M.Tech. by Research in VFSTR - Vadlamudi

Regulations for M.Tech. by Research

PREAMBLE

1. M.Tech by Research is analogous and dual to conventional M.Tech. While conventional M.Tech. is mainly course work based, with project work towards its partial fulfillment, the M.Tech. by Research is mainly research based and course work is supportive to the proposed research work. Hence, as is the practice with M.Tech., it is necessary that M.Tech. by Research should also be a 4 semesters course of minimum 2 years.
2. By the nature of its content and the way it is conducted, the proposed M.Tech. by Research in all Engineering programs shall be identical to M.Sc. - Engg. by research of I.I.Sc., M.S. by Research of IITs and being dual to conventional M Tech/ME in India and MS abroad, this course is equivalent to M.Tech./M.E./M.S.
3. This program being a research oriented Master's Degree program enhances the research culture and encourages employed Scientists/ Engineers/ Technocrats/ Teachers to improve their qualification.

EXECUTIVE ABSTRACT

R22 - Academic regulations, Curriculum and course contents, is an articulation of the VFSTR deemed to be University's commitment towards NEP-2020, with a view that it enables student(s) to maintain the spirit of continuous learning and continuous assessment to replace the normal tendency of preparing just before a test or an examination. The proposed framework accomplishes multi-disciplinary holistic education, continuous assessment along with multiple honorable exit options if a student falls short to complete the requirements to earn the degree within the stipulated period including the permissible spill over period.

The objective of the Regulation 2022 is to come out with regulatory mechanisms that ensure a flexible and conducive passage for the research scholars towards completing M.Tech by Research requirements and getting awarded with the degree. The academic objective is to create independently capable researchers who would be bestowed with deep knowledge in their fields of research and who would have assimilated research skills that promote practically viable and critically analytical mindset which would enable them to make significant, original and innovative contributions to their respective fields. The Regulations-2022 advocates for development of holistic and independent thinking capability and incorporation of technology blend for effective utilization of the expertise of good researchers as resource persons while judiciously managing time. It aims at creating opportunities for all deserving aspirants to enhance and acquire higher qualifications.

R22 is oriented towards holistic education at the postgraduate level that includes integrated and rigorous exposure to professional domains, as well as sufficient flexibility in curricular structures. Such holistic and diverse education will assist the candidate in transforming into all-rounded persons. Similarly, in line with NEP-2020, more weight is given to continuous/ formative assessment, in the frame work of an Integrated learning model comprising Learning – Thinking – Understanding – Skilling – Applying – Creating. Emphasis on continuous formative assessment with a creative summative assessment will facilitate the candidate to "Move away from high stake examinations – towards more continuous and comprehensive evaluation".

The M.Tech by Research degree offered will be for two years (4 semesters) duration for internal candidates and three years (6 semesters) duration for external candidates with lateral exit options to enable a candidate to have a professional career and as well as to return and update his / her qualification in the future. In line with NEP-2020, following one year of study and the completion of the required credits, an Engineering PG Diploma degree will be conferred. However, the intention of the learners is not to join for the award of the PG diploma with lateral exit, but to acquire an M.Tech by Research degree.

Salient features of the regulation

- Continuous learning
- Continuous assessment
- Honorable exit option
- Onward Continuation to Ph.D. Program
- Sabbatical Semester Drop option to pursue innovation, incubation, entrepreneurial and advanced exploratory activities and subsequent re-entry

1. Title and Commencement:

- These regulations shall be called the regulations governing the award of the degree of M.Tech. by Research of Vignan's Foundation for Science, Technology & Research-Vadlamudi.
- These Regulations shall come into force from the date of notification by the University.

2. Introduction

This document contains the academic regulations, scheme of assessments, curriculum, and the projects / assignments that are to be performed for each course for the conduct of M.Tech by Research degree programme. The various M.Tech by Research degree programmes under different schools in VFSTR are as listed below.

I. School of Agriculture and Food Technology

- Agriculture Engineering
- Food Technology

II. School of Biotechnology and Pharmaceutical Sciences

- Bioinformatics
- Biotechnology

III. School of Computing and Informatics

- Advanced and Applied Computing
- Computer Science and Engineering
- Information Technology

IV. School of Conventional Engineering

- Chemical Engineering
- Civil Engineering
- Mechanical Engineering
- Textile Technology

V. School of Electrical, Electronics and Communication Engineering

- Biomedical Engineering
- Electrical and Electronics Engineering
- Electronics and Communication Engineering

2.1 Definition:

In R22 regulations unless the context otherwise requires or specifically defined:

- **"Degree"** shall refer to the M.Tech. by Research Degree Program.
- **"Course"** shall refer to such Course(s) for which a student shall earn Credits after due assessment as per the laid provisions. Project is also treated as a Course.
- **"Continuous Assessment"** shall refer to the assessment of the student spread over the entire semester on the various constituent components of the prescribed course.
- **"Semester"** shall refer to a period covering the two assessment periods *viz* Formative and Summative Assessment period. A semester would generally be spread over twenty weeks.
- **"Course Drop"** shall refer to a student having to undertake a repeat of the Course(s) not being able to complete the Credit requirements of the Course(s), under the conditions stipulated in the regulation.
- **"Supplementary Examinations"** shall refer to the examination(s) conducted to allow the student to appear in the un-cleared Semester - End summative assessment component.
- **"Blank Semester"** shall refer to a Semester in which a student either does not register for any course at the beginning of the Semester OR chooses to DROP all courses OR is so compelled to DROP all the courses, as the case may be.
- **"Semester Drop"** shall refer to availing a blank semester. However, if drop is availed to pursue a creative extension activity, then it is defined as **semester sabbatical**.
- **"Spill Over Semester"** shall refer to the additional semester(s) beyond the completion of prescribed normal semesters.
- **"R&D Section"** shall refer to the Research and Development Section of the Institute.
- **"AAA Section"** shall refer to the Academics, Assessment and Award Section of the Institute.
- "**DPGC**" shall refer to Departmental Post Graduate Committee constituted for each candidate.
- **"Attendance"** refers to the Physical personal presence (Offline/Technology Enabled Mode) in an academic activity session.
- **"School"** refers to a division of institute dealing with two or more specific areas of discipline / study comprising of the departments related with exclusive emphasis on trans-disciplinary research.
- **"School Dean"** refers to the Dean of the respective School, where the student is enrolled for his / her Branch of Study.
- **"Department"** refers to a division of institute dealing with a specific area of discipline / study.
- **"HoD"** refers to the Head of the respective Department, where the student is enrolled for his / her Branch of Study.
- **"Center"** refers to a structured unit within the school / department established with the purpose to carry out advanced research.
- **"Grade Point"** refers to the quantification of the performance of a candidate in a particular course as defined herein.
- **"CGPA"** refers to the Cumulative Grade Point Average and is calculated as detailed in the regulations subsequently.
- **"Division"** refers to the Division awarded to the student as per the mechanism detailed in the regulations subsequently.
- **"Project"** refers to a course executed by a candidate on a specific research problem at VFSTR / any organization of repute. To be undertaken with (or seeking) prior approval of the respective HoD.

- **"Credit equivalence and credit transfer"** refers to the DPGC designated to look into for credit equivalence and credit transfer.
- **"Honorable Exit Option"** refers to the Exit Options available to students, when they are unable to complete the prescribed two-year M.Tech. by Research Degree program in four successive years.

