| SHRI RAMDEOBABA COLLEGE OF ENGINEERING AND MANAGEMENT, NAGPUR  An Autonomous College of Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur, Maharashtra, India |
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| POST GRADUATE<br>ORDINANCES / REGULATIONS<br>2015-16   |
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### Published by

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**Principal** 

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### 1. INTRODUCTION

### 1.1 PREAMBLE

Shri Ramdeobaba College of Engineering and Management (RCOEM), situated in the heart of Nagpur city, was established in 1984 by Shri Ramdeobaba Sarvajanik Samiti, a trust which has been involved in community service for over four decades. RCOEM has established a strong foundation in technical education in Central India. Journey of a student in this institute has always involved comprehensive knowledge building through practical skills, technical knowledge and personality development, which gives them a head start in their career. The institute on an average annually admits around 810 candidates for UG programmes, around 381 candidates for PG programmes and 60 candidates for Dual Degree Course in Management.

The curriculum provides broad knowledge, builds a thorough professional life long process of learning and exploring. At undergraduate level, a student needs to do compulsory foundation courses in the areas of basic sciences, humanities, social sciences and engineering apart from departmental requirements. Departmental courses (core and electives) constitute minimum 50% of the total curriculum. Further, students have to undertake electives including interdisciplinary ones to develop broad specialized and inter-disciplinary knowledge. At the PG level students are encouraged to look beyond their area of specialization to broaden their horizons through a wide variety of courses and electives.

The Institute follows a credit based semester system for its academic programmes with English as the medium of instruction. An academic year runs from July through June next year and is comprised of two semesters. Typically, the 1<sup>st</sup> semester (**Odd Semester**) starts in the July and ends in December; the 2<sup>nd</sup> Semester

### 1.2 Departments

The various Departments and their two-letter codes are given below;

| S.No. | Name of Department                        | Department Code |
|-------|---|-----------------|
| 1     | Civil Engineering                         | CE              |
| 2     | Computer Science and Engineering          | CS              |
| 3     | Electrical Engineering                    | EE              |
| 4     | Electronics and Communication Engineering | EC              |
| 5     | Electronics Design Technology             | ED              |
| 6     | Electronics Engineering                   | EN              |
| 7     | Industrial Engineering                    | IN              |
| 8     | Information Technology                    | IT              |
| 9     | Mechanical Engineering                    | ME              |
| 10    | Management Technology                     | MB              |
| 11    | Computer Applications                     | MC              |
| 12    | Mathematics                               | MA              |
| 13    | Physics                                   | PH              |
| 14    | Chemistry                                 | СН              |
| 15    | Humanities                                | HU              |
| 16    | Physical Education                        | PE              |

### 1.3 Programmes Offered

RCOEM Nagpur offers academic programmes namely Engineering and Technology at UG and PG levels, MBA, MCA, Integrated Course in Engineering & Management and Dual Degree Course in Management. In undergraduate programmes and in Dual Degree Course in Management, students are admitted after 10+2 schooling while for all postgraduate programmes, students are admitted after they have obtained at least a college level Bachelor's degree. For Master of Technology Management, candidates are selected from total sanctioned UG engineering intake (all UG engineering programmes in first shift). For Academic year 2015-16, the selection of candidates for MTM programme shall be done at the start of semester III, UG engineering programme on programme wise merit of first year (Semester I & II) results. Admission to all these programmes are based as per the eligibility criteria laid down by the competent authority.

# **1.3.1** Under Graduate Programmes A. Bachelor of Engineering : (B.E.)

| Sr.<br>No. | Department                                | Programme Title                                  | Programme<br>Code | Eligibility for admission |
|------------|---|--|-------------------|---------------------------|
| 1          | Civil Engineering                         | B.E. (Civil Engineering)                         | CEU               |                           |
| 2          | Computer Science and Engineering          | B.E. (Computer Science and Engineering)          | CSU               | Eligibility               |
| 3          | Electrical Engineering                    | B.E. (Electrical Engineering)                    | EEU               | Criteria as<br>laid down  |
| 4          | Electronics and Communication Engineering | B.E. (Electronics and Communication Engineering) | ECU               | by the competent          |
| 5          | Electronics Design Technology             | B.E. (Electronics Design<br>Technology)          | EDU               | authority<br>from time    |
| 6          | Electronics Engineering                   | B.E. (Electronics Engineering)                   | ENU               | to time                   |
| 7          | Industrial Engineering                    | B.E. (Industrial Engineering)                    | INU               |                           |
| 88         | Information Technology                    | B.F.(Information Technology)                     | ITU               |                           |

### **1.3.2 Post Graduate Programme**

### A. Masters:

| S.  | Department                       | Department Programme Title                     |      |                            |  |  |
|-----|----------------------------------|--|------|----------------------------|--|--|
| No. |                                  |  | Code | admission                  |  |  |
| 1   | Civil Engineering                | M.Tech. (Geotechnical Engineering) (Part time) | CEG  |                            |  |  |
| 2   | Civil Engineering                | M. Tech.(Structural Engineering)               | CES  |                            |  |  |
| 3   | Electronics Engineering M.T.     | ech. (Very Large Scale<br>Integration Design)  | ENV  | Eligibility<br>Criteria as |  |  |
| 4   | Industrial Engineering           | M.Tech. (Industrial Engineering)               | IND  | laid down                  |  |  |
| 5   | Electrical Engineering           | M. Tech (Power Electronics & Power System)     | EEP  | by the competent           |  |  |
| 6   | Computer Science and Engineering | M. Tech (Computer Science & Engineering)       | CSE  | authority<br>from time     |  |  |
| 7   | Mechanical Engineering           | M. Tech (Heat Power Engineering)               | HPE  | to time                    |  |  |
| 88  | Computer Application             | MCA  | MCA  |                            |  |  |
|     |                                  |  |      |                            |  |  |

# 1.3.3 Integrated Course in Engineering & Management

| Sr.<br>No. | Department            | Programme Title                     | Programme Code | Eligibility for admission  |
|------------|-----------------------|-------------------------------------|----------------|--|
| 1          | Management Technology | Masters of Technology<br>Management | MTM            | Eligibility Criteria as laid down by the competent authority from time to time |

### 1.3.4 Dual Degree Course in Management

| Sr.<br>No. | Department               | Programme Title                          | Programme Code | Eligibility for admission                                 |
|------------|--------------------------|--|----------------|---|
| 1          |                          | Bachelor's Degree<br>in Management       | ВМ             | Eligibility Criteria                                      |
| 2          | Management<br>Technology | ement Bachelor's Degree BAM compete      |                | as laid down by the competent authority from time to time |
| 3          |                          | Master's Degree in<br>Applied Management | МАМ            |   |

### ORDINANCES FOR THE P.G. PROGRAMMES 2015

The Board of Management of the Institute prescribes the following ordinances in respect of the different academic undergraduate programmes at Shri Ramdeobaba College of Engineering and Management, Ramdeo Tekdi, Gittikhadan, Katol Road, Nagpur- 440013 on the recommendation of the Academic Council. The details in respect of the ordinances issued for UG Programmes are as follows.

| Short Title and<br>Commencement | (i)    | These ordinances shall be hereafter called as the Ordinances for the Undergraduate (UG) Programmes of RCOEM.  |
|---------------------------------|--------|---|
|                                 | (ii)   | These ordinances shall come into force with effect from the date of its approval by the Board of Management.  |
| Definitions                     |        | Unless the context requires otherwise;  |
|                                 | (i)    | "Government" shall mean the Government of Maharashtra/ Government of India as may be applicable.  |
|                                 | (ii)   | "DTE" shall mean Director of Technical Education, Government of Maharashtra.  |
|                                 | (iii)  | "University" shall mean Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.   |
|                                 | (iv)   | "Regulating Authority" shall mean any regulatory or controlling body for the Technical Education in India.  |
|                                 | (v)    | <b>"UGC"</b> shall mean University Grants Commission, Government of India, New Delhi.   |
|                                 | (vi)   | "AICTE" shall mean the All India Council for Technical Education, New Delhi.  |
|                                 | (vii)  | "Institute" shall mean Shri Ramdeobaba College of Engineering and Management, Ramdeo Tekdi, Gittikhadan, Katol Road, Nagpur 440013.   |
|                                 | (viii) | "Board" shall mean the Board of Management of the Institute constituted as per the XI plan guidelines of UGC for autonomous colleges read with Direction no. 4/1999 of the University.  |
|                                 | (ix)   | "Principal" shall mean the Principal of the Institute.  |
|                                 | (x)    | "Vice-Chancellor" shall mean the Vice-Chancellor of the University.   |
|                                 | (xi)   | "APEC" shall mean the Institute level Academic Programme Evaluation Committee formed by the Principal as and when required. If any academic program is to be evaluated based on factors like importance, academic content, industrial significance, financial viability, sustainability etc., the decision of this body must be taken into consideration. |
|                                 | (xii)  | <b>"Finance Committee"</b> shall mean the Finance committee of the Institute constituted as per the guidelines of UGC for autonomous colleges.  |

| (xiii)  | <b>"BOS</b> " shall mean the Board of Studies of the department, constituted as per the Guidelines of UGC for autonomous colleges.  |
|---------|---|
| (xiv)   | "Degree" shall mean the Bachelor of Engineering (B. E.) or Master of Technology (M. Tech.) Master of Business Administration (MBA), Master of Computer Applications (MCA) and other degrees of the Institute as may be approved by the Board/University/UGC/Government.   |
| (xv)    | "Applicant" shall mean an individual who applies for admission to any UG programme of the Institute.  |
| (xvi)   | "Student" shall mean a student registered for UG programme for studies leading to any degree course offered by the Institute and sought final admission to the degree programme.  |
| (xvii)  | "Direct Admission Student" shall mean a student who is admitted directly to second year of the B.E. degree program after completion of the appropriate Diploma Course and registered for undergraduate program for full time study leading to the respective B.E. degree. |
| (xviii) | "Course" shall mean a curricular component identified by a designated number and title.   |
| (xix)   | "Programme" Programme shall mean the stream in which the degree is awarded.   |
| (xx)    | "Scheme of Teaching and Examination" shall mean the scheme of teaching and examination for a programme of study as approved by the Academic Council.  |
| (xxi)   | "Course Coordinator" shall mean a faculty member who shall have full responsibility for the course, coordinating the work of other faculty member(s) involved in that course, including examinations and the award of grades.   |
| (xxii)  | "Departmental Faculty Board (DFB)" shall mean the committee of the faculty members involved in teaching a course or a group of courses of technically relevant subjects.  |
| (xxiii) | "Grade Moderation Committee" shall mean the committee appointed by the Academic Council to moderate grades awarded by the examiner, if required.  |
| (xxiv)  | "SGPA" shall mean the Semester Grade Point Average.   |
| (xxv)   | "CGPA" shall mean the Cumulative Grade Point Average.   |
| (xxvi)  | "Academic Council" shall mean the Academic Council constituted as per the XI plan guidelines of UGC for autonomous colleges read with Direction no. 4/1999 of the University.   |
| (xxvii) | <b>"EXC"</b> shall mean Examination committee constituted as per the Direction No. 4/1999 of the University for autonomous colleges.  |
|         |   |

|            | (xxviii)  | <b>"COE"</b> shall mean the Controller of Examinations appointed as per the Guidelines of UGC for autonomous colleges.   |
|------------|-----------|--|
|            | (xxix)    | "ISV" shall mean In-charge of Spot Valuation, appointed by the Principal.  |
|            | (xxx)     | "OIC" shall mean Officer In-charge of the End Semester Examination.  |
|            | (xxxi)    | "DEC" shall mean the Departmental Examination Committee.   |
|            | (xxxii)   | <b>"Guide"</b> shall mean a person who is qualified to supervise a project / dissertation work of students and is approved by the Academic Council.  |
|            | (xxxiii)  | "RCC" shall mean Departmental Research Coordination Committee.   |
|            | (xxxiv)   | "GRC" shall mean Grievance Redressal Committee formed by the Academic Council.   |
|            | (xxxv)    | "Competent Authority" shall mean the Board of Management / Academic Council of the Institute/ University/Government/UGC/Regulating Authority as the case may be.   |
|            | (xxxvi)   | <b>"Equivalence Committee"</b> shall mean the Equivalence Committee appointed by the Academic Council.   |
|            | (xxxvii)  | "APAC" shall mean Academic Performance Advisory Committee.   |
|            | (xxxviii) | "DAPAC" shall mean Departmental Academic Performance Advisory Committee'.  |
| Ordinances | (1)       | The Institute shall offer UG programmes as the Board / University / Government may approve on the recommendation of the Academic Council either on its own or on the initiative of a Department and / or on the direction of the Board / Government, |
|            |           | provided that an interdisciplinary programme may be proposed by a Department or by a committee appointed by the Principal for the consideration of the Academic Council and the Board/Government.  |
|            | (2)       | The procedure for starting a new programme/temporarily suspending a programme/phasing out a programme shall be as per the guidelines laid down by the competent authority.   |
|            | (3)       | The minimum qualifications and procedure for admission to the first year UG programmes as well as direct second year admission to UG programme shall be as per the norms prescribed.   |
|            | (4)       | A student shall be required to earn minimum credits through various academic courses of a curriculum as provided in the regulations and scheme given in Annexure-I   |
|            | (5)       | The award of the UG degree to an eligible candidate shall be made in accordance with the procedure laid down in the regulations. A student shall have to complete all the requirements for the award of the degree within such                       |
|            |           |  |

|      | period as may be specified in the regulations, including those credits earned at such other institutions as have been recognized by the Institute for this purpose.   |
|------|---|
| (6)  | The date of initial registration for the programme shall normally be the date, on which the student formally registers i.e. takes final admission for the first time. This date shall be considered as the date of joining the programme for all  |
| (7)  | intents and purposes.  A student shall be required to attend every lecture, tutorial and practical class.  However, for late registration, sickness or other such exigencies, absence may   |
| (8)  | be allowed as provided in the regulations.  A student may be granted such scholarship/assistantship/stipend, etc. and awarded medals as may be specified in the regulations or in accordance with the directions of the Government and / or the decision of the Board from time to time. The overall topper(s) amongst all branches shall not be declared however on the basis of CGPA branch toppers may be declared as per norms.   |
| (9)  | The procedure for the withdrawal from an UG programme, rejoining the programme, award of grades and SGPA / CGPA, the examination and all such matters as may be connected with the running of UG programmes shall be as specified in the regulations.   |
| (10) | A student admitted to the UG programme shall abide by the code of conduct for students issued by the Institute from time to time. This code of conduct shall deal with the discipline of the students in the hostels, departments, the Institute premises and outside. It may also deal with such other matters as are considered necessary for the general conduct of the students, co-curricular and extra-curricular activities. It shall be approved by the Academic Council on the recommendations of the Dean Students Affairs. |
| (11) | The minimum duration of UG programmes shall be of four years (Organized in 8 semesters of six months each including vacation period).   |
| (12) | The tuition fees structure will be governed by the rules and regulations as prescribed by the competent authority.  |
| (13) | The fees other than the tuition fees will be governed by the rules and regulations framed and recommended by the Finance Committee and duly approved by the Board.  |
| (14) | Notwithstanding anything contained in the above Ordinances, no regulations shall be made in contradiction of the decision of the Board and / or the direction of the Government, in regard to the duration of the UG programme,   |

# Scheme of Examination of Master of Technology (Geotechnical Engineering) Semester Pattern I Semester M. Tech (Geotechnical Engineering)

| Sr. | Code   | Course                               | L  | T | P | Credits | Maximum Marks          |                 |       | Exam     |
|-----|--------|--------------------------------------|----|---|---|---------|------------------------|-----------------|-------|----------|
| No. |        |                                      |    |   |   |         | Internal<br>Assessment | End Sem<br>Exam | Total | Duration |
| 1   | CET521 | Geosciences                          | 4  | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 2   | CET522 | Com. Prog. & Num. Method             | 4  | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 3   | CEP522 | Com. Prog. & Num. Method             | 0  | 0 | 2 | 2       | 25                     | 25              | 50    | -        |
| 4   | CET523 | Geotech. Exploration & Investigation | 4  | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 5   | CEP523 | Geotech. Exploration & Investigation | 0  | 0 | 2 | 2       | 25                     | 25              | 50    | -        |
|     |        | Total                                | 12 | 0 | 4 | 28      |                        |                 |       |          |

