** Issued to students exiting at the end of the first year of a 2-year postgraduate programme, certifying successful completion of the first year.

22.5 The format, content, and issuance procedures for transcripts and certificates shall conform to the University's academic guidelines, ensuring accuracy, consistency, authenticity, and compliance with applicable data protection regulations. The Examination Cell, in consultation with the concerned Deans and the Registrar, shall be responsible for developing the formats of certificates and related academic documents, and submitting them to the Academic Council for review. Final approval shall be obtained from the BoM.

22.6 Any errors or discrepancies in the issued transcripts or certificates must be reported by the student within the stipulated timeframe prescribed by the University. Requests for correction shall be subject to due verification and approval by the CoE. In case of any dispute or unresolved issue, the student may seek resolution through the University's established grievance redressal mechanism.

22.7 Reissuance of documents due to loss or damage shall be subject to proper verification and shall incur a prescribed processing fee.

22.8 Medals, prizes, and other academic awards shall be conferred upon eligible students in accordance with the University's approved guidelines and policies. The nature, number, and eligibility criteria for such honours shall be determined by the Academic Council and may be revised from time to time.

22.9 Academic ranking shall be based on the final CGPA obtained upon completion

of the programme. Only those students who have completed all courses within the prescribed duration and passed them in the first attempt shall be considered for ranking. Students with academic backlogs, disciplinary action, or an extended duration of study shall not be eligible for academic ranking.

- 22.10 The University shall hold a Convocation for the award of degrees, diplomas, medals, and academic honours to eligible graduates. The Convocation shall be conducted in accordance with the statutes and policies approved by the Academic Council and the BoM.

## 23 Thesis Format and Submission Requirements

- 23.1 **Paper size and margins:** The thesis must be formatted on standard A4 paper (210 mm × 297 mm). The left margin should be 1.5 inches (3.81 cm) to allow for binding, while the top, bottom, and right margins must each be 1 inch (2.54 cm).
- 23.2 **Font:** The preferred fonts for the thesis are Times New Roman, or Arial. For L<sup>A</sup>T<sub>E</sub>X users, recommended fonts include Computer Modern (the default L<sup>A</sup>T<sub>E</sub>X font), Latin Modern (`lmodern`), Palatino (`newpxtext` with `newpxmath`), and Times (`newtxtext` with `newtxmath`). The main text should be set in 12-point font, with footnotes in 10-point. Bold and italics may be used sparingly and appropriately for emphasis.
- 23.3 **Headings:** A consistent hierarchy of headings must be followed throughout the thesis. For example, chapter titles should be in 16-point bold, section headings in 14-point bold, and subsection headings in 12-point bold. Consistency in font style and size must be maintained to ensure clarity and organisation.
- 23.4 **Line spacing:** The line spacing for the main body text should be set to 1.5. Footnotes and block quotations must be single-spaced to maintain clarity and readability.
- 23.5 **Page numbers:** The front matter (title page, certificate, acknowledgments, abstract, table of contents, etc.) should be numbered using Roman numerals (i, ii, iii, etc.), while the main body (chapters, references, appendices, index, if included) should be numbered using Arabic numerals (1, 2, 3, etc.).
- 23.6 **Cover page and title page:** The formatting must comply with the provisions outlined in Sections 23.17 and 23.20. A format is provided in **Annexure A**.
- 23.7 **Certificate page:** The certificate page is a mandatory component of the thesis and shall include a formal declaration affirming the originality of the work. It must be duly signed by the student and the supervisor, and countersigned by the HoD, where applicable. The prescribed format is provided in **Annexure B**.
- 23.8 **Copyright transfer certificate (optional):** The copyright transfer certificate is optional. If a student wishes to transfer the copyright of their thesis to the University for the purposes of institutional archiving, dissemination, or non-commercial academic use, this certificate may be included. A suggested format is provided in **Annexure C**.
- 23.9 **Plagiarism check report:** The plagiarism check report is mandatory and must be generated using University-approved plagiarism detection software (e.g., Turnitin,

Ouriginal, DrillBit, or equivalent). The report must confirm that the thesis complies with the University's plagiarism policy.