2.2 Organization of M.Tech by Research Program

All students formally and conventionally enroll for M.Tech by Research degree programme have to earn 68 credits for the award of degree as specified in the Curriculum. The candidate takes assessment in four semesters, as given in Table (1).

Prerequisite	**Nature of Assessment**	**Maximum Marks**
First Semester	Candidates must acquire 18 credits through three courses. The DPGC shall identify and suggest suitable L-T-P structure for every course in line with R22 academic regulation of the university. (Total 18 credits)	100 x 3= 300
Second Semester	Dropped/R- category courses of Semester-1 and three more courses of Semester 2. (Total 18 credits)	100 x 3= 300
Third Semester	Dropped/R-category courses of Semester-2 and Assessment of Progress through detailed mid-term report of research work (through presentation of candidate) by the DPGC. (Total 14 credits)	30+30+40= 100
At the end of fourth Semester	Continuous assessment of the research work and the final Assessment of the dissertation. (Total 18 credits).	50+50+200= 300
	Total Marks - (Total credits :68)	**1000**

Table-1: Structure of M.Tech by Research Program.

2.3 Composition of an Academic year

An academic year is composed of first semester (23 – 26 weeks) and second semester (23 – 26 weeks). The regular semester that begins in July / August is known as odd / first semester and the one that begins in January / February is known as even / second semester (Figure 1). The instructional period for a regular semester shall be a minimum of 120 working days exclusive of days earmarked for summative assessment.

YEAR OF 12 MONTHS											
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
July/ Aug.	Aug./ Sept.	Sept./ Oct.	Oct./ Nov.	Nov./ Dec.	Dec./ Jan.	Jan./ Feb.	Feb./ Mar.	Mar./ Apr.	Apr./ May	May/ June	June/ July
ODD SEM/ FIRST SEM						**EVEN SEM/ SECOND SEM**					

Figure 1: Distribution of semesters during an Academic Year.

2.4 Semester wise provisions

2.4.1 Before the commencement of the semester, a candidate has to pay the stipulated tuition fee and submit an application detailing the courses he / she intended to register, valid for that respective Odd / Even semester.

2.4.2 During the first two years from the date of admission to M.Tech by Research, a candidate has to pay the semester / annual fees as prescribed irrespective of the less number of credits that he / she would register or even opt to Drop a semester.

2.4.3 If a candidate gets into spillover semester beyond two years up to a maximum of four years he / she has to pay semester fee proportional to the credits that he/ she registered in that spill over semester as prescribed from time to time.

2.5 Courses and Credits

The term course is used in a broader sense to refer to so called papers such as 'theory subject', 'laboratory', 'project' etc. A course can be of theoretical and/ or of practical nature, and certain number of credits are allotted to it depending on the number of hours of instruction per semester. For a course offered in a semester, one hour of lecture (L) instructions carried out in a week is considered equivalent to one credit, whereas two hours of practical (P) sessions done in a week are considered equivalent to one credit respectively. Depending on the course two hours of tutorial (T) sessions may be considered equivalent to one credit. A student earns these credits when he/she successfully completes the course.

2.5.1 Content Delivery of a Course

Content delivery of a Course in the M.Tech by Research Degree Program shall be through, either or all, of the following Methods:

i. **Lecture** - refers to Lecture Session(s) through classroom/ online contact session wherein students will learn by listening. Denoted by "L".

ii. **Tutorial** - refers to transaction(s) consisting of Participatory discussion / Self-study / Desk work / Brief presentations by students along with such other novel methods that enable a student to efficiently & effectively absorb and assimilate the contents delivered in the lecture sessions. Denoted by "T".

iii. **Practice** - refers to Practice / Practical sessions and it consists of Hands-on-Experience / Laboratory Experiments / Field Studies / Case Studies / Minor / Major Project, that equip the students to acquire the much required skill component. Denoted by "P".

3. Categories of Admission

3.1 The VFSTR shall admit students to the research program leading to M.Tech. by Research degree under two categories internal and external.

3.1.1 Internal M.Tech. by Research Programme

Candidates under this category shall work fully dedicated to research in the University. Candidates should be available during the working hours for curricular and research related activities.

3.1.2 External M.Tech. by Research Programme

(i) Candidates under this category will normally carry out part or all of his/her research work in the parent Industry / R&D Organization/ Academic Institutions / Universities / Organizations employing the candidate.

(ii) Candidates form Industry / R&D organizations are encouraged to take up the problems faced by Industry as their research problem for pursuing the M.Tech. by Research.

(iii) The feasibility of working towards the research degree in their own Institution with sufficient intensity and vigour under remote guidance of a Faculty Member at VFSTR will be an important consideration in admitting any candidate under this category.

(iv) Candidates need to interact with their Supervisors through a suitable blended mode frequently.

3.2 NRI/PIO/ Foreign nationals shall hold valid passport/visa, clearance from agencies as mandated by GOI are also eligible to apply.

4. Eligibility

Candidates who satisfy the following two conditions are eligible to seek provisional registration for M.Tech. by Research in Engineering Programs.

(i) The candidate should have employment and his/her area of proposed research work which correspond to that of his/her profession (job).

OR

The candidate should have been hired by a research investigator as a full-time project assistant/research assistant/JRF/SRF on a research project of at least 18 to 24 months' duration. Such a candidate should get a suitable fellowship /salary/ honorarium.

OR

The candidate should get a sponsorship or a fellowship by any external agency or a self-supporting arrangement and should work on the research problem as an Internal research scholar for a duration of at least 24 months.

OR

A regularly employed/Self-employed person who can afford to spare only part time towards research has to put in at least 30 months towards the course. ***(Such a candidate can be from abroad and he/she is treated as an International Candidate)***

(ii) A candidate should have M.Sc. degree/ B.E. / B.Tech. / B.S. (4 years) in the concerned or any other degree recognized as equivalent thereof with an overall minimum of 60% of marks (CGPA of 6.5 in 10 point scale).

5. Curriculum

Each School offers M.Tech. by Research degree programme and the departments concerned prescribes semester-wise curriculum encompassing different courses. Every course offered will be designated in a L-T-P structure. The theory courses comprise of L (and / or T & P hours) whereas the practical courses include instructions (T) and practical sessions (P). Amalgamation of theory courses with practical sessions is predominantly seen in this curriculum.

5.1 Distribution of credits

The overall distribution of credits for various categories of courses in the curriculum of M.Tech by Research programme is represented in Table-2 as given below.

Category of Courses	**Number of Credits**
Breadth Specific Courses	12
Depth Specific Courses	12
Research Methodology and IPR	6
Research Documentation	6
Project	32
Total	**68**

Table-2 : Credits Distribution for Various categories of courses.

5.2 Organization of Course Contents

Courses offered in the program is composed of two modules covering all the course contents required for a candidate to obtain knowledge and skill. Content in each module is further distributed among two units; wherein Unit -1 contains 'Fundamentals and Broad perceptive' of the module. Unit-2 comprises of the extension / advanced topics of Unit-1 as well as necessary practice models for validation / applying the knowledge gained during L/T sessions. The modular period is about 12 weeks. The first unit in a module may be covered in 5 to 6 weeks and the second unit of the module maybe of 8 to 10 weeks (Figure 2). By the end of each module a candidate must be in a position to translate his/ her L-based knowledge into P-based skill as prescribed in the curriculum. Individual formative assessment shall be in place for each module and a single semester-end summative assessment for the course composed of both the modules.