# Scheme of Examination of Master of Technology (Geotechnical Engineering) Semester Pattern II Semester M. Tech (Geotechnical Engineering)

| Sr. | Code   | Course             | L  | Т | P | Credits | Maximum Marks          |                 |       | Exam     |
|-----|--------|--------------------|----|---|---|---------|------------------------|-----------------|-------|----------|
| No. |        |                    |    |   |   |         | Internal<br>Assessment | End Sem<br>Exam | Total | Duration |
| 1   | CET524 | Advance Soil Mech. | 4  | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 2   | CET525 | Applied Soil Engg. | 4  | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 3   | CEP525 | Applied Soil Engg. | 0  | 0 | 2 | 2       | 25                     | 25              | 50    | -        |
| 4   | CET526 | Foundation Engg I  | 4  | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 5   | CEP526 | Foundation Engg I  | 0  | 0 | 2 | 2       | 25                     | 25              | 50    | -        |
|     |        | Total              | 12 | 0 | 4 | 28      |                        |                 |       |          |

# Scheme of Examination of Master of Technology (Geotechnical Engineering) Semester Pattern

III Semester M. Tech. (Geotechnical Engineering)

| Sr. | Code   | Course               | L  | Т | P | Credits | Maximum Marks |         |       | Exam            |
|-----|--------|----------------------|----|---|---|---------|---------------|---------|-------|-----------------|
| No. |        |                      |    |   |   |         | Internal      | End Sem |       | <b>Duration</b> |
|     |        |                      |    |   |   |         | Assessment    | Exam    | Total |                 |
| 1   | CET621 | Foundation Engg II   | 4  | 0 | 0 | 8       | 40            | 60      | 100   | 4 Hrs.          |
| 2   | CEP621 | Foundation Engg II   | 0  | 0 | 2 | 2       | 25            | 25      | 50    | -               |
| 3   | CET622 | Ground Improvement   | 4  | 0 | 0 | 8       | 40            | 60      | 100   | 3 Hrs.          |
| 4   | CEP622 | Ground Improvement   | 0  | 0 | 2 | 2       | 25            | 25      | 50    | -               |
| 5   | CET625 | Research Methodology | 3  | 0 | 0 | 6       | 40            | 60      | 100   | 3 Hrs.          |
|     |        | Total                | 11 | 0 | 4 | 26      |               |         |       |                 |

# Scheme of Examination of Master of Technology (Geotechnical Engineering) Semester Pattern

IV Semester M. Tech. (Geotechnical Engineering)

| Sr. | Code   | Course                          | L | Т | Р | Credits | Ma         | Maximum Marks  |       | Exam     |
|-----|--------|---------------------------------|---|---|---|---------|------------|----------------|-------|----------|
| No. |        |                                 |   |   |   |         | Internal   | <b>End Sem</b> |       | Duration |
|     |        |                                 |   |   |   |         | Assessment | Exam           | Total |          |
| 1   | CET624 | Dynamics of Soil and Foundation | 4 | 0 | 0 | 8       | 40         | 60             | 100   | 3 Hrs.   |
| 2   | CEP624 | Dynamics of Soil and Foundation | 0 | 0 | 2 | 2       | 25         | 25             | 50    | -        |
| 3   | CET623 | Elective - I                    | 4 | 0 | 0 | 8       | 40         | 60             | 100   | 3 Hrs.   |
| 4   | CET626 | Elective - II                   | 4 | 0 | 0 | 8       | 40         | 60             | 100   | 3 Hrs.   |
| 5   | CEP627 | Project Phase I                 | 0 | 0 | 6 | 24      | 50         | 50             | 100   | -        |

| Course Code | Elective - I                      |
|-------------|-----------------------------------|
| CET623-1    | Rock Mechanics                    |
| CET623-2    | Special Geotechnical Construction |

| Course Code | Elective - II                 |
|-------------|-------------------------------|
| CET626-1    | Soil-Structure Interaction    |
| CET626-2    | Geo-environmental Engineering |

# Scheme of Examination of Master of Technology (Geotechnical Engineering) Semester Pattern V Semester M. Tech. (Geotechnical Engineering)

| Sr. | Code   | Course           | L | Т | P  | Credits | Ma                     | ximum Ma        | ırks  | Exam     |
|-----|--------|------------------|---|---|----|---------|------------------------|-----------------|-------|----------|
| No. |        |                  |   |   |    |         | Internal<br>Assessment | End Sem<br>Exam | Total | Duration |
| 1   | CEP721 | Project Phase II | 0 | 0 | 12 | 48      | 100                    | 100             | 200   | -        |
|     |        | Total            | 0 | 0 | 12 | 48      |                        |                 |       |          |

# Scheme of Examination of Master of Technology (Structural Engineering) Semester Pattern I Semester M. Tech. (Structural Engineering)

| Sr. | Code   | Course                                     | L  | Т | Р | Credits | Ma                     | ximum Ma        | arks  | Exam     |
|-----|--------|--|----|---|---|---------|------------------------|-----------------|-------|----------|
| No. |        |  |    |   |   |         | Internal<br>Assessment | End Sem<br>Exam | Total | Duration |
| 1   | CET501 | Numerical Methods                          | 4  | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 2   | CET502 | Matrix Method                              | 4  | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 3   | CEP502 | Matrix Method (P)                          | 0  | 0 | 2 | 2       | 25                     | 25              | 50    | -        |
| 4   | CET503 | Structural Dynamics                        | 4  | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 5   | CEP503 | Structural Dynamics (P)                    | 0  | 0 | 2 | 2       | 25                     | 25              | 50    | -        |
| 6   | CET504 | Theory of Elasticity and Elastic stability | 4  | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 7   | CET505 | Advanced Steel Structures                  | 4  | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 8   | CEP505 | Advanced Steel Structures (P)              | 0  | 0 | 2 | 2       | 25                     | 25              | 50    | -        |
|     |        | Total                                      | 20 | 0 | 6 | 46      | 275                    | 375             | 650   | -        |

# Scheme of Examination of Master of Technology (Structural Engineering) Semester Pattern II Semester M. Tech. (Structural Engineering)

| Sr. | Code   | Course                       | L  | Т | P | Credits | Ma                     | Maximum Marks   |       |          |
|-----|--------|------------------------------|----|---|---|---------|------------------------|-----------------|-------|----------|
| No. |        |                              |    |   |   |         | Internal<br>Assessment | End Sem<br>Exam | Total | Duration |
| 1   | CET506 | Finite Element Method        | 4  | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 2   | CEP506 | Finite Element Method (P)    | 0  | 0 | 2 | 2       | 25                     | 25              | 50    | -        |
| 3   | CET507 | Foundation Design            | 4  | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 4   | CET508 | Advanced Concrete Structures | 4  | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 5   | CET509 | Theory of Plates and Shells  | 4  | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 6   | CET510 | Elective I                   | 3  | 0 | 0 | 6       | 40                     | 60              | 100   | 3 Hrs.   |
| 7   | CEP510 | Elective I (P)               | 0  | 0 | 2 | 2       | 25                     | 25              | 50    | -        |
|     |        | Total                        | 19 | 0 | 4 | 42      | 250                    | 350             | 600   | -        |

| Course Code | Elective I                                       |
|-------------|--|
| CET510-1    | Design of Earthquake Resistance Steel Structures |
| CET510-2    | Design of Earthquake Resistance RCC Structures   |

# Scheme of Examination of Master of Technology (Structural Engineering) Semester Pattern III Semester M. Tech. (Structural Engineering)

| Sr. | Code   | Course                                 | L | Т | Р  | Credits | Ma                     | ximum Ma        | ırks  | Exam     |
|-----|--------|--|---|---|----|---------|------------------------|-----------------|-------|----------|
| No. |        |  |   |   |    |         | Internal<br>Assessment | End Sem<br>Exam | Total | Duration |
| 1   | CET601 | Research Methodology                   | 3 | 0 | 0  | 6       | 40                     | 60              | 100   | 3 Hrs.   |
| 2   | CET602 | Design of High Rise Structures         | 3 | 0 | 0  | 6       | 40                     | 60              | 100   | 3 Hrs.   |
| 3   | CET603 | Elective II                            | 3 | 0 | 0  | 6       | 40                     | 60              | 100   | 3 Hrs.   |
| 3   | CEP604 | Computer aided analysis and design (P) | 0 | 0 | 2  | 2       | 25                     | 25              | 50    | -        |
| 4   | CEP605 | Project Phase I (D)                    | 0 | 0 | 8  | 24      | 50                     | 50              | 100   | -        |
|     |        | Total                                  | 9 | 0 | 10 | 44      | 195                    | 255             | 450   | -        |

| Course Code | Elective II                        |
|-------------|------------------------------------|
| CET603-1    | Composite Structures               |
| CET603-2    | Structural Instrumentation &       |
|             | Material Science                   |
| CET603-3    | Design of Environmental Structures |

# Scheme of Examination of Master of Technology (Structural Engineering) Semester Pattern IV Semester M. Tech. (Structural Engineering)

| Sr. | Code   | Course               | L | Т | Р  | Credits | Ma                     | ximum Ma        | ırks  | Exam     |
|-----|--------|----------------------|---|---|----|---------|------------------------|-----------------|-------|----------|
| No. |        |                      |   |   |    |         | Internal<br>Assessment | End Sem<br>Exam | Total | Duration |
| 1   | CEP606 | Project Phase II (D) | 0 | 0 | 16 | 48      | 100                    | 100             | 200   | -        |
|     |        | Total                | 0 | 0 | 16 | 48      | 100                    | 100             | 200   | -        |

# Scheme of Examination of Master of Technology (VLSI Design) Semester Pattern I Semester M. Tech. (VLSI Design)

|     | r semester in reem (1251 Besign) |   |     |   |     |         |                        |                 |                 |          |  |
|-----|----------------------------------|---|-----|---|-----|---------|------------------------|-----------------|-----------------|----------|--|
| Sr. | Code                             | Course  | L   | Т | Р   | Credits | Max                    | kimum Ma        | rks             | Exam     |  |
| No. |                                  | - Course  | _   | · | •   | Credits | Internal<br>Assessment | End Sem<br>Exam | Total           | Duration |  |
| 1   | ENT501                           | CMOS Digital Circuit Design                     | 4   | 0 | 0   | 8       | 40                     | 60              | 100             | 3 Hrs.   |  |
| 2   | ENP501                           | CMOS Digital Circuit<br>Design Lab.             | 0   | 0 | 2   | 2       | 25                     | 25              | 50              | 3 Hrs.   |  |
| 3   | ENT502                           | Digital System Design and Synthesis             | 3   | 0 | 0   | 6       | 40                     | 60              | 100             | 3 Hrs.   |  |
| 4   | ENP502                           | Digital System Design and Synthesis Lab.        | 0   | 0 | 2   | 2       | 25                     | 25              | 50              | 3 Hrs.   |  |
| _5  | ENT503                           | VLSI Technology                                 | 4   | 0 | 0   | 8       | 40                     | 60              | 100             | 3 Hrs.   |  |
| 6   | ENT504                           | Physical Electronics & Circuit Simulation       | 4   | 0 | 0   | 8       | 40                     | 60              | 100             | 3 Hrs.   |  |
| 7   | ENP504                           | Physical Electronics & Circuit Simulation Lab.  | 0   | 0 | _2  | 2       | 25                     | 25              | _50             | _3 Hrs   |  |
| 8   | ENT505                           | Advanced Processors for<br>Embedded System      | _3_ | 0 | _0_ | 6       | 40                     | 60              | _100_           | 3 Hrs.   |  |
| 9   | ENP505                           | Advanced Processors for<br>Embedded System Lab. | -0- | 0 | _2  | 2       | 25                     | 25              | <del>- 50</del> | 3 Hrs.   |  |

# Scheme of Examination of Master of Technology (VLSI Design) Semester Pattern II Semester M. Tech. (VLSI Design)

| C.,        | Cada   | Course                                      | L | Т | P | Credits | Ma                     | ximum Ma        | rks   | Evam             |
|------------|--------|---|---|---|---|---------|------------------------|-----------------|-------|------------------|
| Sr.<br>No. | Code   | Course                                      |   |   |   |         | Internal<br>Assessment | End Sem<br>Exam | Total | Exam<br>Duration |
| 1          | ENT506 | Analog IC Design                            | 3 | 0 | 0 | 6       | 40                     | 60              | 100   | 3 Hrs.           |
| 2          | ENP506 | Analog IC Design Lab.                       | 0 | 0 | 2 | 2       | 25                     | 25              | 50    | 3 Hrs.           |
| 3          | ENT507 | Digital System Design and Verification.     | 4 | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.           |
| 4          | ENP507 | Digital System Design and Verification Lab. | 0 | 0 | 2 | 2       | 25                     | 25              | 50    | 3 Hrs.           |
| 5          | ENT508 | Advanced Topics in<br>Signal Processing     | 3 | 0 | 0 | 6       | 40                     | 60              | 100   | 3 Hrs.           |
| 6          | ENP508 |   | 0 | 0 | 2 | 2       | 25                     | 25              | 50    | 3 Hrs.           |
| 7          | ENT509 | RF Circuit Design                           | 3 | 0 | 0 | 6       | 40                     | 60              | 100   | 3 Hrs.           |
| 8          | ENP509 | RF Circuit Design Lab.                      | 0 | 0 | 2 | 2       | 25                     | 25              | 50    | 3 Hrs.           |
| 9          | ENT510 | Elective I                                  | 4 | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.           |

| Course Code | Elective I                |
|-------------|---------------------------|
| ENT510-1    | Memory Design and Testing |
| ENT510-2    | VLSI Signal Processing    |
| ENT510-4    | Micro-Sensors and MEMS    |

# Scheme of Examination of Master of Technology (VLSI Design) Semester Pattern III Semester M. Tech. (VLSI Design)

|            | 6.1    | 6                    | L  | Т | P | Credits | Ma                     | ximum Ma        | Total  100 3   100 3   100 3 | F                |
|------------|--------|----------------------|----|---|---|---------|------------------------|-----------------|------------------------------|------------------|
| Sr.<br>No. | Code   | Course               |    |   |   |         | Internal<br>Assessment | End Sem<br>Exam | Total                        | Exam<br>Duration |
| 1          | ENT601 | Research Methodology | 3  | 0 | 0 | 6       | 40                     | 60              | 100                          | 3 Hrs.           |
| 2          | ENT602 | Elective -II         | 4  | 0 | 0 | 8       | 40                     | 60              | 100                          | 3 Hrs.           |
| 3          | ENT603 | Elective -III        | 4  | 0 | 0 | 8       | 40                     | 60              | 100                          | 3 Hrs.           |
| 4          | ENP604 | Project Phase I      | 0  | 0 | 6 | 24      | 100                    | 100             | 200                          |                  |
|            |        | Total                | 11 | 0 | 6 | 46      |                        |                 |                              |                  |

| Course Code | Elective II                    | Course Code | Elective III                   |
|-------------|--------------------------------|-------------|--------------------------------|
| ENT602-1    | Advanced Computer Architecture | ENT603-1    | VLSI Testing                   |
| ENT602-4    | Nanoelectronics                | ENT603-2    | Wireless Digital Communication |
| ENT602-3    | Low Power VLSI design          | ENT603-3    | Advanced Embedded Systems      |

# Scheme of Examination of Master of Technology (VLSI Design) Semester Pattern IV Semester M. Tech. (VLSI Design)

| C          | Cada   | Commo                                | L | Т | P  | Credits | Ma                     | ximum Ma        | ırks  | Evam             |
|------------|--------|--------------------------------------|---|---|----|---------|------------------------|-----------------|-------|------------------|
| Sr.<br>No. | Code   | Course                               |   |   |    |         | Internal<br>Assessment | End Sem<br>Exam | Total | Exam<br>Duration |
| 1          | ENP605 | Dissertation / Thesis<br>(Viva-Voce) | 0 | 0 | 12 | 48      | 200                    | 200             | 400   |                  |
|            |        | Total                                | 0 | 0 | 12 | 48      |                        |                 |       |                  |