- 23.10 **Acknowledgments:** The acknowledgements section may be included to briefly express gratitude to individuals, organisations, or institutions that contributed to the successful completion of the thesis.
- 23.11 **Abstract:** The abstract must provide a concise summary of the thesis in 250-300 words, clearly outlining the research objectives, methodology, key findings, and conclusions. A list of 4-6 relevant keywords should be included below the abstract to facilitate indexing and searchability.
- 23.12 **Table of contents, list of figures and list of tables:** The table of contents, list of figures, and list of tables must be auto-generated using the built-in tools available in MS Word or L<sup>A</sup>T<sub>E</sub>X to ensure accuracy and consistency in formatting.
- 23.13 **Figures and tables:** All figures and tables must be numbered sequentially according to chapter (e.g., Figure 1.1, Table 2.1), provided with clear and descriptive captions, and appropriately referenced within the main text. Captions for figures shall be placed below the figures, while captions for tables shall be placed above the tables. All figures and tables must be neatly formatted and integrated within the text at appropriate locations.
- 23.14 **References:** The references section must follow a recognised and consistent citation style (e.g., APA, IEEE, Chicago). Citations should be managed using standard reference management tools such as Mendeley, Zotero, EndNote, or BibTeX for L<sup>A</sup>T<sub>E</sub>X users.
- 23.15 **Appendices (if applicable):** Appendices may be included if necessary to provide additional supporting material. Each appendix must be clearly labelled (e.g., Appendix A, Appendix B) and referenced appropriately within the main text.
- 23.16 **Index (if applicable):** An index may be included, if applicable, to provide a systematically arranged list of key terms, topics, or concepts covered in the thesis. It should appear at the end of the document and facilitate quick reference for readers.
- 23.17 **Cover page and title page specifications:** The cover page and title page must be centre-aligned and include the following elements in the specified order. A format is provided in **Annexure A**.

- (a) Manipur Technical University - placed at the top centre, along with the official address of the University.
- (b) University logo - placed centrally on the page.
- (c) Title of the thesis - in bold, with appropriate capitalisation (uppercase or title case, as required).
- (d) A statement: A thesis submitted in partial fulfilment of the requirements for the award of the degree of Master of Technology in (field of study).
- (e) Student's full name.
- (f) Registration number.



- (g) A line: Under the supervision of.
  - (h) Supervisor's name and designation.
  - (i) Name of the department and Manipur Technical University.
  - (j) Month and year of submission.
- 23.18 **Soft copy submission:** A digital version of the thesis must be submitted in PDF format, adhering to the final approved version. The file should be named in the format *RegistrationNumber\_StudentName\_ThesisTitle\_Year.pdf* and uploaded to the University repository.
- 23.19 **Printing format:** The thesis may be printed on both sides of the paper (duplex printing) to promote sustainability and reduce paper usage, provided that the legibility and binding quality are not compromised.
- 23.20 **Binding:** The thesis must be hardbound with a cover in one of the approved colours: black, navy blue, dark green, maroon, deep teal, or charcoal grey. Lettering on the cover must be in gold or silver.
- 23.21 **Blank pages (flyleaves):** In the printed and bound version of the thesis, a blank page (flyleaf) must be included both before the title page and after the last page of the thesis. These pages shall remain entirely blank, unnumbered, and are intended solely for binding and aesthetic purposes. They are not required in the soft copy submission.
- 23.22 **Spine details (if applicable):** The spine of the bound thesis should include the thesis title (shortened if necessary), the student's full name, the name of the department and the University, and the year of submission. The text on the spine should be in gold or silver lettering, consistent with the cover binding.
- 23.23 **Number of copies:** Students are required to submit three hardbound copies of their thesis: one each for the University library, and the department, the supervisor.

## 24 Change of the Ordinance

- 
- 24.1 As the apex academic body, the Academic Council may propose amendments, revisions, or new regulations to this ordinance as necessary. All such proposals shall require formal approval by the BoM, whose decision shall be final and binding. Each approved amendment shall be systematically documented, assigned a sequential reference number, and made publicly available on the University website to ensure transparency and accessibility.
- 24.2 Unless explicitly stated otherwise, any changes to the provisions of this Ordinance shall come into effect from the following academic session. The applicability of such changes to currently enrolled students shall be determined based on their relevance and impact, with adequate prior notice and communication.
- 24.3 The University shall ensure that all regulatory updates are effectively communicated to students, faculty, and other stakeholders through official notifications, circulars, and digital platforms. Appropriate measures shall be undertaken to facilitate a smooth transition and ensure compliance with the revised provisions.

