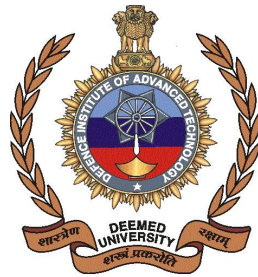


**Rules and Regulations of the
Post Graduate Programmes
(2009)**



**Defence Institute of Advanced Technology
(Deemed University)**

Girinagar, Pune 411025

Defence Institute of Advanced Technology (Deemed University)
Rules and Regulations of the Post Graduate Programmes

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1. INTRODUCTION

The goals of the postgraduate programmes at the Defence Institute of Advanced Technology (DIAT), Pune are: *The development of scientific and engineering manpower of the highest quality to cater to the needs of DRDO, Armed Forces and other Defence institutions, a broad grasp of the fundamental principles of the sciences and scientific methods, a deep understanding of the area of specialization, an innovative ability to solve new problems, and a capacity to learn continually and interact with multidisciplinary groups. Above all, the students should have a capacity for free and objective enquiry, courage and integrity, awareness and sensitivity to the needs and aspirations of society.* With these goals in view, the postgraduate programmes are designed to include courses of study, seminars and project/thesis through which a student may develop his/her concepts and intellectual skills.

The procedures and requirements stated in this manual embody the philosophy of the postgraduate education and ensure a high standard of performance at the Institute. Within this general framework, subject to the approval of the *Postgraduate Committee* (PGC), the various departments and programmes may impose such additional requirements as will serve their particular academic goals.

1.1 Postgraduate Programmes

1.1.1 The Institute offers programmes leading to the Master of Technology (M. Tech.) degree in

- Air Armament
- Aerospace Engineering
- Lasers & Electro-Optics
- Marine Engineering

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- Automotive Engineering
- Modelling & Simulation
- Signal Processing & Communication
- Mechanical (Weapons)
- High Energy Materials
- Gas Turbine Technology
- Computer Science & Engineering

1.1.2 The Institute offers programmes leading to the Master of Science (M.Sc) degree in

- MSc (Military Technology) – Army
- MSc (Weapon System Engineering) – Navy
- MSc (Military Technology) – Airforce

1.1.3 The Institute offers Master of Science (MS) (By Research) programmes to candidates who possess a Bachelors degree in Engineering/Technology or a M.Sc degree in Basic Sciences.

1.1.4 The Postgraduate Committee (PGC) operates to administer all aspects of the above programmes. The constitution, jurisdiction and functions of the PGC is given in Annexure A.

1.2 Waiver of Requirements in Special Cases

The procedures and requirements stated in this manual, other than those in section 2.3, 2.5 & 2.6 (Eligibility for Admissions) and section 5.7 (Academic Performance Requirement) may be waived in special circumstances by the Vice Chancellor on the recommendation of PGC.

2. ADMISSION

The number of seats in each of the M.Tech./M.Sc. programme for which admission is to be made will be decided by the Academic Council.

2.1 Academic Session

The academic session of the Institute is divided into two regular semesters. The first semester will normally commence in the third week of July every year, and the second in the third week of January.

2.2 Admission Calendar

- 2.2.1 The admissions to the M.Tech. is offered in the first semester only –during May/June of every academic year. The Dean (Academics) will notify the admission calendar.
- 2.2.2 The candidates for MS(by research) programmes are admitted either in the Autumn semester (Mid July) or the Spring Semester (Mid Jan).
- 2.2.3 Depending on their qualifications, the candidates for M.Sc programmes have to undergo two or three semesters, depending on which the candidates may be admitted in the Autumn semester or in the Spring semester.

2.3 Eligibility for Admission to M.Tech Programmes

- 2.3.1 The eligibility conditions given below are the absolute minimum. Departments may prescribe any requirements over and above these, subject to the approval of the PGC.
- 2.3.2 The "specified minimum" marks/CPI (Cumulative Performance Index), referred to in subsequent sections, implies a minimum of 55 percent marks/SPI of 5.5 (on a 10-point scale) as long as it is at least seven percent higher than the minimum pass marks/CPI.