# Scheme of Examination of Master of Technology (Industrial Engineering) Semester Pattern I Semester M. Tech. (Industrial Engineering)

| Sr. | Code   | Course  | L | T | P | Credits | Ma                     | ximum Ma        | ırks  | - France         |
|-----|--------|---|---|---|---|---------|------------------------|-----------------|-------|------------------|
| No. |        |   |   |   |   |         | Internal<br>Assessment | End Sem<br>Exam | Total | Exam<br>Duration |
| 1   | INT501 | Operations Research                               | 4 | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs            |
| 2   | INP501 | Operations Research Lab                           | 0 | 0 | 2 | 2       | 25                     | 25              | 50    |                  |
| 3   | INT502 | Computers and Database<br>Management              | 4 | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs            |
| 4   | INP502 | Computers and Database<br>Management Lab          | 0 | 0 | 2 | 2       | 25                     | 25              | 50    |                  |
| 5   | INT503 | Statistics & Quality Control                      | 4 | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs            |
| 6   | INP503 | Statistics and Quality<br>Control Lab             | 0 | 0 | 2 | 2       | 25                     | 25              | 50    | _                |
| 7   | INT504 | Personnel Management and Industrial Relations     | 4 | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs            |
| 8   | INT505 | Planning and Controlling of Manufacturing Systems | 4 | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs            |
|     |        |   |   |   |   |         |                        |                 |       |                  |

# Scheme of Examination of Master of Technology (Industrial Engineering) Semester Pattern II Semester M. Tech. (Industrial Engineering)

| Sr. | Code   | Course                                    | L  | Т   | P | Credits | Maximum Marks          |                 |       | F                |
|-----|--------|---|----|-----|---|---------|------------------------|-----------------|-------|------------------|
| No. |        |   |    |     |   |         | Internal<br>Assessment | End Sem<br>Exam | Total | Exam<br>Duration |
| 1   | INT506 | Automation in Production                  | 4  | 0   | 0 | 8       | 40                     | 60              | 100   | 3 Hrs            |
| 2   | INP506 | Automation in Production Lab              | 0  | 0   | 2 | 2       | 25                     | 25              | 50    |                  |
| 3   | INT507 | Methods Engineering and Ergonomics        | 4  | 0   | 0 | 8       | 40                     | 60              | 100   | 3 Hrs            |
| 4   | INP507 | Methods Engineering and<br>Ergonomics Lab | 0  | 0   | 2 | 2       | 25                     | 25              | 50    |                  |
| 5   | INT508 | Manufacturing Economics and Analysis      | 4  | 0   | 0 | 8       | 40                     | 60              | 100   | 3 Hrs            |
| 6   | INT509 | Project Evaluation and<br>Management      | 4  | 0   | 0 | 8       | 40                     | 60              | 100   | 3 Hrs            |
| 7   | INT510 | Maintenance Engineering                   | 4  | _0_ | 0 | 8       | 40                     | 60              | 100   | 3 Hrs            |
|     |        | TOTAL                                     | 20 | 0   | 4 | 44      |                        |                 |       |                  |

# Scheme of Examination of Master of Technology (Industrial Engineering) Semester Pattern III Semester M. Tech. (Industrial Engineering)

| Sr. | Code   | Course               | L | Т | P | Credits | Maximum Marks          |                 |       | F                |
|-----|--------|----------------------|---|---|---|---------|------------------------|-----------------|-------|------------------|
| No. |        |                      |   |   |   |         | Internal<br>Assessment | End Sem<br>Exam | Total | Exam<br>Duration |
| 1   | INT601 | Research Methodology | 3 | 0 | 0 | 6       | 40                     | 60              | 100   | 3 Hrs            |
| 2   | INT602 | Elective - I         | 3 | 0 | 0 | 6       | 40                     | 60              | 100   | 3 Hrs            |
| 3   | INT603 | Elective -II         | 3 | 0 | 0 | 6       | 40                     | 60              | 100   | 3 Hrs            |
| 4   | INP604 | Project Phase - I    | 0 | 0 | 6 | 24      | 50                     | 100             | 150   |                  |
|     |        | TOTAL                | 9 | 0 | 6 | 42      |                        |                 |       |                  |

| Course Code | Elective I                               | Course Code | Elective II                           |
|-------------|--|-------------|---------------------------------------|
| INT602-1    | Marketing Management                     | INT603-1    | Materials Management                  |
| INT602-2    | Flexible Manufacturing System & Robotics | INT603-2    | Mechatronics                          |
| INT602-3    | Total Quality Management                 | INT603-3    | Value Engineering                     |
| INT602-4    | Energy Management                        | INT603-4    | Industrial Design                     |
| INT602-5    | System Design & Engineering              | INT603-5    | Information Systems in<br>Engineering |
| INT602-6    | Communication                            | INT603-6    | Reliability Engineering               |

# Scheme of Examination of Master of Technology (Industrial Engineering) Semester Pattern IV Semester M. Tech. (Industrial Engineering)

| Sr. | Code   | Course             | L | Т | Р  | Credits | Maximum Marks          |                 |       | F                |
|-----|--------|--------------------|---|---|----|---------|------------------------|-----------------|-------|------------------|
| No. |        |                    |   |   |    |         | Internal<br>Assessment | End Sem<br>Exam | Total | Exam<br>Duration |
| 1   | INP605 | Project Phase - II | 0 | 0 | 12 | 48      | 50                     | 100             | 150   |                  |
|     |        | TOTAL              | 0 | 0 | 12 | 48      |                        |                 |       |                  |

# Scheme of Examination of Master of Technology (Power Electronics and Power System) Semester Pattern I Semester M. Tech. (Power Electronics and Power System)

| Sr. | Code   | Course                     | L | Т | Р | Credits | Ma                     | ximum Ma        | ırks  | Exam     |
|-----|--------|----------------------------|---|---|---|---------|------------------------|-----------------|-------|----------|
| No. |        |                            |   |   |   |         | Internal<br>Assessment | End Sem<br>Exam | Total | Duration |
| 1   | EET501 | Advanced Power Electronics | 3 | 0 | 0 | 6       | 40                     | 60              | 100   | 3 Hrs.   |
| 2   | EEP501 | Advanced Power Electronics | 0 | 0 | 2 | 2       | 25                     | 25              | 50    | 3 Hrs.   |
| 3   | EET508 | Energy Management system   | 3 | 0 | 0 | 6       | 40                     | 60              | 100   | 3 Hrs.   |
| 4   | EEP508 | Energy audit Practical     | 0 | 0 | 2 | 2       | 25                     | 25              | 50    | 3 Hrs.   |
| 5   | EET503 | HVDC Power Transmission    | 4 | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 6   | EET504 | Power System Modeling      | 4 | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 7   | EET505 | Processor Applications to  |   |   |   |         |                        |                 |       |          |
|     |        | Power system               | 3 | 0 | 0 | 6       | 40                     | 60              | 100   | 3 Hrs.   |
| 8   | EEP505 | Processor lab              | 0 | 0 | 2 | 2       | 25                     | 25              | 50    | 3 Hrs.   |
|     |        |                            |   |   |   |         |                        |                 |       |          |

# Scheme of Examination of Master of Technology (Power Electronics and Power System) Semester Pattern II Semester M. Tech. (Power Electronics and Power System)

| Sr. | Code   | Course                             | L | Т | P | Credits | Ma                     | <b>Maximum Marks</b> |       |          |
|-----|--------|------------------------------------|---|---|---|---------|------------------------|----------------------|-------|----------|
| No. |        |                                    |   |   |   |         | Internal<br>Assessment | End Sem<br>Exam      | Total | Duration |
| 1   | EET506 | Advanced Drives                    | 3 | 0 | 0 | 6       | 40                     | 60                   | 100   | 3 Hrs.   |
| 2   | EEP506 | Advanced Drives                    | 0 | 0 | 2 | 2       | 25                     | 25                   | 50    | 3 Hrs.   |
| 3   | EET507 | Power Quality                      | 4 | 0 | 0 | 8       | 40                     | 60                   | 100   | 3 Hrs.   |
| 4   | EET502 | Electric Power Distribution System | 4 | 0 | 0 | 8       | 40                     | 60                   | 100   | 3 Hrs.   |
| 5   | EET509 | Flexible AC Transmission System    | 4 | 0 | 0 | 8       | 40                     | 60                   | 100   | 3 Hrs.   |
| 6   | EET510 | Elective I                         | 4 | 0 | 0 | 8       | 40                     | 60                   | 100   | 3 Hrs.   |
| 7   | EEP511 | Power System Simulation Lab        | 0 | 0 | 2 | 2       | 25                     | 25                   | 50    | 3 Hrs.   |
|     |        |                                    |   |   |   |         |                        |                      |       |          |

| Course Code | Elective-I                                      |
|-------------|---|
| EET510-1    | Advanced Control system                         |
| EET510-2    | Advanced Power System Protection                |
| EET510-3    | Renewable Power Generation Sources              |
| EET510-4    | Recent Trends in Power Electronics Applications |

# Scheme of Examination of Master of Technology (Power Electronics and Power System) Semester Pattern III Semester M. Tech. (Power Electronics and Power System)

| Sr. | Code   | Course                | L | Т | P | Credits | Maximum Marks          |                 |       | Exam     |
|-----|--------|-----------------------|---|---|---|---------|------------------------|-----------------|-------|----------|
| No. |        |                       |   |   |   |         | Internal<br>Assessment | End Sem<br>Exam | Total | Duration |
| 1   | EET601 | Research Methodology  | 3 | 0 | 0 | 6       | 40                     | 60              | 100   | 3 Hrs.   |
| 2   | EET602 | Elective II           | 4 | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 3   | EET603 | Power system Dynamics |   |   |   |         |                        |                 |       |          |
|     |        | and control           | 4 | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 4   | EEP604 | Circuit simulation in |   |   |   |         |                        |                 |       |          |
|     |        | PE and PS             | 0 | 0 | 4 | 4       | 25                     | 25              | 50    | 3 Hrs.   |
| 5   | EEP605 | Project Phase -I      | 0 | 0 | 6 | 24      | 50                     | _               | 50    | _        |
|     |        |                       |   |   |   |         |                        |                 |       |          |

| Course Code | Elective-II                                       |
|-------------|---|
| EET602-1    | Digital Signal Processing                         |
| EET602-2    | Artificial Intelligence Based System              |
| EET602-3    | Micro Controller Applications In Power Converters |

# Scheme of Examination of Master of Technology (Power Electronics and Power System) Semester Pattern IV Semester M. Tech. (Power Electronics and Power System)

| Sr. | Code   | Course                       | L | Т | P  | Credits | Maximum Marks          |                 | Exam  |          |
|-----|--------|------------------------------|---|---|----|---------|------------------------|-----------------|-------|----------|
| No. |        |                              |   |   |    |         | Internal<br>Assessment | End Sem<br>Exam | Total | Duration |
| 1   | EEP606 | Project Phase-2 Dissertation |   |   |    |         |                        |                 |       |          |
|     |        | and Viva voce                | - | - | 12 | 48      | 200                    | 200             | 400   |          |
|     |        | Total                        | - | _ | 12 | 48      | -                      | -               | _     | -        |

# Scheme of Examination of Master of Technology (Computer Science and Engineering) Semester Pattern

### I Semester M. Tech. (Computer Science and Engineering)

| Sr. | Code   | Course                            | L | Т | P | Credits | Ma                     | Maximum Marks   |       |          |
|-----|--------|-----------------------------------|---|---|---|---------|------------------------|-----------------|-------|----------|
| No. |        |                                   |   |   |   |         | Internal<br>Assessment | End Sem<br>Exam | Total | Duration |
| 1   | CST501 | Advanced Computer<br>Architecture | 4 | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 2   | CST502 | Software Architecture             | 4 | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 3   | CSP502 | Software Architecture Lab         | 0 | 0 | 2 | 2       | 25                     | 25              | 50    | 2 Hrs    |
| 4   | CST503 | Advances in Algorithms            | 4 | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 5   | CST504 | Mobile Applications Design        | 4 | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 6   | CSP504 | Mobile Applications               | 0 | 0 | 2 | 2       | 25                     | 25              | 50    | 2 Hrs.   |
|     |        | Design Lab                        |   |   |   |         |                        |                 |       |          |
| 7   | CST505 | Elective-I                        | 4 | 0 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.   |

| Course code | Elective-I                   |
|-------------|------------------------------|
| CST505-1    | Graph Mining                 |
| CST505-2    | Pattern Recognition          |
| CST505-3    | Advance topics in networking |

# Scheme of Examination of Master of Technology (Computer Science and Engineering) Semester Pattern

# II Semester M. Tech. (Computer Science and Engineering)

| Sr. | Code   | Course   | L  | T | P  | Credits | Ma                     | ximum Ma        | ırks  | Exam     |
|-----|--------|--|----|---|----|---------|------------------------|-----------------|-------|----------|
| No. |        |  |    |   |    |         | Internal<br>Assessment | End Sem<br>Exam | Total | Duration |
| 8   | CST506 | Compiling For High<br>Performance Architecture     | 4  | 0 | 0  | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 9   | CSP506 | Compiling For High<br>Performance Architecture lab | 0  | 0 | 2  | 2       | 25                     | 25              | 50    | 2 Hrs.   |
| 10  | CST507 | Advanced Digital Image<br>Processing               | 4  | 0 | 0  | 8       | 40                     | 60              | 100   | 3 Hrs    |
| 11  | CSP507 | Advanced Digital Image<br>Processing lab           | 0  | 0 | 2  | 2       | 25                     | 25              | 50    | 2 Hrs.   |
| 12  | CST508 | Data Management<br>Techniques                      | 3  | 0 | 0  | 6       | 40                     | 60              | 100   | 3 Hrs.   |
| 13  | CST509 | Cryptography                                       | 4  | 0 | 0  | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 14  | CST510 | Elective-II  | 4  | 0 | 0  | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 15  | CST511 | Seminar  | 0  | 0 | 2  | 2       | 50                     | 50              | 100   |          |
|     |        | Total  | 20 | 0 | 06 | 44      | 300                    | 400             | 700   |          |

| Course code  | Elective-II                                      |
|--------------|--|
| Course CodeE | lective-l  |
| CST510-1     | Statistical Machine Learning                     |
| CST510-2     | Middleware technologies in Web and Mobile domain |
| CST510-3     | Parallel Algorithms                              |

# Scheme of Examination of Master of Technology (Computer Science and Engineering) Semester Pattern III Semester M. Tech. (Computer Science and Engineering)

| Sr. | Course<br>Code |                      |    |    |    |         | Ma                     | Exam            |       |          |
|-----|----------------|----------------------|----|----|----|---------|------------------------|-----------------|-------|----------|
| No. |                | Course               |    | T  | P  | Credits | Internal<br>Assessment | End Sem<br>Exam | Total | Duration |
| 16  | CST601         | Research Methodology | 3  | 0  | 0  | 6       | 40                     | 60              | 100   | 3 Hrs.   |
| 17  | CST602         | Elective- III        | 4  | 0  | 0  | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 18  | CST603         | Elective - IV        | 3  | 0  | 0  | 6       | 40                     | 60              | 100   | 3 Hrs.   |
| 19  | CST604         | Project Phase-I      | 0  | 0  | 6  | 24      | 50                     | 50              | 100   | _        |
|     |                | Total                | 10 | 00 | 06 | 44      | 170                    | 230             | 400   |          |

| Course Code | Elective - III             | Course Code | Elective - IV                      |
|-------------|----------------------------|-------------|------------------------------------|
| CST602-4    | Big Data Analytics         | CST603-4    | Reconfigurable and Cloud Computing |
| CST602-5    | Advance topics in Security | CST603-2    | Wireless Sensor Networks           |
| CST602-6    | Social network Analysis    | CST603-5    | Information Retrieval              |
| CST602-7    | Biometrics                 | CST603-6    | Ubiquitous Computing               |

# Scheme of Examination of Master of Technology (Computer Science and Engineering) Semester Pattern IV Semester M. Tech. (Computer Science and Engineering)

| Sr. | Course | Course            | L | Т | P  | Credits | Ma                     | Maximum Marks   |       |          |
|-----|--------|-------------------|---|---|----|---------|------------------------|-----------------|-------|----------|
| No. | Code   |                   |   |   |    |         | Internal<br>Assessment | End Sem<br>Exam | Total | Duration |
| 20  | CST605 | Project Phase- II | 0 | 0 | 12 | 48      | 150                    | 250             | 400   |          |
|     |        | Total             | 0 | 0 | 12 | 48      | 150                    | 250             | 400   |          |