<table>
<tr><th colspan="12">YEAR OF 12 MONTHS</th></tr>
<tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td></tr>
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<tr><td colspan="6">ODD SEM/ FIRST SEM</td><td colspan="6">EVEN SEM/ SECOND SEM</td></tr>
<tr><td colspan="3">Module- I</td><td colspan="3">Module- II</td><td colspan="3">Module- I</td><td colspan="3">Module- II</td></tr>
<tr><td colspan="2">U1</td><td colspan="2">U2</td><td colspan="2">U1</td><td colspan="2">U2</td><td colspan="2">U1</td><td colspan="2">U2</td></tr>
</table>

Figure 2: Unit-wise distribution of course contents in a module and their mapping with Academic Calendar; U= Unit.

5.3 Attendance

5.3.1 It is mandatory for the internal candidates to attend the course work in each semester as per the academic schedule. The attendance of the internal candidate will be monitored and certified by the course instructor as required for that course, failing which the courses for which the candidate is registered in that semester shall be considered as 'Repeat' category courses and will be under 'R' grade in the student's semester transcript. Student should re-register for these courses whenever the course is offered next time during regular semesters. These re-registrations are subjected to the regulations at the time of re-registration.

5.3.2 External candidates have to put in a minimum of 15 days equivalent attendance per every semester in the department concerned in offline/suitable technology enabled mode/ blended mode duly certified by the supervisor; failing which the courses for which the candidate is registered in that semester shall be considered as 'Repeat' category courses and will be under 'R' grade in the student's semester transcript. Student should re-register for these courses whenever the course is offered next time during regular semesters. These re-registrations are subjected to the regulations at the time of re-registration.

5.3.3 The students who are put into 'R' grade will not be allowed to take up the summative assessment in that semester.

6. Admission Process

6.1 Applications for the M.Tech. by Research program shall be open and shall be considered round the year and admissions being made are aligned with the commencement of next semester.

6.2 Any eligible candidate who desired to seek admission to M.Tech. by Research program may apply offline/ online through University website at any time.

6.3 Out of the applications received, the Schools will short-list the candidates to be called for written test and interaction to be conducted at the Institute on a preannounced date.

6.4 Selection will be based on the overall merit index of the candidate which will be arrived at by taking into account the candidate's performance in the previous university examinations at Bachelor's and Master's level and the performance in the written test and / the interaction.

6.5 The weightages for arriving at the overall merit index will be as follows:

(i) For candidates with a Bachelor's degree in Engineering/Technology

Bachelor's degree 40%

Written test and / Interaction 60%

(ii) For candidates with a Master's degree in Science/Computer Applications

Master's degree – 40 %

Written test and / Interaction – 60%

6.6 Candidates who have qualified in the GATE/ CSIR-UGCNET/ SLET/CAT/ GMAT/ GPAT/ GRE/ JEST/ NBHM /JGEEBILS etc. may be exempted from appearing in the Written test. However, they should appear for the interaction.

6.7 The list of shortlisted and recommended candidates under respective categories will be published in the University website.

6.8 The prospective candidates shall be called for one-to-one interaction with the research supervisor(s) in a combined meeting or individually as convened by the Dean-R&D.

6.9 Subsequent to the interactions with the research supervisors and based on the recommendations made by the supervisors, the school Dean and Head of the Department, the provisional selections will be notified with the name of the supervisor assigned to the candidate.

6.10 The selected candidates complete the admission process through the office of Dean R&D.

6.11 The candidate reports to the assigned supervisor and finalize the area of research.

6.12 In case of inter-disciplinary research, the supervisor may suggest a suitable co-supervisor from within or outside the University.

7 Eligibility, Recognition of Supervisors

7.1 Any faculty member of the institute who satisfies the following requirements is eligible to be appointed as a Supervisor.

(i) He / She should have a Doctoral degree (Ph.D)

(ii) After Ph.D., he/she should have research publications to his / her credit, of which at least two papers as the corresponding author, must be in refereed journals / top notch conferences on research work that is not directly based on his / her Ph.D. thesis or included/incorporated therein.

7.2 In case a Co-Supervisor is warranted, then a Co-Supervisor may be allowed in inter-disciplinary areas from the University or from other corporates / industries / R&D labs/ institutions with the approval of the DPGC.

7.3 Since the scope of M. Tech. by research is to bring the industries / research organizations / educational institutes of repute into closer proximity of VFSTR, the candidate may be allowed to identify an external expert suitably qualified / experienced may be considered as Co-supervisor from that Institute / Organization, where the external candidate is allowed to pursue his research. However, a Co-supervisor has got to be recognized by the Departmental Post Graduate Committee (DPGC).

7.4 Administrative responsibilities of research scholar lie with the Internal Research Supervisor.

7.5 If the recognized supervisor leaves the University, he/she shall not be permitted to register the fresh students. However, for his existing students, the DPGC in consultation with the student/supervisor will assign him/her a co- supervisor / administrative supervisor depending upon the quantum of work remaining to be completed.

7.6 A Supervisor/Co-supervisor, normally at any given point of time, can guide a maximum of 5 M.Tech by Research candidates in addition to the Ph.D. candidates being supervised by the supervisor. Under special circumstances, the supervisor may be allowed to have additional candidates.

7.7 The Supervisor/Co-supervisor can take fresh candidates subsequent to the submission of the dissertation by the existing candidates.

8. Departmental Post Graduate Committee (DPGC)

8.1 Departmental Post Graduate Committee (DPGC**)** is the body that monitors and steers the progress of the research candidate.

8.2 A DPGC will be appointed for each candidate to consider his/her research proposal, to prescribe the coursework required to be undergone by the candidate, to continuously monitor the progress of the candidate and to advise wherever needed.

8.3 The DPGC is competent to suggest changes if necessary in the title/scope/methodology of the topic selected for research in consultation with the supervisor.

8.4 The composition of the committee is given below.

School Dean / School Dean nominee	-	Chairman
HoD	-	Ex-officio member
Supervisor	-	Member secretary & Convener
Co-Supervisor (In case, any)	-	Member
An Expert from within the school	-	Member

8.5 Functions of the Departmental Post Graduate Committee are given below.

- **ü** Shall prescribe the coursework for the candidate.
- **ü** Shall identify a suitable threshold for calculating the GPA of each course.
- **ü** Shall recognize a co-supervisor from the place of work of an external candidate.
- **ü** Shall periodically review the progress of research candidate, certify the research progress and provide the corrective, constructive and suggestive feedback.
- **ü** Shall assign a co- supervisor / administrative supervisor in case the supervisor of the candidate leaves the University.
- **ü** Shall meticulously go through the adjudication reports provided by the dissertation adjudicators and advise the candidate accordingly.

9 Academic Process

A candidate provisionally admitted to the M.Tech by Research program of the University shall lead his/her research studies following stages as listed here under.

(i) Formation of DPGC
(ii) Course work (Semester-1 and Semester -2)
(iii) Research Progress (Semester -3 and Semester -4)
(iv) Publication of research work
(v) Finalization of the focused title for the Dissertation
(vi) Synopsis submission
(vii) Submission of Dissertation
(viii) Open Viva-Voce

9.1 Formation of DPGC

9.1.1 For every candidate there shall be a Departmental Post Graduate Committee to ensure the progress in research.

9.1.2 Subsequent to the allocation of a candidate to a Supervisor which by itself is based on the interest expressed by the candidate with regard to the area of research, the supervisor will initiate steps to get the DPGC formulated in consultation with the HoD and School Dean.

9.1.3 The members of DPGC as described in section 8.4 shall be by name on the committee all through for a candidate except for the School Dean and HoD.

