PRR - 20

RULES AND REGULATIONS FOR POSTGRADUATE PROGRAMME – M.TECH 2-YEAR DEGREE PROGRAMME (PRR-20)

CHOICE BASED CREDIT SYSTEM (CBCS)
(Applicable from the academic year 2020-21)

VISION OF THE INSTITUTE

- *To make our students technologically superior and ethically strong by providing quality education with the help of our dedicated faculty and staff and thus improve the quality of human life*

MISSION OF THE INSTITUTE

- *To provide latest technical knowledge, analytical and practical skills, managerial competence and interactive abilities to students, so that their employability is enhanced*

- *To provide a strong human resource base for catering to the changing needs of the Industry and Commerce*

- *To inculcate a sense of brotherhood and national integrity*

KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE

Opp : Yerragattu Gutta, Hasanparthy (Mandal), WARANGAL - 506 015, Telangana, INDIA.

काकतीय प्रैद्योगिकी एवं विज्ञान संस्थान, वरंगल - ५०६ ०१५ तेलंगाना, भारत

కాకతీయ సాంకేతిక విజ్ఞాన శాస్త్ర విద్యాలయం, వరంగల్ – ౫౦౬ ౦౧౫ తెలంగాణ, భారతదేశము

(An Autonomous Institute under Kakatiya University, Warangal)
(Approved by AICTE, New Delhi; Recognised by UGC under 2(f) & 12(B); Sponsored by EKASILA EDUCATION SOCIETY)

KITSW

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RULES AND REGULATIONS FOR POSTGRADUATE PROGRAMME – M.TECH 2-YEAR DEGREE PROGRAMME (PRR-20) CHOICE BASED CREDIT SYSTEM (CBCS)
(Applicable from the academic year 2020-21)

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1. **INTRODUCTION**

    1.1   Kakatiya Institute of Technology & Science, Warangal (KITSW) is UGC autonomous institute under Kakatiya University (KU) Warangal. The institute offers 2 year (4 semesters) Master of Technology (M.Tech) degree programme, under Choice Based Credit System (CBCS) with effect from the academic year 2020-21.

    1.2   The provisions contained in these regulations given the conditions for imparting course of instructions, conducting examinations and evaluation of students performance leading to M.Tech. 2-year degree programme to be offered by the Kakatiya Institute of Technology & Science, Warangal and awarded by Kakatiya University, Warangal.

    1.3   These regulations shall be called the ***Kakatiya Institute of Technology & Science, Warangal (KITSW) regulations for the award of M.Tech. 2-year degree programme*** *by Kakatiya University, Warangal.*

    1.4   They shall come into effect from the date of getting approval from the Academic Council of the Kakatiya Institute of Technology & Science, Warangal

    1.5   They shall be applicable for all students enrolling for M.Tech. 2-year degree programme at the Kakatiya Institute of Technology & Science, Warangal from the academic year 2020-21.

2. **DEFINITIONS**

    2.1   *"M.Tech."* means Master of Technology, an Post Graduate Degree awarded from the Kakatiya University, Warangal

    2.2   *"University"* means Kakatiya University, Warangal

    2.3   *"Institute"* means Kakatiya Institute of Technology & Science, Warangal

    2.4   *"UGC"* means University Grants Commission, New Delhi

    2.5   *"AICTE"* means All India Council for Technical Education, New Delhi

    2.6   *"MHRD"* means Ministry of Human Resource & Development, Govt. of India, New Delhi

    2.7   *"TSCHE"* means Telangana State Council for Higher Education, Govt. of Telangana, Hyderabad

    2.8   *"GB"* means Governing Body of the Institute

    2.9   *"AC"* means Administrative Committee of the Institute

    2.10   *"FC"* means Finance Committee of the Institute

    2.11   *"Academic Council"* means Academic Council of the Institute

    2.12   *"Principal"* means Principal of the Institute

    2.13   *"Dean"* means Dean of specific affairs of the Institute

    2.14   *"HoD"* means Head of the Department of specific programme offered by the Institute

    2.15   *"BoS"* means Board of Studies in the engineering of a specific programme offered by the Institute

2.16   **"CoE"** means Controller of Examinations of the Institute.

3.   POST GRADUATE PROGRAMMES IN ENGINEERING
3.1   The Institute shall offer the following Post Graduate (M.Tech.)Programmes in engineering under CBCS:
   1. **Structural & Construction Engineering (offered by the Dept. of Civil Engineering)**
   2. **Design Engineering (offered by the Dept. of Mechanical Engineering)**
   3. **Digital Communication (offered by the Dept. of Electronics & Communication Engineering)**
   4. **Software Engineering (offered by the Dept. of Computer Science & Engineering)**
   5. **VLSI & Embedded Systems (offered by the Dept. of Electronics & Instrumentation Engineering)**
   6. **Power Electronics (offered by the Dept. of Electrical & Electronics Engineering)**
   7. **Data Science (offered by the Dept. of Information Technology)**
   8. **Communication Engineering & Signal Processing (offered by the Dept. of Electronics & Communication Engineering)**
3.2   The provisions of these regulations shall also be applicable to any new postgraduate programmes that are introduced from time to time with approval from appropriate bodies such as MHRD / AICTE / UGC, etc.