# Scheme of Examination of Master of Technology (Heat Power Engineering) Semester Pattern I Semester M. Tech. (Heat Power Engineering)

| Sr | Course |                         |   |   |   |       |         | Maximum Marks |          |       | Exam     |
|----|--------|-------------------------|---|---|---|-------|---------|---------------|----------|-------|----------|
| No | Code   | Course Name             | L | Т | P | Total | Credits | Internal      | End Sem. |       | Duration |
|    |        |                         |   |   |   |       |         | Assessment    | Exam.    | Total |          |
| 1  | MET501 | Advanced Thermodynamics | 4 | 0 | 0 | 4     | 8       | 40            | 60       | 100   | 3 Hrs.   |
| 2  | MET502 | Conduction and          |   |   |   |       |         |               |          |       |          |
|    |        | Radiation Heat Transfer | 4 | 0 | 0 | 4     | 8       | 40            | 60       | 100   | 3 Hrs.   |
| 3  | MET503 | Fluid Dynamics          | 4 | 0 | 0 | 4     | 8       | 40            | 60       | 100   | 3 Hrs.   |
| 4  | MET504 | Fuels & Combustion      | 4 | 0 | 0 | 4     | 8       | 40            | 60       | 100   | 3 Hrs.   |
| 5  | MET505 | Elective -I             | 4 | 0 | 0 | 4     | 8       | 40            | 60       | 100   | 3 Hrs.   |
| 6  | MEP506 | Lab Practice-1          | 0 | 0 | 4 | 4     | 4       | 25            | 25       | 50    | 3 Hrs.   |
|    |        |                         |   |   |   |       |         |               |          |       |          |

| Course Code | Elective-I                         |
|-------------|------------------------------------|
| MET505-1    | Advanced Energy Technology         |
| MET505-2    | Energy Conservation and Management |
| MET505-3    | Finite Element Methods             |

# Scheme of Examination of Master of Technology (Heat Power Engineering) Semester Pattern II Semester M. Tech. (Heat Power Engineering)

| Sr | Course |                         |   |   |   |       |         | Maximum Marks |          | ırks  | Exam     |
|----|--------|-------------------------|---|---|---|-------|---------|---------------|----------|-------|----------|
| No | Code   | Course Name             | L | T | P | Total | Credits | Internal      | End Sem. |       | Duration |
|    |        |                         |   |   |   |       |         | Assessment    | Exam.    | Total |          |
| 1  | MET507 | Computational Fluid     |   |   |   |       |         |               |          |       |          |
|    |        | Dynamics                | 4 | 0 | 0 | 4     | 8       | 40            | 60       | 100   | 3 Hrs.   |
| 2  | MET508 | Convective Heat and     |   |   |   |       |         |               |          |       |          |
|    |        | Mass transfer           | 4 | 0 | 0 | 4     | 8       | 40            | 60       | 100   | 3 Hrs.   |
| 3  | MET509 | Advanced Refrigeration  |   |   |   |       |         |               |          |       |          |
|    |        | and Air Conditioning    | 4 | 0 | 0 | 4     | 8       | 40            | 60       | 100   | 3 Hrs.   |
| 4  | MET510 | Power Plant Engineering | 4 | 0 | 0 | 4     | 8       | 40            | 60       | 100   | 3 Hrs.   |
| 5  | MET511 | Elective -II            | 4 | 0 | 0 | 4     | 8       | 40            | 60       | 100   | 3 Hrs.   |
| 6  | MEP512 | Lab Practice -II        | 0 | 0 | 4 | 4     | 4       | 25            | 25       | 50    | 3 Hrs.   |
|    |        |                         |   |   |   |       |         |               |          |       |          |

| Course Code | Elective-II              |
|-------------|--------------------------|
| MET511-1    | Solar Energy Utilization |
| MET511-2    | Industrial Fluid Power   |
| MET511-3    | Optimization Techniques  |

# Scheme of Examination of Master of Technology (Heat Power Engineering) Semester Pattern III Semester M. Tech. (Heat Power Engineering)

| Sr | Course |                           |   |   |   |       |         | Maximum Marks |          |       | Exam     |
|----|--------|---------------------------|---|---|---|-------|---------|---------------|----------|-------|----------|
| No | Code   | Course Name               | L | Т | P | Total | Credits | Internal      | End Sem. |       | Duration |
|    |        |                           |   |   |   |       |         | Assessment    | Exam.    | Total |          |
| 1  | MET601 | Research Methodology      | 3 | 0 | 0 | 3     | 6       | 40            | 60       | 100   | 3 Hrs.   |
| 2  | MET602 | Advanced Internal         |   |   |   |       |         |               |          |       |          |
|    |        | Combustion Engines        | 4 | 0 | 0 | 4     | 8       | 40            | 60       | 100   | 3 Hrs.   |
| 3  | MET603 | Elective -III             | 4 | 0 | 0 | 4     | 8       | 40            | 60       | 100   | 3 Hrs.   |
| 4  | MEP604 | Project Phase (I) Seminar | 0 | 0 | 6 | 6     | 24      | 100           | 100      | 200   | 3 Hrs.   |
|    |        |                           |   |   |   |       |         |               |          |       |          |

| Course Code | Elective-III              |
|-------------|---------------------------|
| MET603-1    | Thermal Storage Systems   |
| MET603-2    | Design of Heat Exchangers |
| MET603-3    | Cryogenics                |
| MET603-4    | Biomechanical Engineering |

# Scheme of Examination of Master of Technology (Heat Power Engineering) Semester Pattern IV Semester M. Tech. (Heat Power Engineering)

| Sr | Course |                    |   |   |    |       |         | Maximum Marks |          | ırks  | Exam     |
|----|--------|--------------------|---|---|----|-------|---------|---------------|----------|-------|----------|
| No | Code   | Course Name        | L | Т | P  | Total | Credits | Internal      | End Sem. |       | Duration |
|    |        |                    |   |   |    |       |         | Assessment    | Exam.    | Total |          |
| 1  | MEP605 | Project Phase (II) |   |   |    |       |         |               |          |       |          |
|    |        | Viva- Voce and     |   |   |    |       |         |               |          |       |          |
|    |        | dissertation       | 0 | 0 | 12 | 12    | 48      | 200           | 200      | 400   | _        |
|    |        | Total              | 0 | 0 | 12 | 12    | 48      |               |          |       |          |

# Scheme of Examination of Master in Computer Application Semester Pattern I Semester Master in Computer Application

| Sr. | Code   | Course                                    | L    | P              | Credits | Ma         | ximum Ma | ırks  | Exam     |
|-----|--------|---|------|----------------|---------|------------|----------|-------|----------|
| No. |        |   |      |                |         | Internal   | End Sem  |       | Duration |
|     |        |   |      |                |         | Assessment | Exam     | Total |          |
| 1   | MCT501 | Discrete Mathematics and Graph Theory     | 4    | 0              | 8       | 40         | 60       | 100   | 3 Hrs.   |
| 2   | MCT503 | Computer Organization & Architecture      | 4    | 0              | 8       | 40         | 60       | 100   | 3 Hrs.   |
| 3   | MCT504 | Digital Electronics &                     |      |                |         |            |          |       |          |
|     |        | Microprocessors                           | 4    | 0              | 8       | 40         | 60       | 100   | 3 Hrs.   |
| 4   | MCP504 | Digital Electronics & Microprocessors Lab | 0    | 4              | 4       | 25         | 25       | 50    | -        |
| 5   | MCP506 | Basics of Computer<br>Hardware Lab        | 0    | 4              | 4       | 10         | 15       | 25    | _        |
| 6   | MCT513 | Principles of Management                  | 2+1  | 0              | 5       | 40         | 60       | 100   | 3 Hrs.   |
| 7   | MCT514 | Computer Programming                      | 4    | 00             | 8       | 40         | 60       | 100   | 3 Hrs.   |
| 8   | MCP514 | Computer Programming Lab                  | 0    | 4              | 4       | 25         | 25       | 50    | _        |
| 9   | HUT502 | Communication Skills                      | 0    | 2              | _       | _          | _        | _     | _        |
|     |        | TOTAL                                     | 18+1 | <del>-14</del> | 49      |            |          |       |          |

## Scheme of Examination of Master in Computer Application Semester Pattern II Semester Master in Computer Application

| Sr. | Code   | Course                               | L   | P  | Credits | Ma                     | ximum Ma        | ırks  | Exam     |
|-----|--------|--------------------------------------|-----|----|---------|------------------------|-----------------|-------|----------|
| No. |        |                                      |     |    |         | Internal<br>Assessment | End Sem<br>Exam | Total | Duration |
| 1   | MCT507 | Statistics and Probability           | 4   | 0  | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 2   | MCT509 | Systems Programming                  | 4   | 0  | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 3   | MCP512 | Computer Workshop-I Lab              | 0   | 4  | 4       | 25                     | 25              | 50    | -        |
| 4   | MCT515 | Concepts in Data Structures          | 4   | 0  | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 5   | MCP515 | Concepts in Data<br>Structures Lab   | 0   | 4  | 4       | 25                     | 25              | 50    | -        |
| 6   | MCT516 | Object Oriented<br>Programming-1     | 4   | 0  | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 7   | MCP516 | Object Oriented<br>Programming-1 Lab | 0   | 4  | 4       | 25                     | 25              | 50    | -        |
| 88  | MCT517 | Financial Accounting                 | 3+1 | 0  | 7       | 40                     | 60              | 100   | 3 Hrs.   |
| 9   | HUT503 | Soft Skills                          | 0_  | 2_ | _       | _                      | _               | _     | _        |

## Scheme of Examination of Master in Computer Application Semester Pattern III Semester Master in Computer Application

| Sr. | Code   | Course                             | L  | P  | Credits | Ma                     | ximum Ma        | arks  | Exam     |
|-----|--------|------------------------------------|----|----|---------|------------------------|-----------------|-------|----------|
| No. |        |                                    |    |    |         | Internal<br>Assessment | End Sem<br>Exam | Total | Duration |
| 1   | MCT602 | Database Management<br>Systems     | 4  | 0  | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 2   | MCP602 | Database Management<br>Systems Lab | 0  | 4  | 4       | 25                     | 25              | 50    | -        |
| 3   | MCT603 | Computer Networks                  | 4  | 0  | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 4   | MCT604 | Design and Analysis of Algorithms  | 4  | 0  | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 5   | MCT613 | Object Oriented<br>Programming-2   | 4  | 0  | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 6   | MCP613 | Object Oriented Programming-2 Lab  | 0  | 4  | 4       | 25                     | 25              | 50    | -        |
| 7   | MCT614 | o o                                | 4  | 0  | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 88  | MCP615 | Computer Workshop-II Lab           | 0  | 2  | 2       | 25                     | 25              | 50    | _        |
| 9   | HUT601 | Drafting Skills                    | 0  | 2  | _       | _                      | _               |       | _        |
| -   |        | TOTAL                              | 20 | 12 | 50      |                        |                 |       |          |

## Scheme of Examination of Master in Computer Application Semester Pattern IV Semester Master in Computer Application

| Sr. | Code   | Course                                  | L | P | Credits | Ma                     | Maximum Marks   |       |          |
|-----|--------|---|---|---|---------|------------------------|-----------------|-------|----------|
| No. |        |   |   |   |         | Internal<br>Assessment | End Sem<br>Exam | Total | Duration |
| 1   | MCT607 | Mobile Computing                        | 4 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 2   | MCP607 | Mobile Computing Lab                    | 0 | 4 | 4       | 25                     | 25              | 50    | -        |
| 3   | MCT608 | Data Warehouse&Mining                   | 4 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 4   | MCT616 | Concepts in Software<br>Engineering     | 4 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 5   | MCP616 | Concepts in Software<br>Engineering Lab | 0 | 4 | 4       | 25                     | 25              | 50    | -        |
| 6   | MCT617 | Distributed Systems                     | 4 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 7   | MCT618 | Elective-I                              | 4 | 0 | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 8   | MCP619 | Open Source Software Lab                | 0 | 2 | 2       | 25                     | 25              | 50    | _        |
| 9   | MCT612 | Software Documentation                  | 2 | 0 | -       | -                      | -               | -     | _        |

## Scheme of Examination of Master in Computer Application Semester Pattern V Semester Master in Computer Application

| Sr. | Code   | Course                             | L  | P  | Credits | Ma                     | ximum Ma        | ırks  | Exam     |
|-----|--------|------------------------------------|----|----|---------|------------------------|-----------------|-------|----------|
| No. |        |                                    |    |    |         | Internal<br>Assessment | End Sem<br>Exam | Total | Duration |
| 1   | MCT704 | Elective - II                      | 4  | 0  | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 2   | MCT705 | Elective - III                     | 4  | 0  | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 3   | MCT708 | Cloud Computing                    | 4  | 0  | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 4   | MCT709 | DotNet Technologies                | 4  | 0  | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 5   | MCP709 | DotNet Technologies Lab            | 0  | 4  | 4       | 25                     | 25              | 50    | _        |
| 6   | MCP710 | Computer Workshop-III Lab          | 0  | 2  | 2       | 25                     | 25              | 50    | -        |
| 7   | MCT711 | Network Security                   | 4  | 0  | 8       | 40                     | 60              | 100   | 3 Hrs.   |
| 8   | MCT712 | E-Commerce and its<br>Applications | 2  | 0  | 4       | 40                     | 60              | 100   | 3 Hrs.   |
|     |        | TOTAL                              | 22 | 06 | 50      |                        |                 |       |          |

| Course Code | Elective-I                             | Course Code | Elective-II                                       | Course Code | Elective-III          |
|-------------|--|-------------|---|-------------|-----------------------|
| MCT618-1    | Advanced Databases                     | MCT704-1    | Distributed Database<br>Management Systems        | MCT705-4    | Business Intelligence |
| MCT618-2    | Advanced Operation<br>Research         | MCT704-2    | Artificial Intelligence                           | MCT705-5    | Soft Computing        |
| MCT618-3    | Computer Graphics and its applications | MCT704-3    | Image Processing                                  | MCT705-6    | Pattern Recognition   |
| MCT618-4    | Advanced Computer<br>Architecture      | MCT704-4    | Introduction to Real<br>Time Operating<br>Systems | MCT705-7    | Information Retrieval |

# Scheme of Examination of Master in Computer Application Semester Pattern VI Semester Master in Computer Application

| Sr.No. |        |                            |                          | Credits | Ma                     | Exam                           |       |          |
|--------|--------|----------------------------|--------------------------|---------|------------------------|--------------------------------|-------|----------|
|        | Code   |                            | Hours                    |         | Internal<br>Assessment | End<br>Semester<br>Examination | Total | Duration |
| 1      | MCP707 | Project Work-<br>Full Time | 20 hours<br>per semester | 50      | 300                    | 300                            | 600   | -        |
|        | TOTAL  | 20 hours per<br>semester   | 50                       |         |                        |                                |       |          |

# Scheme of Examination of Master of Business Administration Semester Pattern I Semester Master of Business Administration

| Sr. | Code   | Course                               | L | Т | P | Credits | Ma                     | ximum Ma        | ırks  | Exam     |
|-----|--------|--------------------------------------|---|---|---|---------|------------------------|-----------------|-------|----------|
| No. |        |                                      |   |   |   |         | Internal<br>Assessment | End Sem<br>Exam | Total | Duration |
| 1   | MBT501 | Perspective Management               | 3 | 1 | 0 | 7       | 40                     | 60              | 100   | 3 Hrs.   |
| 2   | MBT502 | Marketing Management                 | 3 | 1 | 0 | 7       | 40                     | 60              | 100   | 3 Hrs.   |
| 3   | MBT503 | Human Resource<br>Management         | 3 | 1 | 0 | 7       | 40                     | 60              | 100   | 3 Hrs.   |
| 4   | MBT504 | Information Technology<br>Management | 3 | 1 | 0 | 7       | 40                     | 60              | 100   | 3 Hrs.   |
| 5   | MBT505 | Financial Accounting                 | 3 | 1 | 0 | 7       | 40                     | 60              | 100   | 3 Hrs.   |
| 6   | MBT506 | Managerial Economics                 | 3 | 1 | 0 | 7       | 40                     | 60              | 100   | 3 Hrs.   |
| 7   | MBT507 | Business Legislation                 | 3 | 1 | 0 | 7       | 40                     | 60              | 100   | 3 Hrs.   |
| 88  | MBT508 | Financial Management                 | 3 | 1 | 0 | 7       | 40                     | 60              | 100   | 3 Hrs.   |
| 9   | MBP501 | Business Communication               | 0 | 0 | 4 | _       | -                      | _               | -     | -        |