9.1.4 The DPGC interaction shall richly deploy the technology enabled blended mode for course work and interaction.

9.1.5 All the members of the committee are expected to present in offline/Technology enabled mode.

9.1.6 A candidate is expected to submit a research proposal by generating a report covering the possible statement of the problem, related literature, relevance, importance, and a research plan in the open research proposal presentation.

9.1.7 The DPGC of the candidate should suggest 6 courses (3 for Semester 1 and 3 for Semester 2) along with the proposed syllabus, as per the semester pattern, for Semester 1 and Semester 2 assessments. These courses should be at higher level, relevant and supportive to proposed research work to be submitted as Semester 3 and Semester 4.

9.1.8 However, the DPGC is competent to suggest courses and syllabus other than those recommended in consultation with the supervisor.

9.1.9 The DPGC shall convene a formal meeting as per R22 vide the regulations applicable to M.Tech. by Research programs to assess the progress of candidate.

9.1.10 The DPGC shall be responsible for reviewing and monitoring the research progress of the candidate from the date of its constitution till the award of the degree.

9.2 Coursework (Semester 1 and Semester 2)

9.2.1 The coursework shall be treated as a mandatory stage towards the partial fulfillment of requirements for the M.Tech. by Research studies.

9.2.2 Course work will be prescribed to the candidate depending upon his/her qualifications and background by the DPGC.

9.2.3 The courses on Research Methodology & IPR and Research Documentation must be included as one of the courses in Semester 1 or Semester 2.

9.2.4 The DPGC shall identify and suggest suitable L-T-P (0-1-5 / 1-1-4 / 2-1-3) structure for every course in line with R22 academic regulation of the university.

9.2.5 A candidate can avail at the most additionally two attempts to complete R or I categorized courses of Semester 1 and Semester 2 subsequent to the mandate attempt in the respective semesters.

9.2.6 Candidates should complete all the coursework of semesters 1 & 2 before taking the summative assessment of Semester 3.

9.2.7 Suitable credit transfer in view of equivalent credit courses completed may also be given due consideration by the DPGC.

9.2.8 Candidates from Industry can claim their experiences and their role in technology in respective problem for credit equivalence as per L-T-P structure providing proper documentation and justification.

9.2.9 The DPGC may suggest a candidate to take up online courses and advanced summer/winter schools and programs conducted by premier institutions as components of the course work.

9.2.10 The assessment of the course work consists of two components (as per R-22 Regulations):

(i) Formative Assessment (Continuous Assessment): 60 Marks

(ii) Summative Assessment: 40 Marks

9.2.11 The course instructor/ mentor expert faculty awards the marks out of 100 based on the assessment pattern said above, which will be placed before the DPGC.

9.2.12 The DPGC may fix up the relative threshold value (as per R22 regulation) and may arrive at GPA.

9.2.13 The minimum GPA required is 5.0 in all the individual courses.

9.2.14 Dean R&D shall coordinate with the office of the Dean AAA in implementing the conduction of coursework and assessment activities in line with R22 academic regulations.

9.3 Research Progress (Semester -3 and Semester - 4)

9.3.1 Assessment of Progress through detailed mid-term report of research work (through presentation of candidate) by the DPGC as per R22 vides the regulations applicable to M. Tech. by Research program.

9.3.2 DPGC will review the progress of the research candidate and gives its feedback.

9.3.3 The status of the research progress of the candidate is then forwarded to office of Dean R&D and office of Dean AAA for necessary action.

9.4 Publication of research work

9.4.1 The candidate is eligible to submit the dissertation only when he/she acquires at least **5 cumulative research points**. The suggested distribution of research points is given in Table (3).

Sl.No	Publication	Research points
1	SCI / SCI-E Indexed	5
2	Top-Notch Conferences (First Level) (To be approved by DPGC)	4.5
3	Top-Notch Conferences (Second Level) (To be approved by DPGC)	4
4	SCOPUS / E-SCI Indexed Journal	4
5	Patents Published Patents Granted (To be decided by the DPGC)	2 3 or 3.5
6	Refereed International Conferences with proceedings containing full version of the paper published by high-class publishers. (To be decided by the DPGC)	3
7	Other refereed Journals of Repute (To be decided by the DPGC)	2.0 or 2.5
8	Refereed International Conferences (To be decided by the DPGC)	1.5 or 2.0
9	Refereed National Conferences(To be decided by the DPGC)	1 or 1.5

Table-3: Suggested distribution of research points

9.5 Finalization of the Specific Research Title

9.5.1 On Successful completion of the research work, the candidate in consultation with supervisor and DPGC shall finalize the Research Title.

9.5.2 The Research Title summarizes the main idea or ideas of the research work.

9.6 Synopsis Submission

9.6.1 The synopsis report may be submitted upon the acceptance of the finalized research title by the DPGC after fulfilling the following conditions:

- ü The submission of synopsis report as Semester-4 and successful completion of both Semester-1 & Semester-2 should have a clear separation of at least 6 months in addition to condition stated in section 14.
- ü Acquired at least 5 Cumulative Research points, as per the requirement, certified by the DPGC, Supervisor, along with the Co-Supervisor, (if applicable).
- ü Draft dissertation should be ready at the time of synopsis submission.
- ü Holistic completion of research work as evidenced by the draft report.
- ü If any Research Paper resulting out of the research work contains those names which are other than the names of the Candidate/ Supervisor / Co-Supervisor, then it is obligatory for the candidate to produce a No Objection Certificate from the concerned persons for inclusion of the paper for 5 point count.
- ü Joint Certificate from the Candidate and the Supervisor, stating that the work being submitted is original and has NOT been submitted elsewhere by them (or any other co-authors involved) for the award of M.Tech by Research Degree or any other Degree / Diploma.
- ü The synopsis report (not more than 5 pages) should mainly concentrate on the candidate's work/contribution.
- ü The synopsis report, the presentation must cover the following aspects.
  - · Objectives and scope of the study
  - · Literature survey
  - · Identified research gaps based on literature review
  - · Problem formulated
  - · Research methodology identified
  - · Experimentation/ Data collection/Analysis performed
  - · General conclusions drawn
  - · Specific contributions and conclusions made
  - · Details of publications in journals and conferences
  - · Proposed chapterization of dissertation layout
  - · Further scope of research
  - · References

9.6.2 The candidate shall submit synopsis report of the M.Tech by Research work carried out in the prescribed format along with application form to the Dean R&D through the HoD and School Dean.

9.7 Preparation of M.Tech by Research Dissertation

9.7.1 The dissertation shall be prepared in an organized fashion with an account of the original research work of the candidate leading to new techniques or correlation of facts already known (analytical, experimental etc.) and demonstrating a quality as to make a definite contribution to the advancement of knowledge. It should as well exhibit the candidate's ability to undertake independent research and present the findings in an appropriate manner with actual accomplishments of the work, plainly stated and honestly appraised.

9.7.2 The dissertation shall be submitted for plagiarism check and the similarity index will be within the acceptable limits as per the norms of the University.

9.7.3 The dissertation shall include a certificate from the concerned Research Supervisor (and co-supervisor, if any) to the effect that the dissertation is a record of *bonafide* research work carried out by the candidate under his / her / their supervision and guidance and that the work reported in the dissertation has not been submitted elsewhere for a degree or a diploma. A similar certificate from the candidate is also included in the dissertation regarding the authenticity of the work.