4.   ADMISSION
4.1

| Course | Specialization | Eligibility | | |
		Qualifying degree	GATE/ GPAT Exam	PGECET Exam
M.Tech.	Structural & Construction Engg.	B.E. / B.Tech. / AMIE in Civil Engineering / Construction Engineering or equivalent. They should have qualified at GATE/PGECET	CE	CE
M.Tech.	Design Engineering	B.E. / B.Tech./ AMIE in Mechanical Engineering / Production Engineering / Industrial Engineering/ Aeronautical Engineering, / Marine Engineering or equivalent. They should have qualified at GATE /PGECET	ME	ME
M.Tech.	Digital Communication	B. E. / B.Tech. / AMIE in ECE, AMIE (Electronics & Telecommunication Engg. / B.E. / B.Tech. in Electrical or Electrical & Electronics Engg., EIE and Bio-medical Engg. or equivalent. They should have qualified at GATE / PGECET	EC / IN	ECE
M.Tech.	Software Engineering	B.E. / B.Tech. / AMIE in any branch of Engg. / Tech. (or) equivalent Master's Degree in Physics, Statistics, Mathematics, Applied Mathematics, Applied Statistics, Applied Physics, Geophysics, M.Sc. (Computer Science), M.Sc. (Information Systems) (Computer Applications & Electronics) and MCA or equivalent. They should have qualified at GATE / PGECET	CS	CS
M.Tech.	VLSI & Embedded System	B.E. / B.Tech. / AMIE in ECE, EIE, EEE, CSE, IT (or) equivalent. They should have qualified at GATE / PGECET	CS / EC / IN / EE	EC
M.Tech.	Power Electronics	B.E. / B.Tech. / AMIE in Electrical & Electronics Engg. /Electrical Engg. or equivalent	EE	EE
M.Tech.	Data Science	B.E. / B.Tech. / AMIE in any branch of Engg. / Tech. (or) equivalent Master's Degree in Physics, Statistics,	CS	CS

		Mathematics, Applied Mathematics, Applied Statistics, Applied Physics, Geophysics, M.Sc. (Computer Science), M.Sc. (Information Systems) (Computer Applications & Electronics) and MCA or equivalent. They should have qualified at GATE / PGECET		
M.Tech.	Communication Engineering & Signal Processing	B. E. / B.Tech. / AMIE in ECE, AMIE (Electronics & Telecommunication Engg. / B.E. / B.Tech. in Electrical or Electrical & Electronics Engg., EIE and Bio-medical Engg. or equivalent. They should have qualified at GATE / PGECET	EC / IN	ECE

4.2   The Admissions shall be made in accordance with the guidelines issued by TSCHE.

4.3   **For GATE candidates**

The candidates should have passed B.E./B.Tech./AMIE in any branch of Engg./ Tech. (or) equivalent Master's Degree in Physics, Statistics, Mathematics or Applied Mathematics, Applied Statistics, Applied Physics, Geophysics, M.Sc. (Comp. Sc.), M.Sc. (Information Systems) (Computer Applications and Electronics) and MCA or equivalent. They should have qualified at the GATE and possess a valid GATE score. The seats will be assigned purely on the basis of merit of GATE.

For Sponsored seats

The candidates should have passed BE/B.Tech./AMIE in any branch of Engg./ Tech. (or) equivalent Master's Degree in Physics, Statistics, Mathematics or Applied Mathematics, Applied Statistics, Applied Physics, Geophysics, M.Sc. (Comp. Sc.), M.Sc. (Information Systems) (Computer Applications and Electronics) and MCA or equivalent.

The criterion for selection of sponsored candidates shall be by their merit at the entrance examination to be conducted by the PGECET

Admission shall made into sponsored category only with the candidates who are qualified either GATE/ PGECET or as decided by the admission committee.

1. His/ Her application shall be duly recommended by the sponsoring agency for admission to the course and forwarded to the Convener, PGECET
2. He/ She must be permanent employee with the sponsoring agency for at least two years, after obtaining the qualifying degree.
3. The sponsoring agency must be a Government establishment or a public-sector undertaking, or a reputed private engineering college
4. The sponsoring agency shall certify that the candidates will be granted leave for pursuing the M.E./ M.Tech. Regular course of study.
5. The candidates who are working Research Projects approved by the competent authority are also required to fulfill the above conditions before they are sponsored for admission

5.   ACADEMIC SESSION

5.1   Each academic session is divided into two semesters (odd and even), each of 15 weeks including two Mid Semester Examinations (MSE).

      a) **Odd Semester**: From 3rd week of June to Second week of October. However, academic session of the first semester will be decided based on counseling schedule declared by the TSCHE.

      b) **Even Semester**: From November/December to March/April of academic year.

5.2   The Institute shall announce the schedule for all the academic activities well before the commencement of the academic year and take all the necessary steps to follow them scrupulously.

5.3   The academic activities in a semester normally include registration, course work, Continuous Internal Evaluation (CIE), End Semester Examination (ESE) and declaration of results.

6. REGISTRATION

6.1 All the students are required to register in person at the beginning of each academic year on the dates specified in the academic calendar (almanac).

6.2 The sole responsibility for registration rests with the student concerned.

6.3 Registration of students will be centrally organized by the Academic section.

6.4 The Registration procedure involves:
   a) Filling of the prescribed registration form
   b) Payment of fees and clearance of outstanding dues (if any)
   c) Signing undertakings (undertaking for regular attendance, discipline and against ragging) along with the parents

6.5 If for any compelling reasons like illness, etc., a student is unable to register on the announced day of registration, he/she can register within 12 working days from the beginning of the academic year on payment of an additional late fee as prescribed by the Institute.

6.6 **No late registration shall be permitted after 12th working day** from the scheduled date of commencement of class work for that academic year.