24.4 Notwithstanding anything contained in this Ordinance, any unforeseen issues not covered herein, or any differences in interpretation, shall be resolved by the Vice-Chancellor. If necessary, the Vice-Chancellor may seek the opinion or advice of a committee comprising one or more HoDs. The decision of the Vice-Chancellor in all such matters shall be final and binding.



A handwritten signature in blue ink, appearing to read "L. Anwar".

A handwritten signature in blue ink, appearing to read "Wesley".

# MANIPUR TECHNICAL UNIVERSITY

Takyelpat, Imphal - 795004



## Investigation of VLSI Architectures and Their Applications in Low-Power Signal Processing

A thesis submitted in partial fulfilment of the requirements for the award  
of the degree of

**Master of Technology in Electronics and  
Communication Engineering**

By

**Student's Name**

Registration No.: XXXXXX



**Under the supervision of  
Supervisor's Name**

**Department of  
Electronics and Communication Engineering  
Manipur Technical University**

August 2025

*Ramona*

*Wang*

## Candidate's Declaration

I, **Name of the Student**, hereby declare that the work presented in this postgraduate project report is my own original work, conducted under the supervision of **Name of the Supervisor, Designation, Department of Electronics and Communication, Manipur Technical University**. I affirm that this report has not been previously submitted, in whole or in part, to this or any other university or institution for the award of any degree or diploma. I further certify that all sources of information have been properly acknowledged, and no portion of this report has been copied or misrepresented from journals, books, reports, theses, dissertations, or online sources without appropriate citation.

Date: xx-xx-xxxx

Signature of the student

Place: Imphal

Name of the student

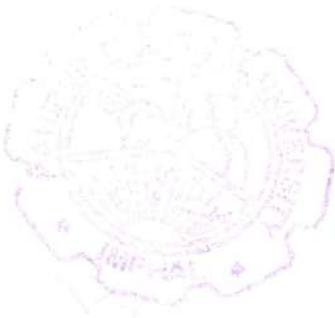
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## Certificate from the Supervisor

This is to certify that the above declaration made by the candidate is true to the best of my knowledge and belief. The work presented in this postgraduate project report has been carried out under my supervision and meets the academic standards required for submission.

Signature of the supervisor

Name of the supervisor



(Signature of the Head)

Department of Electronics and Communication Engineering

Manipur Technical University

A handwritten signature in blue ink is located at the bottom left of the page, below the text of the Department of Electronics and Communication Engineering.

A handwritten signature in blue ink is located at the bottom right of the page, below the text of Manipur Technical University.

## Copyright Transfer Certificate

**Title of the Project Report:** Investigation of VLSI Architectures and Their Applications in Low-Power Signal Processing Imaging

**Name of the Student:** Name of the student

**Registration Number:** Registration number of the student

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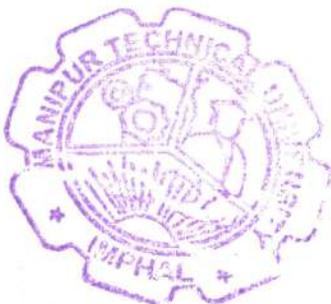
I, **Name of the Student**, hereby grant to Manipur Technical University a non-exclusive right to archive and distribute my postgraduate project report/thesis, submitted in partial fulfilment of the requirements for the award of the Master's degree. I retain full copyright ownership, including the right to reproduce and distribute this work, unless explicitly transferred to the University through a separate agreement.

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Signature of the student

Name of the student



*Lawanor*

*Lawanor*

# MTU

## Academic year 2026-27 onwards

### Faculty of Engineering Manipur Technical University

Manipur Technical University (MTU) is the first technical university in the state established under *The Manipur Technical University Act, 2016* on 23 April 2016. It is included in the UGC list of universities under section 2(f) of The University Grants Commission Act, 1956, and empowered to award degrees under section 22 of the act through its departments.

The university is actively building capacity in infrastructure and human resources. It has mounted tremendous efforts in developing itself into a modern university incorporating all elements from the contemporary scientific and socio-cultural milieu. At present, the university is located in the Government Polytechnic Campus, Takyelpat, Imphal West District, Manipur.

Postgraduate education plays a vital role in advancing the academic mission of a university. It fosters higher-order thinking, promotes specialised knowledge, and cultivates research capabilities essential for addressing complex challenges in science, technology, and society. In alignment with the National Education Policy (NEP) 2020, postgraduate study encourages academic rigour, interdisciplinary engagement, innovation, and the holistic development of learners, thereby contributing to national progress and global relevance.



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