9.8 Submission of Dissertation

9.8.1 Each Candidate, after completing the necessary formalities, is required to submit his/her e-dissertation containing 3D-visualizations/animations/videos along with the duly filled in prescribed application form (Annexure-I).

9.8.2 Three hard copies of the dissertation shall be submitted to the Dean R&D in accordance with the format (Annexure-II) and specifications prescribed.

9.8.3 The candidate shall submit a no dues certificate from all concerned during the submission of the dissertation.

9.9 Adjudication Process and Open Viva-Voce

9.9.1 The dissertation shall be assessed by a jury of experts consisting of three adjudicators – the supervisor, an internal expert from the University and the other external expert from outside the University, chosen from a panel of 5 experts, that is proposed by the supervisor which consists of names of supervisor (other adjudicator in case he/she is related to the candidate), two internal and two external experts. The adjudicators will be chosen by the Vice chancellor. The synopsis shall be sent to the experts for their acceptance to work as adjudicators. The dissertation is sent after the acceptance is received.

9.9.2 The assessment of the dissertation shall be given by each member in the form of a report (Annexure-III). The report shall indicate:

- Recommended in present form.
- Recommended in edited form (points for editing should be suggested).
- Recommended with minor corrections with addendum after the approval of DPGC.
- Recommended with major corrections and re-submission after the approval of DPGC.
- Fresh Submission in the time frame as adjudicated by the examiners and as recommended by the DPGC.

9.9.3 The supervisor is the ex-officio chairman of the Board of Adjudicators for semester-4. The reports shall be sent to the Office of AAA. The chairman sends the consolidated report along with his recommendations to the Office of AAA. The dissertation shall not be accepted if more than one adjudicator dissent.

9.9.4 The dissertation has to go for a second assessment after necessary revision. If the dissertation is not accepted in the second assessment also by more than one adjudicator the candidate may be awarded with PG diploma degree.

9.9.5 If more than one adjudicator accepts the dissertation, the candidate shall be asked to incorporate the modification suggested by the examiners, if any, and the revised dissertation can be placed for open Viva-voce.

9.9.6 The candidate has to make a detailed presentation of his work, provide clarifications to the questions asked by the defense assessment committee, which is a committee of two members namely supervisor and/or Co- supervisor (if any) and the other internal expert. The supervisor shall be the chairman of the committee.

9.9.7 The committee shall send a consolidated report to the Office of AAA indicating the recommendations clearly and the quantification in terms of marks for a maximum of 200.

10. Assessment

Teaching-Learning and Assessment should go hand in hand and complement each other. Continuous assessment plays a vital role to enable the student to get synchronized with the teaching-learning process. Assessment mechanism adopted in the institute is aimed at testing the learning outcomes in tune with the outcome based model of education. The focus, is thus on assessing whether the outcomes are realized by the end of the course.

The performance of a student in each course is assessed on a continuous basis during the semester through various in-semester and end-semester assessment models. The marks awarded through continuous assessment are referred to as Formative assessment marks. The marks

awarded through end-semester tests are referred to as Summative assessment marks (Figure 3). Both the formative and summative assessment marks are considered for awarding the final marks and the grade point in a particular course.

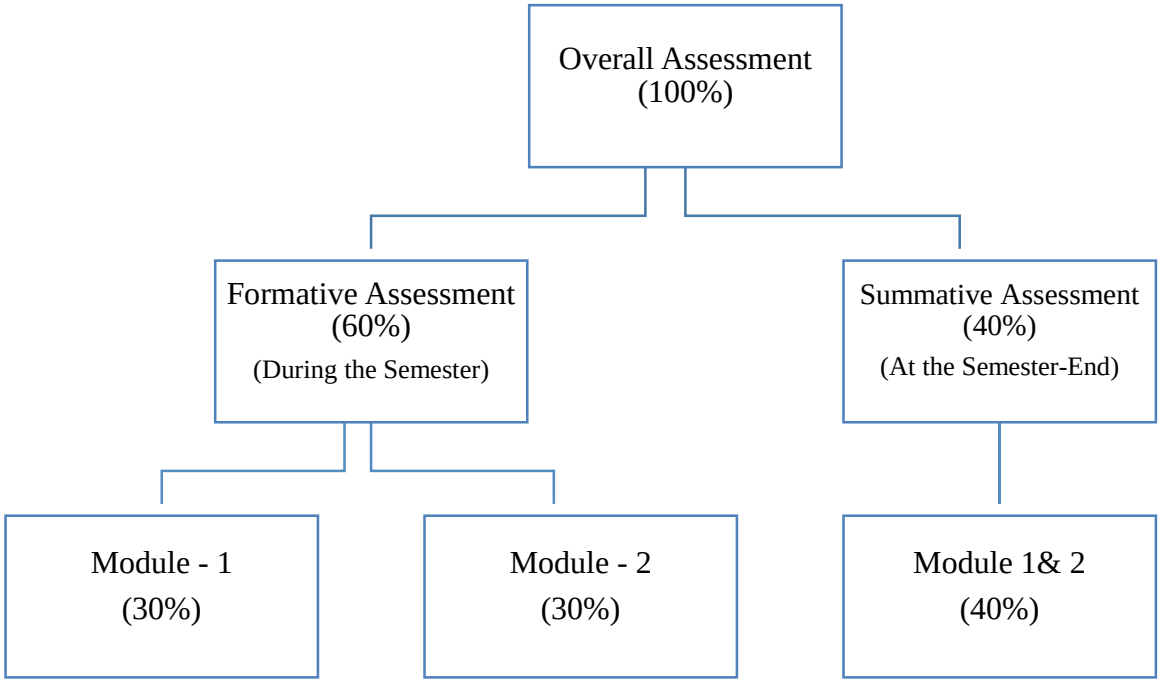


Figure -3: Categories of assessments in place for R22.

10.1 Marks distribution

For each course, the maximum sum of formative and summative assessment marks put together is 100, in the ratio of 60:40, respectively.

10.2 Qualifying criteria

To be declared successful in a course, the qualifying criteria is as follows

(i) Attendance compliance as prescribed by the course instructor, else the candidate is put into 'R' grade.

(ii) The candidate should secure a min. of 50 marks collectively in formative and summative assessments out of 100, else the candidate has to choose either 'R' or 'I' grade duly being counselled.

The candidates with 'R' grade should re-register for 'R' courses in the regular semester as and when the courses are offered. The candidates in 'I' grade are allowed to appear for supplementary summative assessment whenever the semester-end assessments are conducted.

<table>
<tr><td colspan="12">YEAR OF 12 MONTHS</td></tr>
<tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td></tr>
<tr><td>July/ Aug.</td><td>Aug./ Sept.</td><td>Sept./ Oct.</td><td>Oct./ Nov.</td><td>Nov./ Dec.</td><td>Dec./ Jan.</td><td>Jan./ Feb.</td><td>Feb./ Mar.</td><td>Mar./ Apr.</td><td>Apr./ May</td><td>May/ June</td><td>June/ July</td></tr>
<tr><td colspan="6">ODD SEM/ FIRST SEM</td><td colspan="6">EVEN SEM/ SECOND SEM</td></tr>
<tr><td colspan="3">Module- I</td><td colspan="3">Module- II</td><td colspan="3">Module- I</td><td colspan="3">Module- II</td></tr>
<tr><td colspan="2">U1</td><td colspan="2">U2</td><td colspan="2">U1</td><td colspan="2">U2</td><td colspan="2">U1</td><td colspan="2">U2</td></tr>
<tr><td colspan="5">Formative assessment</td><td>SA</td><td colspan="5">Formative assessment</td><td>SA</td></tr>
</table>

Figure 4: Schedules of formative and summative assessments in line with Academic calendar.
SA = Summative assessment.