6.7 Only those students will be permitted to register who have
   a) cleared all institute and hostel dues of previous semesters
   b) paid all required prescribed fees for the current academic year
   c) not been debarred / detained from registering for a specified period on disciplinary or any other grounds
   d) cleared the minimum academic requirement as detailed in Regulation No. 15

7. CURRICULUM

7.1 Assignment based Teaching Learning Process (ATLP)

7.2 I²RE (Innovation, Incubation, Research and Entrepreneurship) based Learning activity

7.3 Importance to the Course Projects

7.4 The Model curriculum/ Course structure as suggested by AICTE, New Delhi; Choice Based Credit System (CBCS) and Credit Based Semester System (CBSS) as denoted by UGC, New Delhi is followed for all PG programmes.

7.5 The duration of the programme leading to M.Tech degree will be 4 semesters (2 academic years)

7.6 The curricula for 2-year M.Tech degree programme as proposed by the department and recommended by the BoS shall have the approval of the Academic Council.

7.7 As suggested by AICTE, the courses offered for PG programme are broadly classified as: Program Core courses; Program Elective courses ; Labs based on Core courses; Lab based on Elective courses; Research Methodology and IPR (Mandatory); Audit courses; Open Elective; Mini Project with Seminar; Dissertation-1 / Industrial Project; Dissertation-2

7.8 The courses offered would have a *Lecture – Tutorial – Practical (L-T-P)* component to indicate contact hours. Separate laboratory (practical) course may exist (0-0-P) in certain cases as decided.

7.9 The academic programmes of the Institute follow the credit system.

7.10 Each course shall have credits(C), which reflects its weightage. The number of credits of a course in a semester shall ordinarily be calculated as under:

   Number of credits of a course, C = L +(T + P) /2

   - where *L, T, P* represent the No. of Lecture, Tutorial and Practical hours / week
   - The fraction to be rounded off to next integer value

7.11 **Course Code:** Each course offered in the Postgraduate (M.Tech.) curriculum at this institute shall be listed by using a total of 8 digits, as follows:

   Ex: **P20SC101**
   a) The first letter, to represent the **P**ost Graduate Programme
   Ex. **P** for Postgraduate Course
   b) The next two numerals, to represent the year in which the syllabus is proposed /

revised.

> **Ex**. **20** for the year 2020 from which syllabus is applicable for the batches admitted from academic year 2020-21

c) The next two letters, to represent the concerned department offering that course.
> **Ex**. **SC** for Structural & Construction Engineering

d) The last three numerical, to represent the course number and semester in which it is being offered.
> **Ex**. **XYZ**; X - Semester number ; YZ – Course number
>
> **101** represents course number 01 offered in first semester
>
> In general, a **course code** "**P20SC101**" represents a **Postgraduate Course number-01 for the batches admitted from the year 2020 in Structural & Construction Engineering in first semester.**

7.12 The syllabus of each course in the M.Tech. curriculum shall be divided into four (4) units.

8. ATTENDANCE

8.1 All the students are normally required to have 100% attendance in aggregate. However, condonation for shortage of attendance upto 25% may be granted by the Principal based on recommendation of HoD concerned.

8.2 The condonation for shortage of attendance upto 25% (as mentioned in Regulation No. 8.1) shall be taken up only when the student takes prior permission for his absence stating fully the genuine reasons along with supporting documents to the HoD concerned.

8.3 Students not having the mandatory requirement of minimum 75% of attendance in aggregate shall be detained and shall not be permitted to appear for the MSE-II & ESE of that semester

8.4 All such students who are detained have to repeat the entire semester when it is offered, by following the due registration procedure.

8.5 Attendance of all courses shall be entered before the end of each working day by the faculty concerned through the College Management System (CMS) portal of the institute website. Students are advised to monitor the status of their attendance through this CMS portal.

9. CONDUCT AND DISCIPLINE

9.1 All students shall be required to conduct themselves in a manner befitting the reputation of the institution, within and outside the premises of the Institute; and are expected to complete their studies without any break.

9.2 As per the order of Hon'ble Supreme Court of India, ragging in any form is strictly banned. Involvement of a student in ragging will be considered as a gross indiscipline and may lead to his / her expulsion from the Institute.

9.3 Detailed rules regarding the conduct and discipline (code of conduct) are given in Appendix-1

10. EVALUATION PROCEDURE

10.1 The evaluation of students in every course of 2-year M.Tech. programme (4 semesters) is a continuous process and is based on their performance in different examinations as mentioned below:

a) Sessional, involving **Continuous Internal Evaluation (CIE)** conducted all through the semester which includes **Teachers Assessment (TA)** through assignments, course research papers, course patents, course presentation (with PPT), Minor and **Mid-Semester Examinations (MSE)**

b) Terminal often designated as **End Semester Examination (ESE)** which includes written examination for theory courses and practical/ dissertation courses.

10.2 A student's performance in a course (subject) shall be judged by taking into account the result of Continuous Internal Evaluation (CIE) and End Semester Examination (ESE) together.

10.3 Continuous Internal Evaluation (CIE) and End Semester Examination (ESE) shall have 60:40 weightage i.e. CIE carrying 60% weightage and ESE carrying 40% weightage.

10.4 **Continuous Internal Evaluation (CIE) for Theory Course**:

10.4.1 Continuous Internal Evaluation (CIE) throughout the semester shall consist of Innovation Incubation Research and Entrepreneurship-Teachers Assessment (I²RE - TA) and Mid Semester Examination (MSE).