# Scheme of Examination of Master of Business Administration Semester Pattern II Semester Master of Business Administration

| Sr. | Code   | Course  | L  | Т | Р   | Credits | Ma                     | Maximum Marks   |       | Exam     |
|-----|--------|---|----|---|-----|---------|------------------------|-----------------|-------|----------|
| No. |        |   |    |   |     |         | Internal<br>Assessment | End Sem<br>Exam | Total | Duration |
| 1   | MBT509 | Organization Behaviour & Development                | 3  | 1 | 0   | 7       | 40                     | 60              | 100   | 3 Hrs.   |
| 2   | MBT512 | Applied Operations<br>Research                      | 3  | 1 | 0   | 7       | 40                     | 60              | 100   | 3 Hrs.   |
| 3   | MBT513 | Strategic Management                                | 3  | 1 | 0   | 7       | 40                     | 60              | 100   | 3 Hrs.   |
| 4   | MBT514 | Cost &Management Accounting                         | 3  | 1 | 0   | 7       | 40                     | 60              | 100   | 3 Hrs.   |
| 5   | MBT515 | Operations Management                               | 3  | 1 | 0   | 7       | 40                     | 60              | 100   | 3 Hrs.   |
| 6   | MBT516 | Entrepreneurial<br>Development & Business<br>Ethics | 3  | 1 | 0   | 7       | 40                     | 60              | 100   | 3 Hrs.   |
| 7   | MBT517 | Quantitative Decision<br>Making                     | _3 | 1 | _0_ | 7       | 40                     | 60              | 100   | 3 Hrs.   |
| 88  | MBT518 | Business Research Methods                           | 3  | 1 | 0   | 7       | 40                     | 60              | 100   | 3 Hrs.   |
| 9   | MBP503 | Environment Management                              | _  | _ | 4   | -       | -                      | -               | -     | _        |

# Scheme of Examination of Master of Business Administration Semester Pattern III Semester Master of Business Administration

|   |              |    |    |   |         | Maximum Marks          |                 |       | Exam     |
|---|--------------|----|----|---|---------|------------------------|-----------------|-------|----------|
| Course  | Course       |    | LT |   | Credits | Internal<br>Assessment | End Sem<br>Exam | Total | Duration |
| Specialization 1 (4 Papers)                           |              |    |    |   |         |                        |                 |       |          |
| Four Electives from the                               | Elective I   | 3  | 1  | 0 | 7       | 40                     | 60              | 100   | 3 Hrs.   |
| Specialization groups offered                         | Elective II  | 3  | 1  | 0 | 7       | 40                     | 60              | 100   | 3 Hrs.   |
| (Please refer list of Electives)                      | Elective III | 3  | 1  | 0 | 7       | 40                     | 60              | 100   | 3 Hrs.   |
|   | Elective IV  | 3  | 1  | 0 | 7       | 40                     | 60              | 100   | 3 Hrs.   |
| Specialization 2 (4 Papers)                           |              |    |    |   |         |                        |                 |       |          |
| Γ ΓΙ  | Elective I   | 3  | 1  | 0 | 7       | 40                     | 60              | 100   | 3 Hrs.   |
| Four Electives from the Specialization groups offered | Elective II  | 3  | 1  | 0 | 7       | 40                     | 60              | 100   | 3 Hrs.   |
| (Please refer list of Electives)                      | Elective III | 3  | 1  | 0 | 7       | 40                     | 60              | 100   | 3 Hrs.   |
| ,   | Elective IV  | 3  | 1  | 0 | 7       | 40                     | 60              | 100   | 3 Hrs.   |
| Summer Internship of 4 weeks                          | -            | -  | 1  | 5 | -       | -                      | -               | -     |          |
| Total   |              | 24 | 8  | 0 | 61      |                        |                 |       |          |

# Scheme of Examination of Master of Business Administration Semester Pattern IV Semester Master of Business Administration

| Course   |             |    |    |   |         | Maximum Marks          |                 |       | Exam     |
|--|-------------|----|----|---|---------|------------------------|-----------------|-------|----------|
|  |             | L  | LT |   | Credits | Internal<br>Assessment | End Sem<br>Exam | Total | Duration |
| Specialization 1 (2 Papers)                                    |             |    |    |   |         |                        |                 |       |          |
| Two Electives from the   | Elective V  | 3  | 1  | 0 | 7       | 40                     | 60              | 100   | 3 Hrs.   |
| Specialization groups offered (Please refer list of Electives) | Elective VI | 3  | 1  | 0 | 7       | 40                     | 60              | 100   | 3 Hrs.   |
| Specialization 2 (2 Papers)                                    |             |    |    |   |         |                        |                 |       |          |
| Two Electives from the   | Elective V  | 3  | 1  | 0 | 7       | 40                     | 60              | 100   | 3 Hrs.   |
| Specialization groups offered (Please refer list of Electives) | Elective VI | 3  | 1  | 0 | 7       | 40                     | 60              | 100   | 3 Hrs.   |
| MBP 601  | Project     | -  | -  | 7 | 14      | 100                    | 100             | 200*  | 3 Hrs.   |
| Total in Semester  |             | 12 | 4  | 7 | 42      |                        |                 |       |          |

### **List of Electives:**

Students have to opt any two Specializations. In Semester III students will be taught four Electives from each specialization selected. In Semester IV students will be taught two Electives from each specialization selected.

| econd Year  | – Elective Subjects                       | Course<br>Code        | Elective                             |  |  |
|-------------|---|-----------------------|--------------------------------------|--|--|
| Course      |   | Operations Management |                                      |  |  |
| Code        | Elective                                  | <br>  MBT604-1        | Operations & Planning Control        |  |  |
| Marketing M | anagement                                 | MBT604-2              | Supply Chain Management              |  |  |
| MBT601-1    | Integrated Marketing Communication        | MBT604-3              | Services Operation                   |  |  |
| MBT601-2    | Brand Management                          | MBT604-4              | Project Management                   |  |  |
| MBT601-3    | Retail Management                         | MBT604-5              | Quality Management                   |  |  |
| MBT601-4    | Sales & Distribution Management           | MBT604-6              | World Class Manufacturing            |  |  |
| MBT601-5    | Service Marketing                         | MBT604-7              | ERP                                  |  |  |
| MBT601-6    | Rural Marketing                           | MBT604-8              | Advanced Operation research          |  |  |
| MBT601-7    | Consumer Behavior & Marketing Research    |                       | '                                    |  |  |
| MBT601-8    | Customer Relationship Management          | Internation           | al Business                          |  |  |
| Finance     |   |                       |                                      |  |  |
| MBT602-1    | Corporate Taxation                        | MBT605-1              | International Financial Markets      |  |  |
| MBT602-2    | Security Analysis & Portfolio Management  | MBT605-2              | Foreign Exchange Management          |  |  |
| MBT602-3    | International Financial Management        | MBT605-3              | International Marketing              |  |  |
| MBT602-4    | Financial Risk Management                 | MBT605-4              | Export Import Procedures,            |  |  |
| MBT602-5    | Project Planning & Financing and          |                       | Documentation & Logistics            |  |  |
|             | Mergers & Acquisition                     | MBT605-5              | International Economic Organizations |  |  |
| MBT602-6    | Indian Banking And Financial System       | MBT605-6              | India's Foreign Trade Policy         |  |  |
| MBT602-7    | Financial Services & Merchant Banking     | MBT605-7              | Managing International Business      |  |  |
| MBT602-7    | Management Control System                 |                       | Organizations                        |  |  |
| Human Reso  | <del>urce Management</del>                |                       |                                      |  |  |
| MBT603-1    | Performance Management & Compensation     | Entreprene            | urship and Family Business           |  |  |
| MBT603-2    | Management of Change and                  | MBT606-1              | Dynamics of Family Business          |  |  |
| 11101005 2  |   | MBT606-2              | Legal & Tax Environment              |  |  |
|             | Organizational Effectiveness              | MBT606-3              | Financing of an Emerging Enterprise  |  |  |
| MBT603-3    | Group Behavior & Translation Analysis     | MBT606-4              | Managing Human Capital               |  |  |
| MBT603-4    | Training & Development Practice           | MBT606-5              | Industrial Marketing                 |  |  |
| MBT603-5    | Industrial Relations & Labour Legislation | MBT606-6              | Business Operations                  |  |  |
| MBT603-6    | Human Resource Strategies & Systems       | MBT606-7              | Cost Management & Control Systems    |  |  |
| MBT603-7    | Human Resource Planning                   | MBT606-8              | Business Communication               |  |  |
| MBT603-8    | International HRM                         |                       |                                      |  |  |

# **Regulations for the Post Graduate Programmes 2015**

| Regulation No.    | Description   |
|-------------------|---|
| R 1. General      |   |
| R 1.1             | These regulations shall be called as the Regulations for the PG programmes of the Institute.  |
| R 1.2             | These regulations shall come into force with effect from the date of its approval by the Academic Council.  |
| R 2. Post Gradua  | te Programmes   |
| R 2.1             | The Institute shall offer Post Graduate programmes as shown in Table 1.   |
| R 2.2             | The minimum duration of PG programmes leading to M.Tech. & MBA degree is of four semesters (spread over two years) and MCA degree is of six semesters (spread over three years). M. Tech (Part-time) degree is of five semesters (spread over two and half years). The duration for the PG programme may be altered in accordance with the decision of the Competent Authority. |
| R 2.3             | Reservation of seats for admission to PG programmes shall be as per the norms of the Government for Minority Institutions.  |
| R 2.4             | Direct admission to second year MCA (lateral entry) shall be made as per norms and procedures of Government for Minority Institutions.  |
| R 2.5             | The candidate shall be provisionally admitted to PG programme subject to fulfillment of eligibility criterion as prescribed by the Competent Authority.   |
| R 2.6             | In the matter of admissions to the PG programmes, the decision of the Competent Authority shall be final.   |
| R 2.7             | A student should have obtained the eligibility certificate from the University in the first semester at the time of admission.  |
| R 3. Semester Sys | tem   |
| R 3.1             | The academic programmes in the Institute shall be based on semester system; two semesters (July - December and January - June) in a year with winter and summer vacations.  |
| R 3.2             | The curriculum may consist of credit course, audit course as recommended by the respective Board of Studies.  |
| R 3.3             | Each credit course shall have a certain number of credits assigned to it depending upon the academic load of the course, which would be assessed on the basis of weekly contact hours of theory lecture, laboratory classes and field study if required.  |
| R 3.4             | The courses, practicals, seminars and projects offered in a semester shall be continuously assessed and evaluated to judge the performance of a student.  |
| R 4. Curriculum S | Structure   |
| R 4.1             | Each PG programme will have a curriculum and course contents (syllabi) for the courses  |

|                   | designed by the BOS and approved by Academic Council.   |
|-------------------|---|
| R 4.2             | The curriculum for award of degree in various PG programmes is designed to have minimum credits as under:   |
|                   | M. Tech: 180-200credits   |
|                   | MBA : 180-220 credits   |
|                   | MCA : 280-300 credits   |
| R 4.3             | The total contact hours for PG programmes shall be as per norms prescribed by the Competent Authority.  |
| R 4.4             | The medium of instruction, examination and project reports will be English.   |
| R 4.5             | Every PG student will have to earn the credits by passing all the credit courses as specified in R 6.   |
| R 5. Course and I | Department Codes  |
| R 5.1             | Each course offered shall have an alphanumeric course code consisting of a string of six characters. The first two characters in a course code shall be capital letters identifying the respective department offering the course, Third letter will indicate nature of the course i.e. Theory (T) or Practical (P) and next digit will indicate the (year of the course) 5-7 for PG Programme. |
|                   | <u>viz.</u> : PG- <b>CET5XX</b> :   |
|                   | CE- Civil Engineering, T-Theory, 5-First Year and XX-Course Number.   |
| R 6. Course Cred  | its   |
| R 6.1             | Each credit course shall have an integer number of credits, which reflects its weight. The student earns credits by passing corresponding courses in minimum 'CC' grade. The number of credits of a course in a semester shall normally be calculated as under (however there may be some exceptions);  |
|                   | (a) Lectures: One lecture hour per week shall be assigned two credits.  |
|                   | (b) Practical: One laboratory hour per week shall be assigned one credit. Not more than four credits may be assigned to a practical course having only laboratory component.  |
|                   | (c) Projects and seminars in the PG programme shall be assigned credits as reflected in the respective schemes approved by the BOS and Academic Council.  |
| R 7.1 Incentives  | to the students participating in NCC/NSS/Games & Sports/Cultural Activities/ACEES.  |
| R.7.1.1           | The students admitted to the PG programme participating in NCC/ NSS/ Games & Sports / Cultural Activities/ ACEES as per norms of the University will be treated as the additional courses and shall be awarded grades as shown in Table of "Structure of grading of incentives".  |

Award of grades and conversion to Grade points shall be done as below

| Grades | <b>Grade Points</b> | Range of Marks |
|--------|---------------------|----------------|
| AA     | 10                  | 90-100         |
| AB     | 9                   | 80-89          |
| BB     | 8                   | 70-79          |
| ВС     | 7                   | 60-69          |
| CC     | 6                   | 50-59          |
| CD     | 5                   | 40-49          |
| DD     | 4                   | 30-39          |
|        |                     |                |

Various components for calculating the marks out of 100 are as below:-

| Sr. | Components of marks  | Eligibility                      | Marks          |
|-----|--|----------------------------------|----------------|
| 1   | Attendance / Consistency   | All students                     | 5              |
| 2   | Physical fitness Test / Post holder (University / College team Captain, secretary, branch secretary) | I & II Semester /<br>III to VIII | 5              |
| 3   | Behavior on field or during competition / event  | All students                     | 5              |
| 4   | Participation in Intra Collegiate / inter branch activities (1st, 2nd, 3rd position).                | All students                     | 5<br>(5, 3, 1) |
| 5   | Participation in Inter Collegiate activities.  | All team members                 | 30             |
| 6   | Securing 1st, 2nd, 3rd position in inter collegiate activities.                                      | All team members                 | 50             |
| 7   | Participation in University / State level activities   | All team members                 | 70             |
| 8   | National / International level activities  | All team members                 | 80             |

Evaluation of student for NCC/NSS/Games & Sports/ACEES activities shall be done by HOD of Physical Education Department. Evaluation of student for CULTURAL/LITERARY activities shall be done by Dean SRC. Evaluation of co-curricular activities like technical paper presentation / model project exhibition etc. shall be done by H.O.D. of respective department. However compilation of student data for all the activities shall be the responsibility of H.O.D. Physical Education.

Students shall be assessed for the marks mentioned in serial number 5, 6 & 7 of above table and best of three items should only be awarded. Serial No. 1, 2, 3 & 4 are add-on marks that should be added with the marks received by students for serial number 5, 6 & 7.

R 7.1.2

Community Service Programme (CSP) will be announced by the Sports/Humanities/NSS department from time to time at the start of academic year. The students should register in the concerned department and shall participate in the CSP conducted during that

### **R 7.2 Incentives to the students participating in Industrial/ Corporate Training/ Publications**

R 7.2.1

The students admitted to the PG programme undergoing Industrial/Corporate training in listed / reputed companies / organizations having minimum duration of 4 weeks shall be eligible for award of additional grades as per the regulations.

Guidelines for incentive credits to the Students Participating in Industrial / Corporate Training/Publications

Award of grades based on absolute mark system out of 100 is prepared. The same is converted to grade points and grades as below:

| Grade Point | Range of Marks |
|-------------|----------------|
| 10          | 90-100         |
| 9           | 80-89          |
| 8           | 70-79          |
| 7           | 60-69          |
| 6           | 50-59          |
| 5           | 40-49          |
| 4           | 30-39          |
| 3           | 20-29          |
|             |                |

Various components for calculating the marks out of 100 are as below:-

The students admitted to the PG programme undergoing Industrial/Corporate training in listed/reputed companies/ organizations having minimum duration of 4 weeks shall be eligible for award of additional grades as per the following table.