10.3 Formative Assessment

a) Formative assessment is based on Practice or Tutorial assignments. Implementation, Report presentation and Discussion shall happen in a continuous mode throughout the module period.

b) At least 6 such continuous lab practice assessments (CLPA) / assignments per module shall be conducted by course instructor. The marks will be @ 10 marks per assignment totaling up to 60 per module.

c) Total marks for both the modules from formative assessment will be added up to 120, which will be ***suitably mapped down*** to a max. of 60 marks. The mapping policy should be decided by the instructor in consultation with the DPGC. The mapping policy should be shared with Dean AAA for the purpose of documentation.

d) The marks scored in Module-1 for a max. of 60 should be entered / submitted latest by 10th week and of Module-2 latest by 18th week of the semester. Consolidated score of for a max. of 120 ***suitably mapped down*** to a max. of 60 marks should be submitted latest by 20th week of semester enabling the declaration of 'R'- grade before the commencement of summative assessment.

e) A candidate put under 'R' will not be permitted to take up the summative assessment.

10.4 Summative Assessment

Summative assessment is in two parts format**:**

a) Part-I will be the assessment of capstone project/Term Paper/ Survey work which is pre-assigned during the module-2 period or will be the exploratory review assessment of all lab practice assignments for a max. of 20 marks.

b) Part-II will be based on a written examination for a max. marks of 40, which is ***suitably mapped down*** to 20.

c) A candidate should attend both the parts of summative assessments; else he/she will be put into I grade.

d) The summative assessment shall be conducted by the Institute for a duration of 90 min. and for a maximum of 40 marks. Contents for summative assessment shall cover the breadth and depth of the complete syllabus that is mentioned in the two modules of a course.

e) The question paper for end-semester theory examination consists of two parts as given in Table (4).

Part No.	No. of Questions	Marks for each Question	Marks	Choice
A	2	10	20	No
B	1	20	20	No
Total Marks			**40**	

Table-4: L-based Summative Assessment Question Paper Pattern.

f) The questions will be comprehensive covering the entire course syllabus and any single question should not necessarily be limited to any particular unit / module.

g) The marks scored out of 40 is ***suitably mapped down*** into a score out of 20.

h) Total marks of summative assessment will be for a max. of 40.

10.5 Assessment and Grading of MOOCs based Courses

10.5.1 Whenever a candidate opts for a course through MOOCS offered via Swayam platform as components of the course work, he / she has to learn and undergo assessment as per Swayam norms. Upon the declaration by Swayam, that the candidate has successfully completed the course, the candidate is said to have earned the credits under credit equivalence and credit transfer. The DPGC translate the score awarded by Swayam into an equivalent grade in a scale of 10 for incorporation by Dean AAA.

10.5.2 In case the candidate is unsuccessful, and then if the candidate has secured less than 20% in the final examination conducted by Swayam, the candidate will be placed into 'R' grade, and if it is ≥ 20%, then the candidate will be placed into 'I' grade. The DPGC decides the equivalence score for formative assessment for a max. of 60 based on both the scores he/ she has earned in the assessments and the final examination conducted by Swayam in case of 'I' grade. Supplementary examination for 'I' grade will be conducted by VFSTR. The candidate has to re-register for the same Swayam course or an alternative Swayam course or may choose any other course suggested by the DPGC in place of MOOCs course in case he/ she received an 'R' grade.

10.5.3 Whenever a candidate opts for a course through advanced summer/winter schools and programs conducted by premier institutions as components of the course work, he / she has to learn and undergo assessment as per the norms of the respective organization/institution offer in the course. Upon the declaration by respective organization/institution, that the candidate has successfully completed the course, the candidate is said to have earned the credits under credit equivalence and credit transfer. The DPGC translate the score awarded by respective organization/institution into an equivalent grade in a scale of 10 for incorporation by Dean AAA.

10.6 Project

The student has to carry out their research project at VFSTR and submit the report which is a mandatory requirement for the award of degree. The research project is usually done individually during the second year, under the guidance of a supervisor and co-supervisor (if any). Every candidate, in consultation with the supervisor, should define the project and also the probable procedure of carrying it out and submit the same to the DPGC. This is to avoid the repetition and also to come up with a roadmap for completion of the project within the time stipulated. The students are encouraged to select topics related to ongoing research and consultancy projects. The students are expected to carry out and present a survey of literature on the topic, work out a project plan and its implementation through experimentation / modelling / simulation / computation. They are also expected to exhibit system analysis, design, and presentation and evaluation skills.

10.6.1 Formative Assessment

The progress of the research project is reviewed twice in a semester by the DPGC and formative assessment marks are awarded based on these reviews. Review schedules of DPGC are to be announced by the department immediately after the commencement of semester. The review presentations are open to all the students of that program and attendance is compulsory. Before every review every student should submit their PPT along with a brief report. It is to be expected by the DPGC that student communicates/publishes research article(s) based on the research work prior to graduation. The following aspects may be considered by the committee for assessment Table (5).

Semester	Module	Points to be considered	Max. Marks (quantifiable)
Semester III	Module -1	§ Identification of specific objectives of research problem. § Identification of outcomes in line with programme objectives § Feasibility of contributing to the attainment of outcomes	30
	Module -2	§ Identification of tools/equipment/training needs/ etc. § Completion of literature survey § Design of project set up	30

Semester IV	Module -1	§ Acquisition/learning of the tool required § Readiness of the layout of the project report § Progress review as per mechanism/ schedule identified § Preparation of draft manuscript for publication	50
	Module -2	§ Presentation of results and conclusions § Meeting of objectives defined in first review § Submission of draft report § Understanding of the overall project § Progress of project as per schedule § Progress of the publication	50

Table 5: Schedule and suggested parameters to be considered for formative assessment.

10.6.2 Summative Assessment for III semester

The summative assessment of the project will be conducted in two phases.

Phase–I: The research progress of the candidate shall be assessed by a committee of two members comprising of intra-school expert and supervisor, which translates the performance into quantifiable marks for a maximum of 20.

Phase–II: The research progress of the candidate shall be assessed by one-man committee composed of an external expert who is chosen by the Dean AAA from a panel of examiners suggested by the supervisor, which translates the performance into quantifiable marks for a maximum of 20.

In case the candidate fails to secure min. required score of 50 collectively in formative and summative assessments out of 100; he/she will be placed in 'I' grade, he/she has to appear for both Phase-I and Phase-II assessments, which will be held within the 30 days after declaration of results. In the consecutive assessment also if the candidate fails to secure min. required score of 50 collectively in formative and summative assessments out of 100; then he/ she will be placed in 'R' grade.

10.6.3 Summative Assessment for IV semester

The summative assessment of the project will be conducted in two phases.

Phase–I: The dissertation shall be adjudicated by a jury of experts consisting of three adjudicators – the supervisor, an internal expert from the University and the other external expert from outside the University.

Phase–II: Upon the acceptance of the dissertation, the candidate has to make a detailed presentation of his/her work before the Open Viva-Voce committee consisting of supervisor and/or Co-supervisor (if any) and the other internal expert, which translates the performance in final viva-voce examination into quantifiable marks for a maximum of 200.