10.4.2 The distribution given to each component of CIE for a theory course is given below:

S.No.	Particulars	Weightage
1.	Innovation Incubation Research and Entrepreneurship-Teachers Assessment (I²RE -TA)	30%
2.	Minor Examination (**M-I & M-II**)	10%
3.	Mid Semester Examination (MSE**) (MSE-I & MSE-II**)	20%
	Total Weightage	**60%**

10.4.3 **Teachers Assessment (TA)**:
   a) There shall be two Assignments, Special Assignments consisting of two CRPs & two CPs and one Course Presentation for each course at regular intervals of time
   b) Assignment-I shall be based on Unit-I & Unit-II syllabi and to be submitted before MSE-I, Assignment-II shall be based on Unit-III & Unit-IV syllabi and to be submitted before MSE-II and average of Assignment-I and Assignment-II marks shall be taken under TA
   c) Each special assignment (CRP-I, CP-I, CRP-II and CP-II) has to submit two page summary report.
   d) Course Presentation can be on CRP-I/ CP-I/ CRP-II/ CP-II/ Course Project/Business Idea.

10.4.4 **Minor Examination**:
   a) There shall be two minor examinations (M-I and M-II) of one hour duration each.
   b) Minor-I shall be based on Unit-I syllabus, Minor-II shall be based on Unit-III syllabus.
   c) Average of Minor-I and Minor-II marks shall be taken under TA.

10.4.5 **Mid Semester Examination (MSE)**:
   a) There shall be two mid semester examinations (MSE-I and MSE-II) of two hour duration each.
   b) It is mandatory for the student to take both MSEs
   c) MSE evaluation shall be done as given below:

   MSE marks awarded = (70% of the best of MSE-I & MSE-II marks) + (30% of the other MSE marks)

   Ex: A student secured following marks
   MSE-I marks   : 10 out of 20
   MSE-II marks   : 20 out of 20
   MSE marks awarded = (70% of 20) + (30% of 10) = 14 + 3 =17

10.4.5 The marks obtained by the students in MSE must be submitted to the Controller of Examination (CoE) by the teachers within 1 week from the date of conduct of the examination.

10.4.6 The dates for MSE and ESE will be declared by the CoE in consultation with the Dean, Academic Affairs.

10.5 **End Semester Examination (ESE) for Theory Course**:
There shall be an End Semester Examination (ESE) at the end of each semester for three hour duration for each course.

10.6 **Continuous Internal Evaluation (CIE) for Practical (Laboratory) Course:**

10.6.1 Continuous Internal Evaluation (CIE) for practical course shall carry 60% weightage.

10.6.2 The Continuous Internal Evaluation (CIE) throughout the semester shall consist of the following:

Assessment	Weightage
Regular Experimentation / Job work	15%
Regular submission of record	15%
Quiz / Skill test / Viva-voce at the end of semester	15%
Viva-voce at the end of semester	15%
Total Weightage	**60%**

10.7 **End Semester Examination (ESE) for Practical (Laboratory) Course:**

10.7.1 There shall be an ESE at the end of each semester for three hour duration for each practical course.

10.7.2 The ESE for practical course shall carry 40% weightage.

10.7.3 The marks distribution at ESE shall be as follows:

Assessment	Weightage
Procedure/Experimentation/Tabulation/Result. as applicable	30%
Viva-voce at the end of semester	10%
Total Weightage	**40%**

The weightage to different components under CIE carrying 60% weightage and ESE carrying 40% weightage is as below:

PRR – 20 (Continuous Internal Evaluation)			Marks	Minimum marks
MSE – 1	20 Marks	*(70% of the best of MSE-I & MSE-II marks) + (30% of the other MSE marks)*	20 Marks	07/20
MSE – 2	20 Marks			
Minor – 1	10 Marks	*Average of M-I & M-II marks*	10 Marks	04/10
Minor – 2	10 Marks			
Assignment – 1	8 Marks	*Average of A-I & A-II marks*	08 Marks	
Assignment – 2	8 Marks			
Special Assignments	CRP-1	04 Marks	*Two page summary Report on course research paper - I*	04 Marks
	CRP-II	04 Marks	*Two page summary Report on course research paper - II*	04 Marks	10/30
	CP-I	04 Marks	*Two page summary Report on course patent - I*	04 Marks	
	CP-II	04 Marks	*Two page summary Report on course patent - II*	04 Marks	
CRP or CP Presentation		06 Marks	*PPT Presentation and viva voce (CRP or CP)*	06 Marks	
PRR-20 End Semester Examination (ESE)			40	14/40
Total			**100 Marks**	**35/100**

10.8 **Continuous Internal Evaluation (CIE) for Mini Project with Seminar:**

(i) The *Post Graduate Mini Project Evaluation Committee (PGMPEC)* shall be constituted with HoD as a Chairman, M.Tech. Coordinator as a Convener and three to five other faculty members representing various specializations in that particular programme as members.

(ii) Student has to take up independent mini project on innovative ideas, innovative solutions to common problems using their knowledge relevant to courses offered in their program

of study, which would supplement and complement the program assigned to each student.

(iii) *PGMPEC* shall allot a faculty supervisor to each student for guiding on

    (a) Selection of topic

    (b) Literature survey and work to be carried out

    (c) Preparing a report in proper format

    (d) Right conduct of research and academic activity to promote academic integrity

    (e) Use of anti-plagiarism software to detect plagiarism in the report and submission of Mini project report within acceptable plagiarism levels

    (f) Effective mini project oral presentation before the PGMPEC

       There shall be only Continuous Internal Evaluation (CIE) for seminar

(iv) The CIE for mini project is as follows:

Assessment	Weightage
Mini project Supervisor Assessment	**20%**
PGMPEC Assessment: (i) *Registration presentation* **(10%)** (ii) *Working model / process / software package / system developed* **(20%)** (iii) *Mini project report* **(20%)** (iv) *Mini project paper* **(10%)** (v) *Mini project video pitch* **(10%)** (vi) *Final presentation (with PPT) and viva-voce* **(10%)**	**80 %**
Total Weightage:	**100%**