Industrial & Corporate Training

| Sr.<br>No. | Training undertaken at                   | Marks |
|------------|--|-------|
| 1          | MNC/ Public Sector/ Large Scale Industry | 30    |
| 2          | Small and Medium Enterprise              | 20    |

**Note:-** A student must produce a certificate from the enterprise in which he/she has undertaken training, produce a report and give a presentation in order to be eligible for securing the marks.

The PG students publishing research papers in international/ national journals and international/ national conferences organized by IITs/IIMs and Institutes of national/ international repute shall be eligible for award of additional grades as per the following

table

| Sr. | Particular   | Mark |
|-----|--|------|
| 1   | Research Paper accepted and presented in International conference                                    | 20   |
| 2   | Research Paper accepted and presented in National conference   | 15   |
| 3   | Research Paper accepted and presented in state level/regional conference                             | 10   |
| 4   | Research Paper accepted for publication in referred<br>International Journal                         | 50   |
| 5   | Research Paper accepted for publication in Non-referred International Journal but with ISBN/ISSN No. | 40   |
| 6   | Research Paper accepted for publication in referred  National Journal                                | 40   |
| 7   | Research Paper accepted for publication in Non-referred  |      |

In case a research paper is jointly presented / published by more than one student, the marks awarded will be divided equally among the students.

Evaluation of the students for incentive credits for participating in Industrial / Corporate training/Paper presentation/ Paper Publication shall be done by the respective head of the departments.

# R 7.2.2

The PG students publishing research papers in international/ national journals and international/ national conferences organized by IITs/IIMs and Institutes of national/international repute shall be eligible for award of additional grades as per the regulations.

#### R 8. Academic Council

Academic Council shall be constituted as per the guidelines for autonomous colleges prescribed by UGC under plan 11of para 8.

#### R 8.1

Academic Council shall consist of

- 1. Principal (Chairman)
- 2. All Heads of the Departments in the Institute.
- 3. Four teachers of the Institute representing different categories of teaching staff by rotation on the basis of seniority of service in the Institute.
- 4. Not less than four experts from outside the Institute representing such areas as Industry, Commerce, Law, Education, Medicine, Engineering etc. to be nominated by the Board.
- 5. Three nominees of the university.

|       | 6. A Faculty member nominated by the Principal (Member Secretary).                        |
|-------|---|
| R 8.2 | Without prejudice to the generality of functions mentioned the Academic Council will have |
|       | nowers to:  |

- a) Scrutinize and approve the proposals with or without modifications of the Board of Studies with regard to course of study, academic regulations, curricula, syllabi and modifications. There of, instructional and evaluation arrangements, methods, procedures relevant thereto etc.
  - provided that where the Academic Council differs on any proposal, it will have to return the right to any matter for reconsideration to the Board of Studies concerned or reject it, after giving reasons to do so.
- b) Make regulations regarding the admission of students to different programmes of study in the college.
- c) Make regulations for sports, extra-curricular activities, and proper maintenance and functioning of the playgrounds and hostels.
- d) Recommend to the Board proposals for institution of new programmes of study.
- e) Recommend to the Board of scholarships, studentship, fellowships, prizes and medals, and to frame regulations for the award of the same.
- f) Advise to the Board on suggestion(s) pertaining to academic affairs made by it.
- g) Perform such other functions as may be assigned by the Board.
- h) Any other matters from time to time thought necessary by the Principal and the Board.

#### **R 9.** Course Coordination Committee

R 9.1

Every Head of the Department will appoint a coordination committee for each course/course group, which shall contain the senior departmental faculty related to the course/course group and invited members from other departments, institutes and industry, if required.

### R 10. Board of Studies (BOS)

R 10.1

Every programme shall have its own Board of Studies (BOS) to look after all matters pertaining to that particular programme.

### Composition:

- a) Head of the department concerned (Chairman)
- b) The entire faculty of each specialization
- c) Two experts in the subject from outside the Institute to be nominated by the Academic Council.
- d) One expert to be nominated by the Vice Chancellor from a panel of six, recommended by the Principal.
- e) One representative from the industry/ corporate sector/allied area relating to placement.
- f) One post graduate meritorious alumnus to be nominated by the Principal.

The Chairman BOS, may with the approval of the Principal, co-opt

- Expert from outside the college whenever sufficient courses of studies are to be formulated.
- ii. Other members of staff of the same faculty.

Provided that in case of Applied Sciences the Chairman of the Board will be Head of the

|               | Department of Physics, Chemistry, Mathematics and Humanities by rotation. Remaining composition of the Board will be the same.  |
|---------------|---|
| R. 10.2       | Functions:  |
|               | BOS of a department in the Institute shall:   |
|               | <ul> <li>a) Prepare syllabi for various courses keeping in view the objectives of the Institute, interes of the stakeholders and national requirement for consideration and approval of the Academic Council;</li> </ul>  |
|               | b) Suggest methodologies for innovative teaching and evaluation techniques;   |
|               | c) Suggest panel of names to the Academic Council for appointment of examiners; and   |
|               | d) Coordinate research, teaching, extension and other academic activities in the department/institute.  |
| R. 10.3       | The Principal of the Institute shall appoint the BOS in consultation with the respective Head of the Department. In case of vacancies in BOS replacement shall be done by Chairman, BOS with the approval of the Principal. For an interdisciplinary programme, an ad-hoc BOS shall be constituted by Dean Academics. A Programme Coordinator shall be appointed by the Principal in consultation with the Dean Academics and the Heads of the concerned Departments to look after all the administrative and academic matters related to the interdisciplinary programme. The Programme/Course Coordinator shall exercise the functions of the Chairman, of such ad-hoc BOS. |
| R 11. Courses | of Special Nature   |
| R 11.1        | (a) Project   |
|               | A curriculum shall contain project/ mini project/ seminar, offered in the respective semester of the concerned (M. Tech/ MBA/ MCA) PG programme. Credit component shall be assigned as per the availability of total credits for the respective semester of PG programme. Allotmen of guide to the individual student shall be carried out by concerned department.   |
|               | (b) Offering an Elective  |
|               | An elective course in a department shall run only if minimum of 30% students register for it in a regular semester. However, under special circumstances, a course may run with fewe students with prior permission of the Chairman, Board of studies. If additional full time faculty is required, approval of the Principal is necessary.   |
| R 12.         | Starting a New Programme  |
| R 12.1        | (a) An Institute is free to start diploma (UG and PG) or certificate courses without the prio approval of the university. Diplomas and certificates shall be issued under the seal of the college.  |
|               | (b) An Institute is free to start a new degree or postgraduate programme with the approval of   |

|         | shall be duly informed of such programmes.  |
|---------|---|
|         | (c) An Institute may rename the existing programme after restructuring/ redesigning it with the approval of the Academic Council as per UGC norms. The university should be duly informed of such proceedings so that it may award new degrees in place of the old.   |
|         | (d) An interdisciplinary programme may be proposed by a Department in consultation with other participating Department(s), or by a group of Department(s), or by a Committee appointed by the Principal.  |
|         | (e) A new programme proposed by Department(s) shall be placed before the APEC and the Academic Council for their recommendation to the Board / Government /AICTE for obtaining its approval.  |
| R 13.   | Registration  |
| R 13.1  | Every student admitted shall have his/her unique Student ID. The Student ID of a student shall consist of ten alpha-numerals <b>MTnnYYYmmm</b> where; MT: Indicates M. Tech. MB: Indicates MBA MC: Indicates MCA  |
|         | nn:Indicates Year of Admission.   |
|         | YYY: Indicates Program code.  |
|         | mmm: Indicates Serial Number in a program.  |
|         | <u>viz:</u> MT11CES001 indicates Serial No. 001 of M. Tech. Structural Engineering student admitted in 2011.  |
|         |   |
| R 13.2  | Registration at the beginning of each year, on the prescribed dates announced from time to time, by payment of the stipulated fees along with duly filled in admission form is compulsory for every student till he/she completes the Programme.  |
| R 13.3  | Registration, according to rules, should be carried out on the first four days of each year. Late registration may be permitted only for valid reasons and on payment of a late registration fee. In any case, registration must be completed before the prescribed last date for registration, failing which his/her studentship is liable to be cancelled. Students having outstanding dues to the Institute or hostel shall be permitted to register only after clearing the dues. |
|         | In addition to registration at the beginning each year, a student shall, at the beginning of each semester (excluding the first semester), register for the courses opted by him/her within one week of the beginning of the session. (Regulation introduced as approved in Academic Council in its meeting dated 25 <sup>th</sup> April 2015).   |
| R 13.4  | In-absentia registration may be allowed only in rare cases at the discretion of the Dean Academics in case of circumstances beyond the control of students.   |
| R. 13.5 | For Registering to Third semester (All PG Programmes): A student should earn all the credits of first semester and 60% of the total credits (rounded off to nearest lower integer) of II semester.  |
|         | For Registering to Fifth semester (M. Tech (part time)): A student should earn all the credits of first semester, second semester and third semester and 60% of total credits (rounded off to the nearest integer) of fourth semester.  |
|         | For Registering to Fifth semester (MCA): A student should earn all the credits of third   |
|         | semester and 60% of the total credits (rounded off to nearest lower integer) of fourth semester.  |
| R 13.6  | The student admitted for regular/part time PG course shall not undertake any course of study in any university/college/institution. The student admitted for regular PG course shall not undertake any full time employment during the period of the programme.   |
| R 13.7  | All courses in M. Tech. semester I and MBA semester I shall be compulsory ( a student shall   |

|                   | not be allowed to take up additional course(s) or drop certain course(s) during the first semester)   |
|-------------------|---|
|                   | (Regulation introduced as approved in Academic Council in its meeting dated 25 <sup>th</sup> April 2015)  |
| R 13.8            | A student who has secured all the credits offered till the previous semester in M. Tech. /MBA programme with a minimum CGPA of 8.0 (termed as fast learner) shall have an option to taking up maximum one additional course (Departmental elective in case of M. Tech Programme) offered in that semester. The student shall be allowed to opt for a particular course only if that course is being offered by the department in that semester and subject to suitability of the time table and other constraints. The additional course shall be treated as credit course.  Once a student opts for an additional course he shall not have an option to drop that course in subsequent attempts. |
|                   | The grade card of shall separately reflect the performance of the student in that course. (Regulation introduced as approved in Academic Council in its meeting dated 25 <sup>th</sup> April 2015)  |
| R 13.9            | A student who with a maximum CGPA of 6.5 (termed as slow learner) in M. Tech./ MBA programme shall have an option to drop maximum one compulsory course offered in the  |
|                   | second semester. He/she shall have to take up this course in the forth semester. In case of M. Tech (Geotech), this option can also be exercised in the third semester; he/ she shall have to take up this course in the fifth semester. (Regulation introduced as approved in Academic Council in its meeting dated 25 <sup>th</sup> April 2015)   |
| R 14. Equivalence | e and Absorption of students from University pattern  |
| R 14.1            | The students, from University pattern, desirous of seeking admission to II semester and onwards wherever applicable in autonomous pattern, has to fulfill the prevailing ATKT norms of the University to become eligible for admission. However, such students have to clear backlog subjects (courses) if any, by appearing for the respective examinations of the University. In addition the student also has to register and pass new courses, if any, introduced in earlier semesters of the autonomous pattern. The norms of absorption / equivalence shall be decided by the Academic Council on the recommendations of the Equivalence Committee from time to time.                       |
| R.14.2            | While switching from University pattern to autonomous pattern the CGPA of such student shall be calculated as per the table below.  |
|                   | CGPA4.0 5.0 6.0 7.0 8.0 9.0 10.0  |
|                   | Percentage 40 50 60 70 80 90 100  |
|                   | The intermittent percentages should be calculated based upon the extrapolation of the values in the table.  |
| R 14.3            | When a student switches from a University to the Institute, the additional courses offered in previous semester of that programme in Autonomous pattern of the institute and not covered in the corresponding University curriculum, such additional courses shall be treated as audit courses and he/she will have to earn 'Satisfactory' grade in those courses.  Provided that he/ she clears all the backlog subjects in university pattern and earns 'Satisfactory' grade for the additional courses in autonomous pattern, which are not covered  |
|                   |   |

| R 14.5           | The students from any University/ Autonomous college desirous of seeking admission to III/V semester is eligible to take admission as per norms laid down by the Equivalence Committee of the college after obtaining the permission from the competent authority.                               |
|------------------|--|
| R 15. Discipline | and Conduct  |
| R 15.1           | Every student is required to observe discipline and decorous behavior both inside and outside the campus and not to indulge in any activity, which will tend to bring down the prestige of the Institute.  |
| R 15.2           | The following acts of omission and/or commission by the students within or outside the college campus shall constitute gross violation of 'Code of Conduct' punishable as indiscipline.  |
|                  | a) Lack of courtesy and decorum, as well as indecent behavior;   |
|                  | b) Willful damage of property of Institute/ Hostel or of fellow students;  |
|                  | c) Possession/ Consumption/ Distribution of alcoholic drink and banned drugs;  |
|                  | d) Mutilation or unauthorized possession of library materials like books, journals etc.  |
|                  | e) Noisy and Unseemly behavior disturbing peace in Institute and Hostel;   |
|                  | f) Hacking in Computer system, either hardware or software or both;  |
|                  | g) Any other act considered by the Institute as a gross indiscipline.  |
| R 15.3           | Any act of indiscipline of a student reported to the Dean, Student Affairs, will be discussed in a Complaint Redressal Committee constituted by the Academic Council.  |
|                  | The Committee will enquire into the charges and recommend suitable punishment if the charges are substantiated. The concerned Heads of the Departments will consider the recommendations of the Complaint Redressal Committee and authorize the Dean Student Affairs to take appropriate action. |
|                  | Also the Academic Council will duly and transparently form a Grievance Redressal Committee. In case of any issue the student has to submit his grievance in writing with a copy to the Dean Student Affairs.   |
|                  | The committee will look into the matter and forward the action taken to the Dean Student Affairs and the student.  |
| R 15.4           | <b>Appeal:</b> The student may appeal to the Chairman, Academic Council whose decision will be final and will be conveyed to the Dean Student Affairs. The Dean Student Affairs  |
| D 4 F F          | will report the action taken at the next meeting of the Academic Council.  |
| R 15.5           | If the student while studying in the Institute is found indulging in anti-national activities contrary to the provisions of acts and laws enforced by Government he / she will be liable to be expelled from the Institute without any notice.   |
| R 15.6           | If a student is involved in any kind of ragging, the student shall be liable for strict action as  |
| K 13.0           | per Maharashtra Anti-Ragging act 1999, which is in effect from 15 <sup>th</sup> May 1999.  |
| R 15.7           | If any statement/information supplied by the student in connection with his/her admission is found to be false/ incorrect at any time, his/ her admission shall be cancelled   |

|               | and he/she shall be expelled from the Institute and fees paid shall be forfeited.  |
|---------------|--|
| R 15.8        | Student once admitted in the Institute has to follow dress code, if any, as well as other instructions issued by the administration from time to time, failing which disciplinary action shall be initiated against such student.  |
| R 15.9        | If a student is found guilty of overall misconduct during his/her stay in the Institute, he/she will be punished as per the recommendations of the Dean Student Affairs. The maximum punishment may be expulsion from the Institute.   |
| R 15.10lf a s | tudent is found guilty of malpractice in examination he/she will be punished as per the  |
|               | recommendations of the COE in consultation with EXC.   |
| R 16.         | Attendance, Absence, Leave Rules and Dismissals  |
| R 16.1        | All the students are expected to be present in every lecture, practical, NCC / NSS / CSP / Games & Sports / Yoga scheduled for them. Attendance will be closely monitored during a semester as per the guidelines.   |
| R 16.2        | If a student is continuously absent from the classes for more than four weeks without informing the Course Coordinator, the Coordinator shall immediately bring it to the notice of the Head of the concerned department as the case may be and they in turn will  |
| R 16.3        | inform the same to the Office of Dean Academics.  The names of the students who have remained absent, for more than 25% of the actual classes held in a course will be intimated by the Course Coordinator himself on the last teaching day of each month of the respective semester, to the students in the class with written intimation to the Head of the Department who will arrange to consolidate the list for all such students for all the courses and display it on the notice board of the department |
| R 16.4        | with an intimation to Dean Academics.  For want of attendance if a student is not permitted to appear for the end semester examination in the semester in which the shortfall exists, his/her registration for that semester will be treated as cancelled, and he/she shall be awarded `Z' grade in that semester. This grade shall appear in the grade card till the successful completion of   |
| R 16.5        | course requirements in that semester.  Condonation of Attendance: Condonation of attendance can only be considered in case the overall attendance of the student is minimum 60%.   |
|               | A deficiency of overall attendance to the extent of 15% may be condoned by the Principal on the recommendation of Head of the Department/ First Year Incharge on being satisfied that the same deficiency in attendance was due to circumstances beyond the control of the student.  |
|               | For availing such condonation, a student will have to apply to the Head of concerned department along with requisite documents. However the decision in this matter will be finally taken by the Principal. (Modified regulation as approved by Academic Council in its meeting dated 25th April 2015).  |
| R 16.6        | In case the overall attendance is below 60 %, his/her attendance in individual courses shall be considered. If in any course his/her attendance is minimum 60%, he/she shall be eligible to appear in end semester examination of that course.   |