10.7 Semester-End Assessment Activities

The individual marks/grade sheets for semester-1 and semester-2 will not be issued. The University shall just intimate the marks/grade statements to let know the candidate, the status of his/her results in the paper he/she has taken for assessment. The final marks/grade card will contain the title of the dissertation explicitly as shown Figure (5):

Vignans' Foundation for Science, Technology & Research
M.Tech by Research in……...

Name:
Reg. No.:
Title of the Dissertation:……..

Part	Month and Year of Completion	Titles	Lec. Tut. Prac. L T P	Grade Point Average (GPA)
1.		Course 1.1 Course 1.2 Course 1.3	$L_{1.1}$ $T_{1.1}$ $P_{1.1}$ $L_{1.2}$ $T_{1.2}$ $P_{1.2}$ $L_{1.3}$ $T_{1.3}$ $P_{1.3}$	
2.		Course 2.1 Course 2.2 Course 2.3	$L_{2.1}$ $T_{2.1}$ $P_{2.1}$ $L_{2.2}$ $T_{2.2}$ $P_{2.2}$ $L_{2.3}$ $T_{2.3}$ $P_{2.3}$	
3.		Mid Term evaluation	14 credits	
4.		Adjudication of Dissertation & Viva-Voce	18 credits	
Cumulative Grade Point Average (CGPA):				

Figure -5: Final marks/grade card

11. Supplementary Examinations

11.1 The supplementary examinations shall be conducted along with regular semester-end examinations. Notifications will be released by the examination section informing the students about registration procedures, details of fee and timetables.

11.2 The students who have courses with 'I'-grade can also write the supplementary examinations along with regular semester-end examinations of that academic (Odd / Even) semester.

12 Computation of Grading

12.1 The total marks (**m**) = marks scored in the formative assessment + marks scored in the summative assessment is transformed into relative grade expressed accurate to two decimal places as follows:

Relative grade point (P) = (m/Th) X 10 [and limited to 10]

12.2 Threshold value (**Th**) for relative grading in each course will be suggested by the DPGC in consultation with the office of Dean AAA.

12.3 If students require course wise percentage equivalence, then the calculation will be based on the following

Course wise percentage equivalence = (m/Th) X100 [truncated to two-digit integer and limited to 100]

12.4 After relative grading, a student is assigned a 'Letter Grade (G)' for each course as per Table (6). The grade and the corresponding letter grade represent the outcomes and assessments of a student's performance in a course.

Relative Grading Range (P)	Category	Grade (G)
≥ 9.50	Outstanding	O
≥ 8.50 to 9.49	Excellent	S
≥ 7.00 to 8.49	Very good	A
≥ 6.00 to 6.99	Good	B
≥ 5.00 to 5.99	Fair	C
Transitional Grade	Repeat	R
Transitional Grade	Incomplete	I

Table-6: Grading information

13. Cumulative Grade Point Average

13.1 CGPA

The Cumulative Grade Point Average (CGPA) shall be computed after successful completion of the programme. The CGPA shall be computed using the formula given below:

$$\text{CGPA} = \frac{\sum_{j=1}^{m} C_j P_j}{\sum_{j=1}^{m} C_j}$$

Where

m = total number of courses prescribed for the completion of the programme

P_j = grade points secured for the j^{th} course.

C_j = the number of credits assigned to j^{th} course

and $\Sigma C_j = 68$

Percentage equivalence of CGPA = (CGPA) X10

13.2 Award of Class

The students who have become eligible for award of degree shall be classified based on their CGPA secured, as per the Table (7) given below:

Sl. No.	CGPA	Class / Division
1	8.0 and above	First Class with Distinction
2	6.5 and above but less than 8.0	First Class
3	6.0 and above but less than 6.5	Second Class
4	Less than 6.0	Pass Class

Table- 7: Class/ Division information

14 Duration of the Program

14.1 The minimum period of study and research required from the date of registration for the M.Tech. by Research programme to the date of submission of the dissertation will be 2 years / 4 semesters for internal candidates and 3 years / 6 semesters for external candidates.

14.2 This can be extended by one more year (2 semesters) on the basis of the request by the candidate and with the specific recommendation of the supervisor, DPGC and the approval of the Vice Chancellor and on the payment of the prescribed fees, provided there is no change in the topic of research.

14.3 If the candidate fails to submit the dissertation even after 4 years / 8 semesters as mentioned above, the registration will become invalid automatically.

14.4 However, the candidate may be permitted to re-register and submit the dissertation for Semester 4 within one year from the date of re-registration, on payment of the prescribed fee provided the candidate has completed Semester 1, Semester 2 and Semester 3 successfully.

15. Award of Degree

On successful completion of prescribed requirements of the programme, the degree shall be conferred during the convocation of the VFSTR.

For the conferment of degree, the student has to fulfill the following requirements:

a) a bonafide student and undergone the course work of not less than two academic years and not more than four academic years from the date of joining.
b) successfully completed all the courses as prescribed in the respective curriculum.
c) acquired a minimum eligible credits i.e. 68 credits for the award of M.Tech by Research degree.
d) obtained no due certificates as prescribed by VFSTR.
e) no in-disciplinary proceedings pending against him / her.

Consequent upon being convinced, following an enquiry, the Academic council may resolve to withdraw the degree / diploma provided by the institute. The aggrieved may however prefer for a review of such decision by the Academic Council, citing cogent reasons for review or go in for an appeal to the, BoM of the institute.

16 Certain Circumstances

16.1 Honorable exit with Engineering PG Diploma

16.1.1 In line with NEP-2020, an optional exit is provided for a candidate who has earned a min. of 40 credits and has completed all the requirements up to the end of two semesters.

16.1.2 Engineering PG Diploma will be awarded in respective branches of specialization. In case the candidate fails to earn 40 credits, a suitable certification will be awarded during his / her exit from M.Tech by Research degree.

16.1.3 Semester-wise transcript and a consolidated transcript will be given to the candidates during their exit from the registered program.

16.1.4 Such a candidate who has exited can seek re-entry to complete M.Tech by Research by surrendering the Engineering PG Diploma. A committee constituted by Vice-Chancellor wills scrutiny all such re-entry requests and recommends the plan of action. However, the max. duration of programme should be limited to four years and further extension beyond the stipulated max. duration of study has to be approved by Academic Council, if the candidate appeals for an extension.

16.2 Volunteer 'Drop' with Sabbatical Semester option

16.2.1 A candidate may exercise his option to voluntarily exit from M.Tech by Research programme temporarily for a semester during the M.Tech by Research programme, utilizing the DROP option after completion of first two semesters. The DROP can be exercised to take up special Internship / Innovation / Exploratory / Entrepreneurship / Advanced research / Start-up and such related activities. Under such circumstances a candidate can normally avail DROP over two successive semesters. Such 'Drop' semester will be identified as Sabbatical semesters.

16.2.2 Such a candidate has to pay the regular semester fee if such a Drop option is utilized during the first 4 semesters of M.Tech by Research and has to pay a nominal semester maintenance fee during the spillover period, if a candidate has not yet completed the credit requirements.

16.2.3 Upon returning from such a temporary exit, a candidate may continue his M.Tech by Research studies utilizing the provision of spillover period. A candidate may also submit a claim for Credit equivalence for the activities undertaken during the sabbatical period. The DPGC would evaluate and assess the academic equivalence of the work carried out and would recommend the credit equivalence and credit transfer to be granted together with the grades that could be attributed, if applicable. However, the max. duration of programme should be limited to four years and further extension beyond the stipulated max. duration of study has to be approved by Academic Council, if the candidate appeals for an extension.