  Note: It is mandatory for the student to

      (i) appear for final presentation (with PPT) and viva-voce to qualify for course evaluation

      (ii) write mini project paper in given journal format

      (ii) create a good video pitch to present mini project

  (a) **Mini Project Topic**: The topic should be interesting and conducive to discussion. Topics may be found by looking through recent issues of peer reviewed Journals/Technical Magazines on the topics of potential interest

  (b) **Working Model**: Each student is required to develop a working model/ process/ software package /system on the chosen work and demonstrate before the *PGMPEC* as per the dates specified by *PGMPEC*

  (c) **Mini Project Report:** Each student is required to submit a well-documented mini project report as per the format specified by *PGMPEC*

  (d) **Anti-Plagiarism Check:** The mini project report should clear plagiarism check as per the Anti-Plagiarism policy of the institute

  (e) **Presentation:** Each student should prepare PPT with informative slides and make an effective oral presentation before the *PGMPEC* as per the schedule notified by the department

  (f) **Video Pitch:** Each student should create a pitch video, which is a video presentation on his / her mini project. Video pitch should be no longer than 5 minutes by keeping the pitch concise and to the point, which shall also include key points about his / her business idea / plan (*if any*) and social impact

(v) The student has to register for the Mini project as supplementary examination in the following cases:

(a) he/she is absent for oral presentation and viva-voce

(b) he/she fails to submit the report in prescribed format

(c) he/she fails to fulfill the requirements of Mini project evaluation as per specified guidelines

(vi) (a) The CoE shall send a list of students registered for supplementary to the HoD concerned

(b) The *PGMPEC*, duly constituted by the HoD, shall conduct Mini project evaluation and send the award list to the CoE within the stipulated time

10.9 **Evaluation for Dissertation / Industrial Project:**

Dissertation work shall be normally conducted in two stages: Dissertation *Phase-I* in third semester and Dissertation *Phase-II* in fourth semester.

Dissertation *Phase-I*:

(i) The Department *Post Graduate Review Committee (DPGRC)* shall be constituted with HoD as a Chairman, M.Tech. Coordinator as a Convener and three to five other faculty members representing various specializations in that particular programme as members.

(ii) (a) Student shall take up independent Dissertation Phase-I on innovative ideas, innovative solutions to common problems using their knowledge relevant to courses offered in their programme of study, which would supplement and complement the program assigned to each student

(or)

(b) Student shall take up industrial project (in any industry) relevant to the courses offered in their programme of study, which would supplement and complement the program assigned to each student

(iii) DPGRC shall allot a faculty supervisor to each student for guiding on

(a) selection of topic

(b) literature survey and 50% work to be carried out during phase-I

(c) preparing a report in proper format and

(d) effective Dissertation Phase-I oral presentation before the DPGRC

(e) right conduct of research and academic activity to promote academic integrity

(f) use of anti-plagiarism software to detect plagiarism in the report and submission of Mini project report within acceptable plagiarism levels

(iv) In case of students with industrial projects, internal guide shall be there to track the progress from time to time

(v) There shall be only Continuous Internal Evaluation (CIE) for Dissertation Phase-I

(vi) CIE for the Dissertation Phase-I in third semester is as follows:

Assessment	Weightage
Dissertation Phase-I Supervisor Assessment	**50%**

DPGRC Assessment:
 	
  (i) Registration Presentation **(10%)**
 	
  (ii) Progress Report on Phase-I **(10%)**
 	
  (iii) Video pitch on Phase-I **(10%)**
 	
  (iv) Progress Presentation -I and viva voce **(20%)**
	50%

Total Weightage:	**100%**

Note: It is mandatory for the student to

(i) appear for progress presentation-I and viva voce to qualify for course evaluation

(ii) create a good video pitch on dissertation phase-I

(a) **Dissertation Topic:** The topic should be interesting and conducive to discussion. Topics may be found by looking through recent issues of peer reviewed Journals/Technical Magazines on the topics of potential interest

(b) **Working Model:** Each student is required to develop a working model/ process/software package/system, on the chosen work and demonstrate before the DPGRC as per the dates specified by DPGRC at the end of dissertation phase-II

(c) **Progress Report:** Each student is required to submit a well-documented progress report on dissertation phase-I as per format specified by DPGRC

(vii) The student has to register for the Dissertation Phase-I as supplementary examination in the following cases:

(a) he/she is absent for oral presentation and viva-voce

(b) he/she fails to submit the report in prescribed format

(c) he/she fails to fulfill the requirements of Dissertation Phase-I evaluation as per specified guidelines

(viii) (a) The CoE shall send a list of students registered for supplementary to the HoD concerned

(b) The DPGRC, duly constituted by the HoD, shall conduct Dissertation Phase-I evaluation and send the award list to the CoE within the stipulated time

Dissertation *Phase-II*:

(i) Student has to continue the Dissertation work in 4th semester as Dissertation Phase-II

(ii) There shall be Continuous Internal Evaluation (CIE) for 60 marks and End Semester Examination for 40 marks.