|                   | However the decision in this matter will be finally taken by the Principal. (Modified regulation as approved by Academic Council in its meeting dated 25th April 2015).                                     |
|-------------------|---|
| R 16.7            | Student who is not permitted to appear for the end semester examinations due to shortfall in attendance in a course shall be awarded 'Z' grade in that course. This grade shall                             |
|                   | appear on the Grade Card till the successful completion of course requirements in that  |
|                   | course.   |
|                   |   |
| R 17. Withdrawa   | ıls   |
| R 17.1            | A student who wants to withdraw from a semester shall apply through the Head of the Department to the Principal, on a prescribed form within one week from the end of the                                   |
|                   | Test I Examination and it will be recorded in the registration record of the student. The student will be awarded a withdrawal grade 'W' at the end of the semester.  |
| R 17.2            | In case, a student is unable to attend classes for more than four weeks in a semester, he/she may apply to the Principal through Head of the Department for withdrawal from the semester.                   |
|                   | However, such application shall be made as early as possible and latest before the start of the End Semester Examination.   |
| R 17.3            | In case the period of absence on medical grounds is more than fourteen working days during the semester, a student may apply for withdrawal from the semester, if he/she so                                 |
|                   | desires. But such an application must be made to the Principal through Head of the Department, as early as possible and latest before the beginning of End Semester Examination.                            |
| R 17.4            | The maximum duration for completion of a PG degree programme will be of five years for M. Tech/MBA and six years for MCA and M. Tech. (part time). Final decision will be taken by the competent authority. |
| _                 |   |
| R 18. Examination | on Scheme   |
| In a semester a s | tudent shall be evaluated for his/her academic performance in a theory (Lecture / Tutorial)   |
|                   | Mid Semester Examinations and one End Semester Examination. All the examinations shall  |
| be conducted as   | por the cullabiling scribed by the respective POS and approved by the Academic Council  |

be conducted as per the syllabi prescribed by the respective BOS and approved by the Academic Council

R 18.1

- a) Three test examinations covering 15% evaluation each will be conducted as per schedule in the Academic Calendar. The best two scores, amongst the three tests shall be considered. Test examination will be normally of one-hour duration. The duration of examination may vary as per the need of the theory course. Valued answer books shall be shown to the students within six working days after the last day of the theory examination. Grievances, if any, shall be addressed by the HOD on application of the students within next two days.
- b) Teachers' assessment of students' performance covering 10% evaluation shall be done on the basis of any two heads such as home assignments, tutorials, open book tests, seminars, group discussions, projects, quizzes etc. The course coordinator shall declare the two heads chosen for each course, within the date prescribed by the

|        | Dean Academics.  |
|--------|--|
|        | c) End Semester Examination shall be conducted as per schedule in Academic Calendar. End semester examinations will be of three-hour duration. The duration of examination may vary as per the need of the theory course. Valued answer books shall be shown to the students within six working days after the last day of the theory examination. Grievances, if any, shall be addressed by the Head of the Department on application of the students within next two days. Correction in marks, if any, should be communicated to the office of COE in the format prescribed within ten working days after the day of examination. |
| R 18.2 | A student who skips teachers' assessment or a part thereof shall be awarded zero marks under the respective head.  |
| R 18.3 | A student who remains absent for End Semester examination, shall be awarded zero marks in end semester examination. If a student is eligible for 'FF' or 'I' grade shall be allowed to appear for the Makeup examination. The Makeup examination shall be conducted within one month from the declaration of results of the end semester examination. Makeup examination shall be held for end semester examination of that academic year only.  |
| R 18.4 | a) Continuous assessment covering 50% evaluation on the basis of his/ her performance in each practical examination, journal completion and viva-voce/ objective examination.  |
|        | b) There shall be one end semester practical examination covering 50% evaluation. In case of performance oriented practical, the evaluation shall be done on the basis of performance in practical examination and viva-voce/objective test. Mode of examination for non-performance type of practical shall be declared by the course coordinator in the beginning of the session. Type of practical course i.e. performance type or non performance type shall be decided by the respective BOS.   |
| R 18.5 | The seminar/ open defense wherever applicable, shall be evaluated through the quality of work carried out, the report submission and presentation(s) as per the guidelines prescribed by the respective BOS from time to time.   |
| R 18.6 | Project work shall be evaluated by mid-term seminar(s), the quality of work carried out, project report submission and the viva-voce examination.  |
| R 18.7 | Notwithstanding contained in above, any specific norms in respect of examination, criterion of passing, results, valuation, grading, discipline, award of degree, attendance will be prepared by the respective departmental faculty board, approved by BOS and Academic Council, if required.   |
| R 18.8 | An examinee securing 'FF' or 'Z' grade in any course of an examination of a programme shall have an option to forego his/her continuous assessment marks in a course or courses. In such cases he/she shall be examined for a total marks comprising theory/practical end semester examination and continuous assessment together, at his/her successive attempt at the examination Such an option can be availed by an examinee incase he/she is appearing for the successive attempts at the examination as an ex-student for that particular course.  |

| The option of forego cannot be availed by examinee in an examination incase he/she is         |
|---|
| appearing for the examination as regular student for that particular course. A student who is |
| detained from appearing in an examination in a course(s) for lack of attendance can exercise  |
| the option of forego in successive attempts at the examination.                               |
|   |

To avail this, the examinee would indicate the same in his or her 'Application for the examination' and the option once exercised, shall be 'Final and Binding' on the examinee concerned for all the subsequent examinations in that course. (Modified regulation as approved by Academic Council in its meeting dated 15<sup>th</sup> April 2014).

For the examinee opting for forego, his/her marks in continuous assessment shall be ascertained proportionately on the basis of his/her marks in the end semester examination of that course.

- a. For example, in case of a theory course wherein out of a total of 100 marks, 60 marks and 40 marks are allotted to end semester examination and continuous assessment respectively, the proportion would be 1.5:1 i.e. for every 1.5 marks scored in end semester examination, 1 mark would be assigned to continuous assessment.
- b. For example, in case of a practical course wherein out of a total of 50 marks, 25 marks each are allotted to end semester practical examination and continuous assessment respectively, the proportion would be 1:1 i.e. for every 1 mark scored in end semester practical examination, 1 mark would be assigned to continuous assessment.

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

#### R 19. The Grading System

| R 19.1  | For every course taken by a student he/she is assigned a grade based on his/her combined performance in all components of evaluation scheme of a course/practical. The grade indicates a qualitative assessment of the student's performance and is associated with equivalent number called a grade point.             |
|---------|---|
| R. 19.2 | The academic performance of a student shall be graded on a ten-point scale following guidelines in Table 2.   |
| R 19.3  | The letter Grades (up to 'CC' only) awarded to a student in all the courses shall be converted into a SGPA and CGPA, to be calculated as given in R 28.   |
| R 19.4  | For computation of Standard Relative Grades, for the evaluation of the academic performance of an examinee in a course, in Makeup Examination, the Mean and the Standard Deviation would be the same as the Mean and Standard Deviation in the End Semester Examination for which the Makeup Examination was conducted. |
| R 19.5  | A student passing a course in Makeup examination shall be treated as having cleared the   |

course in First Attempt.

| R 19.6               | In case the ex-student appears for examination of the course along with regular student   |  |  |  |  |
|----------------------|---|--|--|--|--|
|                      | appearing in that course then the cut-off marks of the regular examination shall b applicable.  |  |  |  |  |
|                      | In all other cases the cut-off marks of the previous regular examination shall be applicable.   |  |  |  |  |
| R 20. Grade <i>N</i> | Moderation Committee  |  |  |  |  |
| R 20.1               | The Grade Moderation Committee for the programmes shall be appointed semester wise be the Chairman, BOS. This committee shall be responsible for adherence to the guidelines for the award of grades and shall include all the concerned Course Coordinators. The Chairman Grade Moderation Committee shall be responsible for the display of grades in the department and for forwarding the final grades to the COE.  |  |  |  |  |
| R 21. Award          | of Degree   |  |  |  |  |
| R 21.1               | The Degree shall be awarded by the Rashtrasant Tukadoji Maharaj Nagpur University Nagpur along with the name of College, on recommendations of the Academic Counci Board.   |  |  |  |  |
| R 22. Grade (        | Card  |  |  |  |  |
| R 22.1               | The grade card shall be issued at the end of the semester to each student and will contain the following:   |  |  |  |  |
|                      | a) The credits for each course registered for that semester.  |  |  |  |  |
|                      | b) The grade points and letter grades obtained in each course.  |  |  |  |  |
| R 22.3               | c) The total number of credits earned by the student up to the end of that semester i Wherever required the conversion of CGPA to percentage of marks will be don using following table.  |  |  |  |  |
|                      | CGPA 4.0 5.0 6.0 7.0 8.0 9.0 10.0   |  |  |  |  |
|                      | Percentage         40         50         60         70         80         90         100  |  |  |  |  |
|                      | The intermittent percentages should be calculated based upon the extrapolation of th values in the table.   |  |  |  |  |
| R 23. Minimu         | m Requirements for the Award of the Degree  |  |  |  |  |
| R 23.1               | The student should have taken and passed all the prescribed courses including semina open defense and projects under the general institutional and departmental requirements.   |  |  |  |  |
| R 23.2               | A student who fails to obtain the minimum specified CGPA required for the award of degree as per norms, he/she shall take additional courses or repeat the courses mentioned in program till the minimum CGPA is attained, subject to maximum duration of program a specified in R 17.4 and R 24.1.   |  |  |  |  |
| R 23.3               | The credits for the courses in which a student has obtained 'CC' grade or higher shall be counted as credits earned by him/her. The grades awarded for successful and unsuccessful completion shall be 'Satisfactory' and 'Unsatisfactory' respectively. The grades shall be denoted by 'SF' and 'USF' respectively. The student should also have 'Satisfactory' grade in the credit of the course of the |  |  |  |  |

|                 | all the audit courses otherwise he/she will have to repeat the audit course provided that a student should have no case of indiscipline pending against him/her.  |  |  |  |
|-----------------|---|--|--|--|
| R 24. Extension | n of Maximum Period for Completion of a programme   |  |  |  |
| R 24.1          | The maximum duration for any programme may be extended at the most by one semester for genuine cases and unavoidable circumstances on the recommendations of the BOS through Academic Council for approval to the Board.  |  |  |  |
| R 25. Award of  | f Medals/ Scholarships  |  |  |  |
| R 25.1          | Awards available under excellent performances in sports, cultural, extra-curricular, debate, etc. shall be given to the students as per prevailing norms.   |  |  |  |
| R 25.2          | The award of scholarships / freeships and other benefits will be in accordance with rules framed by the Government of Maharashtra and Govt. of India.   |  |  |  |
| R 25.3          | The award of merit scholarships/ Medals, if any, to the students will be governed by the regulations framed by the Board/ Academic Council from time to time.   |  |  |  |
| R 25.4          | Students clearing all courses offered in a programme in regular examination in first attempt shall be considered for the award of merit/medal.  |  |  |  |
|                 | In case, a student has cleared any course offered in a programme in Makeup examination he /she shall not considered for the award of merit/medal.   |  |  |  |
| R 25.5          | A student availing the option to drop a course under provisions of R 13.9 shall not be eligible for award of merit/medals conferred by the college for academic excellence. (Regulation introduced as approved in Academic Council in its meeting dated 25 <sup>th</sup> April 2015).   |  |  |  |
| R 26. Interpret | tation of Regulations   |  |  |  |
| R 26.1          | In case of any dispute, difference of opinion in interpretation of these regulations or any other matter not covered in these regulations, the decision of the Chairman, Academic Council shall be final and binding.   |  |  |  |
| R 27. Academi   | <del>c Calendar</del>   |  |  |  |
| R 27.1          | The Academic Calendar will be designed, updated and followed up by Dean Academics from time to time. The academic activities of the Institute are regulated by Academic Calendar approved by the Principal on the recommendation of Dean Academics from time to time and made available to the students/ Faculty members and all other concerned in printed and electronics form. It is mandatory for students / Faculty to strictly adhere to the Academic Calendar for completion of academic activities until and unless permitted by the competent authorities. |  |  |  |
| R 28 Calculati  | ion of SGPA and CGPA  |  |  |  |
| . 20. Culculati | (i) Calculation of Semester Grade Point Average (SGPA)  The performance of a student in a semester is indicated by a number called SGPA. The SGPA is the weighted average of the grade points obtained in all the courses registered by the student during the semester. The Grade $S_i = C_i $ in R 20.3 will be used for $SGPA = \frac{C_i R_i}{\Sigma C_i}$  |  |  |  |

calculating the CGPA and SGPA.

Where,

 $C_i$ = The number of credits offered in the i<sup>th</sup> course of a semester for which SGPA is to be calculated

 $P_i$  = Grade Point earned in the i<sup>th</sup> course

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

 $C_a = 1$ ; Incentive credit per activity

 $P_a$  = Grade point for participating in activities NCC/NSS/Games & sports/Cultural Activities/ACEES.

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

### (ii) Calculation of Cumulative Grade Point Average (CGPA)

Up-to-date assessment of the overall performance of a student from the time of his first registration is obtained by calculating a number called CGPA, which is weighted average of the grade points obtained in all the courses registered by the student since he/she entered the Institute.  $CGPA = \frac{\sum_{j=1}^{l} \sum_{j=1}^{l} \sum_{j=1}^{l} \sum_{j=1}^{l} \sum_{l=0}^{l} \sum_{al} \sum_{r=0}^{l} \sum_{br} \sum_{br} \sum_{l=0}^{l} \sum_{br} \sum_{br} \sum_{l=0}^{l} \sum_{br} \sum_{l=0}^{l} \sum_{br} \sum_{br} \sum_{br} \sum_{l=0}^{l} \sum_{br} \sum_{br}$ 

Where,

 $C_j$  = The number of credits offered in the j<sup>th</sup> course up to the semester for which CGPA is to be calculated

 $P_i$  = Grade point earned in the j<sup>th</sup> course.

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

 $C_{al}$ ; Incentive credit in semester

 $P_{al}$ =Grade point for participating in activities NCC/NSS/Games & Sports/Cultural Activities/ACEES in the semester.

*l* = number of semester of participation

 $C_{br}$ ; Incentive credit in semester

 $P_{br}$  = Grade point for participating in industrial/corporate training/publications

r = number of semester of participation

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

#### R 29. Guidelines for the Award of Grades

Following are the general guidelines for the award of grades:

- (i) In general standard relative grading system will be followed.
- (ii) In case of subject if the number of students offering a given elective is less than 30, the grades will be awarded as per absolute system.
- (iii) For each student, evaluation in different components of a course shall be done in absolute marks considering the weightage in scheme.
- (iv) The marks of various components shall be added to get total marks secured on a 100 points scale. The rounding off shall be done on the higher side.
- (v) The provisional grades shall be awarded by the Examination Committee. The grades shall be finalized within fifteen working days after the End Semester Examination.
- (vi) The grades so awarded shall be moderated by a Grade Moderation committee for that semester of the department within next three working days. This committee will finalize the grades and display a copy of the grades awarded on the Notice board of the Department. All the final grades shall be communicated to the Controller of Examinations within three working days from the date of display of grades.
- (vii) The procedures for evaluation and award of grades for project, training, seminar and group discussion shall be decided by the respective DFB.