16.3 Volunteer 'Drop' with Semester Drop option

A candidate may exercise his option to voluntarily exit from M.Tech by Research programme temporarily for a semester during the M.Tech by Research programme, utilizing the DROP option to meet the family / personal exigencies. All the norms as mentioned in the section 16.2 shall be applicable for the candidates utilizing semester drop option.

16.4 Change of Research Topic and Supervisor:

16.4.1 A candidate may be permitted to change the title, scope, methodology of research on the recommendation of the supervisor and the approval by the DPGC. However, the area of research cannot be changed if semester 1 assessment is completed. Change in area of research can also be considered if the candidate is yet to take Semester-1assessment or the candidate withdraws the results of Semester-1 and Semester-2 assessments without claiming any exemption in any paper.

16.4.2 Change of supervisor may be permitted on approval by DPGC.

17. Continuation for Ph.D. after submission of Dissertation for M.Tech by Research degree

17.1 Candidates desiring to continue for Ph.D. after submission of the dissertation for M.Tech by Research degree should submit a request for the same through the Supervisor and the Dean of the School.

17.2 Such requests should normally be sent immediately after the submission of the dissertation for M.Tech by Research degree but definitely before the conduct of Open Viva-Voce.

17.3 A committee consisting of the following composition will examine the request and make an appropriate recommendation

(i) Dean Research & Development
(ii) Dean of the School
(iii) A Subject Expert from within the School
(iv) Supervisor(s) for M.Tech by Research degree
(v) Supervisor(s) (proposed) for Ph.D.

17.4 If the request of the candidate is accepted, the candidate should apply for registration for Ph.D. The registration is provisional till the award of M.Tech by Research degree.

17.5 On award of M.Tech by Research degree, the Ph.D. registration will be confirmed with effect from the date of submission of the dissertation for M.Tech by Research degree.

17.6 Such candidates should take a minimum of two area specific depth courses prescribed by the Doctoral Committee irrespective of the number of courses taken at M.Tech by Research level.

18. Interpretation of Rules

a) The academic rules and regulations should be read as a whole for the purpose of any interpretation.

b) For the matter(s) NOT covered herein above or for unforeseen circumstances, but arising during the course of the implementation of the above regulations. The Vice-Chancellor shall be authorized to remove the difficulties and decide upon the matters. The same shall be reported in the next meeting of Academic Council for ratification and subsequently informed to BoM.

c) The Institution may change or amend the academic rules and regulations or curriculum at any time, and the changes or amendments made shall be applicable to all the students with effect from the dates, notified by the Institution.

d) Procedure and explanation to any section can be floated by the office of Dean R&D / office of Dean AAA as applicable from time to time with due approval by the chairman of Academic Council.

R22 - M.Tech by Research - Course structure

I Year I Semester

S.No	Course Title	L	T	P	C
1	**Course-1**				6
2	**Course-2**				6
3	**Course-3**				6
Grand Total					**18**

I Year II Semester

S.No	Course Title	L	T	P	C
1	**Course-4**				6
2	**Course-5**				6
3	**Course-6**				6
Grand Total					**18**

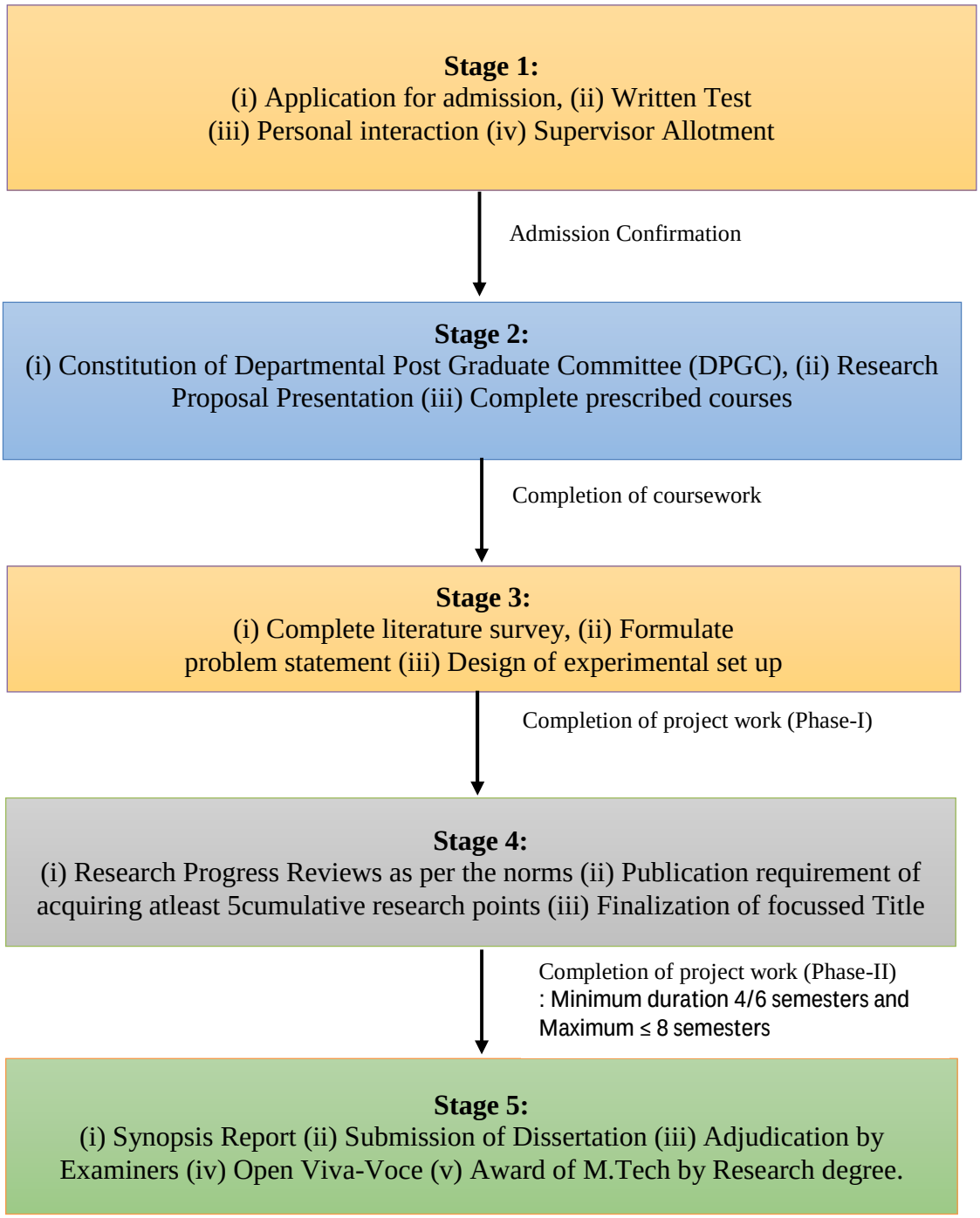
II Year I Semester

S.No	Course Title	L	T	P	C
1	**Project (Phase-I)**			28	14
Grand Total					14

II Year II Semester

S.No	Course Title	L	T	P	C
1	**Project (Phase-II)**			36	18
Grand Total					18

Note:

- The Departmental Post Graduate Committee (DPGC) shall identify and suggest suitable L-T-P structure.
- The courses on Research Methodology & IPR and Research Documentation must be included as one of the courses in Semester 1 or Semester 2.
- A candidate can avail at the most three attempts to complete the course work in Semester 1 and Semester 2 as said above.

Flow of M.Tech by Research Programme