(iii) The evaluation for Dissertation Phase-II is as follows:

Assessment	Weightage

Dissertation Supervisor Assessment (10%)
 DPGRC Assessment:
    (i) Progress presentation -II (10%)
    (ii) Progress presentation -III (10%)
    (iii) Working model/process/software package/system developed (10%)
    (iv) Dissertation Video pitch (10%)
    (v) Dissertation Paper (10%)
	60%

End Semester Examination:
    (i) Dissertation Report (20%)
    (ii) Oral presentation (with PPT) and viva-voce (20%)
	40%

Total Weightage:	**100%**

Note: It is mandatory for the student to

(i) appear for oral presentation (with PPT) and viva-voce to qualify for course evaluation

(ii) write dissertation paper in given journal format

(iii) create a good video pitch on dissertation phase-I & II

(a) **Working Model:** Each student is required to develop a working model/ process/system on the chosen work and demonstrate before the DPGRC as per the dates specified by DPGRC at the end of dissertation phase-II

(b) **Dissertation Report:** Each student is required to submit a well-documented dissertation report as per the format specified by DPGRC

(c) **Anti-Plagiarism Check:** The dissertation report should clear plagiarism check as per the Anti-Plagiarism policy of the institute

(d) **Presentation:** Each student should prepare PPT with informative slides and make an effective oral presentation before the DPGRC as per the schedule notified by the department

(e) **Video Pitch:** Each student should create a pitch video, which is a video presentation on his / her dissertation Phase-I & II. Video pitch should be no longer than 5 minutes by keeping the pitch concise and to the point, which shall also include key points about his / her business idea / plan (if any) and social impact

(iv) **Dissertation Synopsis Presentation (DSP):**

(a) Students, with the consent of supervisor, shall apply to the DPGRC for conduct of dissertation synopsis presentation (DSP). This shall normally happen when the

supervisor feels that the student has done significant work to qualify for M.Tech. dissertation.

    (b) Those students who clear DSP shall only be allowed to submit the dissertation report for end semester examination

    (v) **Dissertation Report:**

After clearing DSP, student shall be required to submit two bound copies of dissertation report, one for the department and other for the Dissertation Supervisor. The Dissertation report shall be evaluated by the DPGRC and external examination shall be conducted on a pre-notified date.

10.10 **Evaluation for Internship:**

(i) The students shall undergo 6-8 weeks internship during summer/winter vacation at industry/R&D organization / Academic Institutes like IITs & NITs.

(ii) The students preferably shall undergo internship at one organization only. In case of any difficulty, the stipulated period of internship shall be completed at different organizations with minimum of two weeks internship at every stage.

(iii) The internship evaluation shall be done in the III semester of study and hence the students shall complete the prescribed period of internship before start of III semester (from end of I semester to commencement of III semester).

(iv) The internship evaluation shall be done by *Department Post Graduate Evaluation Committee (DPGRC).*

(v) There shall be only Continuous Internal Evaluation (CIE) for Internship Evaluation

(vi) CIE for the Internship in third semester is as follows:

Assessment	Weightage
Internship Supervisor's Evaluation: *a) Completion of Internship Assignment (10%)* *b) Quality of work in completing the Internship Assignment (10%)* c) *Attendance, punctuality and work hours (10%)*	*30%*
DPGRC Assessment: *a) Duration (8 /6 weeks) (15% / 10%)* *b) Internship Report (35%)* *c) Oral Presentation (with PPT) and viva voce (20%)*	*70%*
Total Weightage:	*100%*

Note: It is mandatory for the student to
 (i)   appear for oral presentation (with PPT) and viva voce to qualify for course evaluation

(a) Internship Report: Each student is required to submit a well-documented internship report as per format specified by DPGRC
(b) Anti-Plagiarism Check: The internship report should clear plagiarism check as per the Anti-Plagiarism policy of the institute
(c) Presentation: Each student should prepare PPT with informative slides and make an effective oral presentation before the DPGRC as per the schedule notified by the department

10.11 **Evaluation of MOOCs:**

a) **SWAYAM-MOOCs:** Massive Open Online Courses (MOOCs) are such online courses which are developed as per the pedagogy and made available on the SWAYAM (Study Web of Active-learning by Young and Aspiring Minds) platform of *Government of India*

b) **SWAYAM** shall notify to all Institutions, on 1st June, 1st November every year, the list of online learning courses going to be offered in the forth coming semester.

c) The student shall be allowed to register for MOOCs courses for the designated Professional electives and Open electives mentioned in the curriculum.

d) The student shall select a relevant MOOCs course carrying 3 credits.

e) The Institutional MOOCs coordinator with the help of departmental MOOCs coordinator shall guide the students throughout the course.

10.11.1 **Evaluation and Certification of MOOCs**:

a) The Principal Investigator (PI) shall be a subject matter expert (SME) belonging to a reputed educational institution, called Host Institution

b) The host Institution and PI shall be responsible for evaluating the registered students for MOOCs course

c) After conduct of examination and completion of the evaluation, the PI through host institution shall award Marks/Grade as per the evaluation scheme announced.

10.11.2 **Credit Mobility of MOOCs**:

a) Institution shall allow the credit mobility for the courses earned through MOOCs.

b) A certificate regarding successful completion of the MOOCs courses shall be issued through host Institution and sent to the parent institution.

c) The parent institution shall give equivalent credit weightage to the students for the credits earned through online learning courses through SWAYAM platform in the credit plan of the programme.

10.11.3 In case the student is unable to complete the MOOCs course, he/she shall be allowed to select one of courses listed under respective PE/OE offered at institute/department concerned and appear for supplementary examination. In such case, the student is deemed to have passed the course, if he/she scores minimum 35% of maximum marks allotted to the course in the registered supplementary ESE only (i.e. 35 marks out of 60 in ESE).

11. MINIMUM REQUIREMENT FOR PASSING A COURSE

11.1 **Theory Course**: A student is deemed to have passed in a theory course, if he / she secures

a) 35 percent of marks assigned to End Semester Examination (ESE) **and**

b) 35 percent of marks assigned to the Mid Semester Examination (MSE) & End Semester Examination (ESE) of the course taken together **and**

c) 35 percent of marks assigned to Teacher's Assessment (TA), Mid Semester Examination (MSE) and End Semester Examination (ESE) of the course taken together.