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

. Satisfactory

ii. Unsatisfactory

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

### R 29.1

### **Standard Relative Grading System**

Computation of Standard Relative Grades

The Mean and Standard  $\sqrt[n]{2}$  De  $\frac{\vec{v} + \vec{a}ti}{\vec{v}}$  on would be calculated for the course based upon the marks obtained by the students in that course

Formula for Mean  $(\overline{x})$ 

$$S = \sqrt{\frac{\sum_{i=1}^{N} (x_i - \overline{x})^2}{N-1}}$$

Formula for Standard Deviation(s

| Grades | <b>Grade Points</b> | Range for Grade Calculation            |
|--------|---------------------|--|
| AA     | 10                  | $\geq \overline{x} + 1.5 s$            |
| AB     | 9                   | $<$ AA and $\ge \overline{x} + 1.0 s$  |
| BB     | 8                   | $<$ AB and $\ge \overline{x} + 0.25 s$ |
| ВС     | 7                   | $<$ BB and $\ge \overline{x}$ -0.5 s   |
| CC     | 6                   | $<$ BC and $\ge \overline{x}$ -1.0 s   |
| FF     | 0                   | < x-1.0 s                              |

### R.30 Guidelines for Project Evaluation

#### R. 30.1

### M. Tech.:

- Every student has to undertake a project of professional interest. The project may be related to a theoretical analysis, an experimental investigation, a proto-type design, a new correlation and analysis of data, software design, fabrication and setup of new equipment.
- The PG Coordinator appointed by the department normally assigns the project towards the end of the II semester full time M. Tech course/III semester part time M. Tech. course and the work is done uniformly during the last two semesters of the programme.
- The first phase of project work to be carried out in III semester in case of full time M. Tech. which will be assessed at the end of the semester under the project phase-I.
  - The report of the project work should be submitted by the prescribed date. A panel of examiners will evaluate the report and the presentation of the work carried out at the end of the semester.
- The first phase of project work to be carried out in IV semester in case of part time M. Tech. which will be assessed at the end of the semester under the project phase-I.
  - The report of the project work should be submitted by the prescribed date. A panel of examiners will evaluate the report and the presentation of the work carried out at the end of the semester.
- The assessment of the project phase-II work is evaluated on the following basis;
  - The 1<sup>st</sup> stage of progressive project work carries 30% of the total weightage,
  - The 2<sup>nd</sup> stage of progressive project work carries 30% of the total weightage,
  - The final stage of project work carries 40% weightage,
  - At each stage of progressive project work, a report should be submitted and the work should be presented which will be assessed by the panel of examiners as an internal assessment.
- The final project report should be submitted by the prescribed date. The final project report and the work should be presented, which will be assessed by the examiner at the End Semester Examination.
- Submission of the final project report cannot be postponed beyond the date specified in the calendar. If the final project work cannot be completed due to valid reasons, the course can be dropped in consultation with the Head of the Department, PG coordinator and the guide on or before the last date for dropping of courses. Reregistration for the same is required in the following semester in which it should be completed.
- Student who does not submit the final project report for assessment by the due date, due to unavoidable circumstances beyond his/her control, will be temporarily awarded 'I' grade at the time of finalization of grades.

The 'I' grade will be converted to a performance grade when he/she submits the final project report and undergo the examination as per syllabi notified by PG coordinator in consultation with Head of the Department. In case of non-compliance of these provisions, 'I' grade shall automatically be converted into 'F' grade.

#### R 30.2

### MBA:

### **Project Evaluation Guidelines**

- Every student has to undertake a project of professional interest. The project has to be related to the area of specialization, the student has opted in Semester III. The project may be related to study and analysis related to the working in the business organizations in the area of Operation Management, Financial Management, Marketing Management, Human Resource Management and other Management related areas. The student is expected to apply appropriate research tools to analyze the data to draw meaningful conclusions and suggestion
- The first phase of project work will be carried out in 3<sup>rd</sup> semester by a project defining seminar, where student will define title, scope and objective of the project.
- The final project report should be submitted by the prescribed date. A panel of examiners will evaluate the report and project defense seminar and viva-voce which will be conducted after the End Semester Examination. The project assessment will be carried out by internal and external examiners. The 50% weightage will be assigned to internal assessment done by Project Guide. The remaining 50% weightage will be assigned to external assessment done by external examiner.

#### • Internal Assessment 50%

This internal assessment will be carried out by Project Guide based on student's demonstration of initiative, interest, efforts, regularity, research work, data collection, data analysis, statistical tools used and result obtained.

#### External Assessment 50%

The external assessment will be done by external examiner for 50% weightage based on project work presentation, defence seminar and oral examination.

- Submission of the project cannot be postponed beyond the date specified in the calendar. If the project could not be completed due to valid reasons, the course can be dropped in consultation with the Head of the Department and the guide on or before the last date for dropping of courses. Re-registration for the same is required in the following semester in which it should be completed.
- Student who does not submit the project report for assessment by the due date due to unavoidable circumstances beyond his control, will be temporarily awarded "I" grade at the time of finalization of grades. The "I" grade will be converted to a performance grade when he/she submits the report and undergo the oral examination as per syllabi, notified by project coordinator in consultation with Head of the Department. In case of

| non-compliance of these provisions, "I" grade shall automatically be converted into |
|---|
| "FF" grade.   |

#### R 30.3

#### MCA:

- Every student has to undertake a minor project in V semester and a full time industrial project in VI semester of professional interest. The project may be related to a theoretical analysis, an experimental investigation, a proto-type design, a new correlation and analysis of data, fabrication and setup of new equipment, software design. The Project Coordinator appointed by the department normally assists in getting industrial project and assigns the project towards the end of the previous semester.
- The final project report for both V and VI semesters should be submitted (along with the certificate from the industry, in case of industrial project) by the prescribed date. A panel of examiners evaluates the report and an oral examination is conducted after the End Semester Examination.
- The assessment of the project work is done on the following basis.
  - The preliminary presentation carries 25% of the total weightage.
  - Another 25% weightage is given for the initiative, interest, effort and regularity shown by the student.
  - The remaining 50% weightage is assigned to the oral examination conducted by the Panel of Examiners.
- Submission of the project cannot be postponed beyond the date specified in the calendar. If the project cannot be completed due to valid reasons, the course can be dropped in consultation with the Head of the Department, project co-coordinator and the guide on or before the last date for dropping of courses. Re-registration for the same is required in the following semester in which it should be completed.
- Student who does not submit the project report for assessment by the prescribed date due to unavoidable circumstances beyond his control, will be temporarily awarded 'I' grade. At the time of finalization of grades. The 'I' grade will be converted to a performance grade when he/she submits the report and undergo the examination as per syllabi notified by project coordinator in consultation with Head of the Department. In case of non-compliance of these provisions, 'I' grade shall automatically be converted into 'FF'

| Percentage of Marks | Grade | <b>Grade Points</b> |
|---------------------|-------|---------------------|
| > 85 %              | AA    | 10                  |
| 76-85 %             | AB    | 9                   |
| 66-75 %             | BB    | 8                   |
| 56-65 %             | ВС    | 7                   |
| 50-55 %             | CC    | 6                   |
|                     |       |                     |

| R 32.     | Indication of attempt on grade card  |
|-----------|--|
|           | The following characters will be displayed in the Grade Card to indicate the attempts. The Degree will not have any such indication. Single Grade Card will be provided for the regular and Makeup examinations. The Grade Cards of successive attempts will be separately provided. However a single Grade Card for a semester may be provided after all the subjects of that semester are passed in more than one attempt. But it will be marked 'N' The student will have to separately apply to the Controller of Examination for the single semester Grade Card with copies of all the intermediate semester Grade Card along with fees decided by the Finance Committee.  M - With Makeup Examination  |
|           | N - Not in the First Attempt   |
|           | IG - Improvement Grade   |
| R 33. (a) | <ul> <li>Improvement of Grade/CGPA while undertaking a Programme</li> <li>Student shall be permitted to improve their grade under the following conditions.</li> <li>The examination for improvement of grades shall hereafter be termed as 'Improvement Examination'.</li> <li>A candidate admitted to the institute prior to the commencement of this ordinance shall also be allowed to avail provisions as per this ordinance.</li> <li>The facility for improvement of grades will be available to the students having CGP/below 6.00 (Modified regulation as approved by Academic Council in its meeting dated 15th April 2014).</li> <li>The improvement is possible only in theory papers. No improvement is permissible in practicals/lab courses, projects, workshops and assignments.</li> <li>The improvement examination shall be conducted along with the Makeup Examination.</li> </ul> |
|           | <ol> <li>The Improvement Examination can be undertaken only for the courses in which a candidate had appeared as a regular student in the end term examination for which the Makeup is being conducted.</li> <li>Additional examination fees will be paid by the student for appearing in the examination for improvement in the grade. The fee payable shall be as prescribed by the Finance Committee.</li> <li>After the improvement examination result of the course taken for improvement of grade, better of the two grades, that is grade already awarded and the grade secured in the improvement examination will be considered.</li> <li>A candidate who has reappeared for the above examinations under the provision of this</li> </ol>  |

grade. ordinance and fails to improve his/her grade, his/her performance at such R 31 Award of Grade Based on Absolute Marking System reappearance shall be ignored.

10. Student having undertaken Improvement Examination will not be eligible for the

11. The student shall be issued a fresh replacement grade card indicating the new grade with a mark which shall be explained as 'Improved Grade' only if he/she has improved

award of any medal/merit position.

the grades.

|           | deviation of that course in the regular examination shall be applicable.   |
|-----------|--|
| R 33. (b) | Improvement of Grade/CGPA after successful completion of a Programme   |
|           | <ol> <li>The facility of improving CGPA at Bachelors' Degree Level through re-appearance shall be available only to the candidates who have earned all credits offered in the programme and have secured not less than 5 CGPA similarly at Masters' Degree Level through re-appearance shall be available only to the candidates who have earned all credits offered in the programme and secured not less than 6 CGPA.</li> <li>A Candidate who desires to improve the CGPA will be permitted at his / her option to</li> </ol> |
|           | reappear again for the courses of his/her choice.  |
|           | 3. A candidate will be allowed to reappear for the examination for improvement of CGPA within a period of two years from the date of his/her passing Bachelor's/Master's degree examination.   |
|           | 4. A candidate shall have to reappear for any number of theory courses offered in the programme as per the scheme prevalent at the time of his/her appearance.   |
|           | 5. A candidate appearing for the improvement of CGPA shall not be entitled to get any prize/ medal/ scholarship/award etc.   |
|           | 6. A candidate who desires to apply for improvement of CGPA should submit his/her examination application form prescribed for improvement of CGPA from the College along with the prescribed fee for improvement and relevant documents.   |
|           | 7. A person eligible to take the examination under the provisions of this Ordinance shall pass the entire examination in maximum three attempts within two years from the date he/she first applies for improvement of CGPA.   |
|           | 8. Candidate will not be allowed to change any paper or papers which he/she had opted for improvement at subsequent reappearances. Further, all the papers of reappearance shall have to be cleared at one and the same sitting.   |
|           | 9. If an applicant fails in any of the papers opted for improvement, he/she will have to appear again for all those papers he/she had applied for improvement including the papers in which he/she had already passed during re-appearance.  |
|           | 10. Each examination for which candidate appears for improvement shall be considered as one attempt.   |
|           | 11. The result of the candidate appearing for improvement of CGPA shall be declared and communicated to him/her even if he/she does not obtain the required CGPA higher than the CGPA he/she already possesses.  |
|           | 12. A candidate who has reappeared for the examination under the provision of this Ordinance for improvement of his/her CGPA and improves his CGPA by such reappearance, he/ she shall have to return the original grade cards to the College, within one month from the date of declaration of result.  |
|           | 13. A candidate shall be issued revised grade card only after he/she surrenders his /her original grade cards to the College.  |
|           | 14. In the revised grade card, mention will be made of the fact that he/she has improved his/her CGPA under this Ordinance.  |
|           | 15. On award of a fresh grade card under this scheme, his/her previous grade card shall be treated as cancelled.   |
|           | 16. A candidate who has re-appeared for the above examination/s under the provision of   |

|   | this Ordinance and fails to improve his / her CGPA, his / her performance at such r appearance shall be ignored. |  |  |
|---|--|--|--|
|   | 17. Candidate, who has passed his/her degree examination under the old course/syllabus                           |  |  |
|   | or scheme of examination which is not in existence, shall have to seek   |  |  |
|   | absorption/equivalence certificate regarding the absorption/equivalence of old                                   |  |  |
| courses with the existing ones from the respective Board of Studies. (Regulation            |  |  |  |
|   | introduced as directed by Academic Council in its meeting dated 15th April 2014).                                |  |  |
| R 34. Emergent Cases  |  |  |  |
| R 34.1  | Notwithstanding anything contained in the above regulations, the Chairman of the                                 |  |  |
|   | Academic Council may, in emergent situations, take action on behalf of the Academic                              |  |  |
| Council as he thinks necessary and shall at the earliest opportunity; report it in the next |  |  |  |
|   | meeting of the Academic Council.   |  |  |
| R 35. Power to Modify   |  |  |  |

TABLE-1: PG PROGRAMMES LEADING TO MASTER'S DEGREE

| Sr.<br>No. | Department                       | Programme Title                                  | Programme<br>Code |
|------------|----------------------------------|--|-------------------|
| 1          | Civil Engineering                | M.Tech.(Geotechnical Engineering)<br>(Part-time) | CEG               |
| 2          | Civil Engineering                | M. Tech.(Structural Engineering)                 | CES               |
| 3          | Electronics Engineering          | M. Tech.(Very Large Scale Integration Design)    | ENV               |
| 4          | Industrial Engineering           | M. Tech.(Industrial Engineering)                 | IND               |
| 5          | Electrical Engineering           | M. Tech. (Power Electronics & Power System)      | EEP               |
| 6          | Computer science and engineering | M. Tech. (Computer Science and Engineering)      | CSE               |
| 7          | Mechanical Engineering           | M. Tech. (Heat Power Engineering)                | HPE               |
| 7          | Computer Applications            | M.C.A.   | MCA               |
|            |                                  |  |                   |

**Table 2: Structure of Relative Grading of Academic Performance (PG)** 

| Academic Performance                 | Grades | Grade Points                                      |
|--------------------------------------|--------|---|
| Outstanding                          | AA     | 10  |
| Excellent                            | AB     | 9   |
| Very Good                            | BB     | 8   |
| Good                                 | ВС     | 7   |
| Average                              | CC     | 6   |
| Poor                                 | FF     | 0   |
| Incomplete                           | I      | Subsequently to be changed into the grade earned. |
| Withdrawal                           | W      | -   |
| Non completion of course requirement | Z      | -   |
| ·                                    |        |   |

**RCOEM -** Post Graduate Ordinances / Regulations 2015

TABLE 2 (B) STRUCTURE OF GRADING OF ACADEMIC PERFORMANCE FOR PG COURSES

| Academic Performance                 | Percentage of Marks | Grades | <b>Grade Points for PG Courses</b>                |
|--------------------------------------|---------------------|--------|---|
| Outstanding                          | > 85 %              | AA     | 10  |
| Excellent                            | 76-85 %             | AB     | 9   |
| Very Good                            | 66-75 %             | ВВ     | 8   |
| Good                                 | 56-65 %             | ВС     | 7   |
| Average                              | 50-55 %             | CC     | 6   |
| Poor                                 | < 50 %              | FF     | 0   |
| Incomplete                           | -                   | I      | Subsequently to be changed into the grade earned. |
| Withdrawal                           | _                   | W      | -   |
| Non Completion of course requirement | -                   | Z      | -   |
|                                      |                     |        |   |

### **Explanation:**

### 'FF' Grade

- The 'FF' grade denotes poor performance amounting to failure.
- A student has to repeat all courses in which he/ she obtains 'FF' grade.
- For the elective courses in which 'FF' grade has been obtained, the student may take the same course or any other course from the same elective group. If the course is not offered /available in the current semester he will have to take it whenever it is offered by the department and then appear for the examination.

### 'I' Grade

This grade indicates an 'Incomplete' course requirement due to absence in End Semester Examination (excluding Practical end semester examination). The grade is required to be converted into an earned grade as per the regulations.

### 'W' Grade

This refers to withdrawal from the course as per the regulations.

### 'X' Grade

This grade is awarded for incomplete Project work only and will be converted into an earned grade in the subsequent academic session on the completion of the Project work and its evaluation.

### 'Z' Grade

This grade stands for non-completion of course requirement.