11.2 The marks assigned to MSE will be considered as per the Regulation no. 10.4.4

11.3 **Laboratory Course**: A student is deemed to have passed in a laboratory course, if he / she secures

a) 35 percent of marks assigned to End Semester Examination (ESE) and

b) 35 percent of marks assigned to the Teachers Assessment (TA) and End Semester Examination (ESE) of the laboratory course taken together.

12. GRADING SYSTEM

12.1 At the end of the semester a student is awarded a letter grade in each of his / her courses taking into account the total marks secured (X) in that course

where, X = Marks secured in CIE + Marks secured in ESE

12.2 For arriving at a grade obtained by a student in a particular course (subject), initially numeric marks obtained by the student out of 100 are to be determined. Once a numeric mark is obtained, the same is to be converted to a letter grade following the guidelines given in 12.3 below.

12.3 The Institute shall follow absolute grading system. The grades will be awarded to each course as under:

Grade	Total Marks Secured (X)
S	$X \geq 90$
A	$80 \leq X < 90$
B	$70 \leq X < 80$
C	$60 \leq X < 70$
D	$45 \leq X < 60$
P	$35 \leq X < 45$
F	$X < 35$

12.4 The typical grades and their numerical equivalents on 10-point scale (called Grade Points) are as follows:

Performance	Letter Grade	Grade Points (Gi)
Superior	S	10
Excellent	A	9
Very Good	B	8
Good	C	7
Average	D	6
Pass	P	4
Fail	F	0

12.5 **F-Grade** is a Fail Grade. The course in which the student has earned F-Grade will be termed as backlog course.

12.6 In addition, there shall be a transitional **M-Grade.** M-Grade for "Debarred" due to indiscipline / malpractice during examination.

12.7 A Semester Grade Point Average (SGPA) will be computed for each semester. The SGPA will be calculated as follows:

$$SGPA = \sum_{i=1}^{n} C_i G_i \bigg/ \sum_{i=1}^{n} C_i$$

where 'n' is the no. of courses (subjects) offered (excluding mandatory non-credit courses) for the semester 'C$_i$' is the credits allotted to a particular course, 'Gi' is the grade-points carried by the letter corresponding to the grade awarded to the student for the course as illustrated in 12.4.

12.8 The SGPA would indicate the performance of the student in the semester to which it refers. SGPA will be rounded off to the second place of decimal and recorded as such.

12.9 Starting from the second semester, at the end of each semester, a Cumulative Grade Point Average (CGPA) will be computed for every student as follows:

$$CGPA = \sum_{i=1}^{m} C_i G_i \bigg/ \sum_{i=1}^{m} C_i$$

where 'm' is the total number of courses (subjects) the student has been offered from the first semester onwards upto and including the present semester, 'C$_i$ and 'G$_i$' are as explained in 12.7.

12.10 The CGPA would indicate the cumulative performance of the student from the first semester up to the end of the semester to which it refers. CGPA will be rounded off to the second place of decimal and recorded as such.

12.11   SGPA and CGPA are calculated in consideration of only credits cleared, i.e. F-Grade credits are not included for calculation.

13. SUPPLEMENTARY EXAMINATIONS

13.1   A student who obtained the F-Grade in a course (theory or practical) can appear in a subsequent End Semester Examination (ESE) in the same course as supplementary candidate.

13.2   However the marks secured in Continuous Internal Evaluation (CIE) by the student in that course during the semester study shall remain unaltered.

13.3   The students those who have passed in the supplementary examination will be awarded grade with **'*'** marked on the courses passed in the supplementary.

13.4   **Makeup Examination for IV semester courses:**
Makeup Examination for the students having backlog courses at IV semester of 2nd year M.Tech. programme shall be conducted immediately after the release of IV semester regular examinations result.

14. REVALUATION

a)   Revaluation is allowed for only theory courses.

b)   If the award of the revaluator varies from the original award by less than 20% of maximum marks prescribed for the course, best of the two awards thus available shall be taken as final.

c)   If the award of the revaluator varies from the original award by more than 20% of the maximum marks prescribed for the course, the answer script will be examined by the second revaluator. If the award of the both revaluators is more than 20% of the maximum marks, then average of the two awards thus available shall be taken as final. Otherwise, best of the original award and the second revaluator award shall be taken as final.

15. CONDITIONS FOR PROMOTION

15.1   A student shall have to satisfy the attendance requirements for the semester (as per the Regulation No. 8) for promotion to the next higher semester.

16. IMPROVEMENT EXAMINATION

16.1   Students who wish to improve their SGPA / CGPA are permitted for SGPA / CGPA improvement only for theory courses. The student may opt to re-appear all the courses of a semester at the immediately succeeding End Semester Examination (ESE) for improving his / her grades. However, the students should clear all the courses of a particular semester in which he / she intends to take an improvement examination.

16.2   Further, when once the student appears for the improvement examination he / she shall forego the grades secured in the earlier End Semester Examination (ESE) in the whole set of courses prescribed for that semester. However, the marks secured in Continuous Internal Evaluation (CIE) by the student in those courses during the semester study shall remain unaltered.

16.3   Students those who have re-appeared for improvement will be awarded grade with **'$'** marked on the courses appeared for improvement examination. **'$'** will state the grade improvement. Such improved grades will not be counted for the award of Prizes, Medals and Rank.

16.4   However, the students who register for improvement examinations and wish to drop from appearing the examinations, by written application to the CoE, before commencement of examinations, shall be permitted to retain their earlier grades.

17. GRADUATION REQUIREMENT

17.1   A student shall be declared to be eligible for award of the M.Tech. degree, if he / she has registered and completed all the courses with a minimum P-grade scored in every course and secured a total of stipulated 68 credits.

17.2   Normally a student should complete all the requirements consecutively in 4 semesters (2 academic years) for the award of M.Tech. degree. However, the students who fail to fulfill all the requirements for the award of M.Tech. degree within a period of 8 consecutive semesters (4 academic years from the registration in 1st semester) shall forfeit his / her enrolment to the program.

17.4   a) **CGPA to Percentage conversion**: As per UGC and AICTE guidelines, the CGPA will be converted to percentage of marks as below:
           Percentage of marks = (CGPA – 0.75) x 10
           Ex: If CGPA is 6.75, the equivalent Percentage of marks = (6.75-0.75) x 10 = 60%

           b) CGPA to Class conversion:

S. No.	Division	Eligibility Criteria
1	First Division with Distinction	a) Student should secure CGPA $\geq$ 7.75 b) Student should pass all the courses along with the batch of students admitted with him / her within 4 consecutive semesters c) Student who appeared for improvement examination upto 3rd semester will also be considered d) Student who have cleared any course in supplementary examination shall not be awarded Distinction
2	First Division	a) Student should secure CGPA, which is $6.75 \leq CGPA < 7.75$ within the time frame of the programme i.e. 8 semesters b) Student who have cleared any course in supplementary examination and secured CGPA > 6.75
3	Second Division	Student should secure CGPA, which is $5.75 \leq CGPA < 6.75$ within the time frame of the programme i.e. 8semesters
4.	Pass Division	Student should secure CGPA, which is $4.25 \leq CGPA < 5.75$ within the time frame of the programme i.e. 8 semesters
5.	Fail	Student with CGPA < 4.25 will not be eligible for award of degree

17.5   The University will award degrees to the students who are evaluated and recommended by the Institute.

18.   MALPRACTICE IN EXAMINATION

18.1 Malpractice in examination is an illegal activity and is prohibited.

18.2 Mobile phones are strictly prohibited in the examination hall.

18.3 Exchange of question paper and material like pen, pencil, sharpener, eraser, scale, calculator, etc., during examination is strictly prohibited.

18.4 Malpractice in examination is viewed very seriously. Malpractice includes oral communication between candidates, possessing forbidden material, mobile phones (switched off/on) etc.

18.5 Any malpractice or engaging in any improper conduct and violation of the examination code by the student during examinations is liable for the punishment as given below:

S. No	Nature of Malpractice	S. No	Punishment
1.	Taking help from others, consulting and or helping other examinees during the examination period inside the examination hall or outside it, with or without their consent or helping other candidates to receive help from anyone else	a)	Cancelling the examination of the paper in which he / she indulged in malpractices
2	If the examinee attempts to disclose his / her identity to the valuer by writing his / her Hall-Ticket Number at a place other than the place prescribed for it or any coded message including his / her name or addressing the valuer in any manner in the answer book		Cancelling the examination of the paper in which he / she indulged in malpractices

3.	Candidate is found in possession of forbidden material; relevant or not relevant <u>but not used</u>	b)	Cancellation of the result of (i) all examinations taken including current examination in that session (or) (ii) current examination and proposed examinations to be taken during that session (or) (iii) current examination
4.	Destroying the material found in his / her possession or acting in any other manner with a view to destroying evidence	c)	Cancellation of the result of all examinations taken or proposed to be taken during that session and prohibiting his/her admission to or continuation in any course of the Institute for a period of one year. The student will be eligible to appear for the next corresponding semester / year examination in the succeeding academic year
5.	Smuggling main answer book / additional answer book / question paper / matter in to or out of the examination hall & Conspiring to interchange Hall Ticket Numbers		-do-
6.	Candidate is found in possession of forbidden material, relevant or not relevant <u>but used</u>		-do-
7.	In case of (i) impersonation, (ii) misbehavior with the invigilators/any person related to examination work, (iii) insertion of written sheets in different hand writing in the main/additional answer book, and (iv) creation of disturbance in and around the examination hall during or before the examination	d)	Cancellation of the result of all examinations taken or proposed to be taken during that session and prohibiting his/her admission in to or continuation in any course of the Institute for a period of two years. Further, the candidate shall not be allowed to appear for any examination during the period of punishment
8.	If a candidate is found guilty of malpractice in the improvement examination (after completion of course)	e)	Punishment will be awarded subject to the above rules and further, he/she will not be permitted to appear for further improvement examination

19. **ROLL NUMBER ALLOTMENT**

The Roll Number given to the student shall have a total 8 digits as follows:

Ex: **M20SC123**

a) The first letter, to represent M.Tech. degree programme.
   Ex: M for M.Tech. programme
b) The next two numerical, to represent the year in which the student admitted into I -semester.
   Ex: 20 for 2020
c) The next two letters, to represent the M.Tech specialization to which the student belongs.
   Ex: SC for Structural & Construction Engineering
d) The last three numerical, to represent the three digit roll number of the student.
   In general, a student with roll number "**M20SC123**" represents an **M.**Tech. Student of **S**tructural **&** **C**onstruction Engineering **(SC)** admitted in the year 20**20** bearing a roll number of **123.**

20. AMENDMENTS

Notwithstanding anything contained in this manual, the Academic Council of the Institute reserves the right to modify / amend the curricula, requirements and rules & regulations pertaining to its undergraduate programmes, without any further notice.

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