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- 2.3.3 For the M.Tech programmes, the applicant must have a Bachelor's degree in Engineering or a Master's degree in Science as applicable to the programme with marks/CPI not below the specified minimum. They also should possess a valid UGC-CSIR NET/ GATE score. GATE score cut off is specified by the departments time to time.
- 2.3.4 Sponsored candidates are exempted from qualifying NET/GATE requirement.
- 2.3.5 Candidates belonging to the Scheduled Castes/Scheduled Tribes who have passed the basic qualifying degree as stated in sections 2.3.3 are eligible to apply irrespective of the marks/CPI and will be considered for admission. Seats are reserved for the SS/ST /OBC and other candidates falling under various reservation categories as per the Govt. of India Rules.

2.4 Admission to M.S Programmes

- 2.4.1 A candidate working in an institution, which is equipped with the necessary research and library facilities, may be considered for admission to the Master of Science (by Research) programmes. His/her employer must sponsor such a candidate. The employer must expressly undertake to pay full salary to the candidate and relieve him/her to stay on the campus to enable the candidate to complete his/her residence requirement (specified in section 5.1). The candidate will attend regular classes as per schedule of the Institute .
- 2.4.2 A candidate applying for admission to Master of Science (by Research) programme must provide detailed information about the research facilities available at his/her organization and a certificate that these would be available to him/her for carrying out research. He/she should also provide the biodata of the prospective supervisor who would supervise the candidate's work at his/her organization.
- 2.4.3 On the recommendation of the Head of the department, the Academic Council will approve an organization for carrying out M.S thesis in a

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specified area. An application for admission from a candidate working in the approved organization will be considered only if he/she wishes to work in the specified area.

2.5 Eligibility for Admission to M.S Programmes

2.5.1 Categories of admission and Eligibility Criteria are specified in Annexure -F

2.6 Eligibility for Admission to M.Sc Programmes

2.6.1 The number of seats in each MSc programme will vary according to the requirements of the respective Services. The courses are available only to the Service Officers who have been selected/ nominated by the respective Service Headquarters.

2.6.2 The Eligibility criteria for admission to the MSc Programme will be as follows:

2.6.2.1 MSc (Military Technology) – Army :

- (i) Engineering Stream: Bachelor of Engineering or equivalent from recognized universities. Qualified in Junior Command Course of three months duration at Army War College.
- (ii) Non Engineering Stream: Graduated from recognized universities, who have qualified in Junior Command Course of three months as well as Pre-Staff course of ten weeks duration. In addition, they need to have qualified in one of the following long technical courses
a. MSc (Weapon Systems) from University of Pune OR b. Master of Military Science (M M Sc) from Berhampur University. OR c. Tank Technology Course at DIAT, Pune
- (iii) Qualified at Technical Staff Officers course entrance examination conducted by Integrated HQ of MOD(Army)(Military Training Directorate)
- (iv) Have a minimum of eight years of reckonable commissioned service

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- 2.6.2.2 M.Sc (Weapon System Engineering) – Navy: Bachelor’s Degree (BE/BTech) in Electrical, Electronics, Mechanical Engineering or MSc(Physics/Electronics) from recognized University.
- 2.6.2.3 M.Sc (Military Technology) – AirForce: Bachelor’s Degree (BE/BTech) in Mechanical / Electrical / Electronics / Aeronautical engineering from a recognized University. Experience of working in any of the systems like Aircraft, Guided Weapons, Signals, Communications, etc.
- 2.6.3 Duration of M.Sc Programmes:

The M Sc degree will be awarded to students on having completed a minimum of two years after the first degree or five years after Plus two and on earning the minimum required marks prescribed by DIAT. The participants already having BE/ BTech/ MSc qualification will be required to complete one year (two semesters) of formal education. Participants having Graduate degree as qualification and other than as mentioned above (ie., BE/ BTech/ MSc) will have to complete one year of training/ courses as stated in para 2.6.2 above including a preparatory semester (6 months), prior to joining two semesters of MSc programme. Duration of MSc programmes shall thus, be as follows:-

(a) One year (2 semesters) for officers with BE/ BTech/ MSc degree.

or

(b) Two years (Which includes training/ courses as stated in para 2.6.2 outside DIAT and One and half years [3 semesters including one preparatory semester] at DIAT for officers with qualification of MSc (Weapon System)/ MSc / TTC (DIAT). Performance in preparatory semester will be counted towards the award of M.Sc degree.

2.7 Admission Procedure

The applicants for M.Tech and M.S programmes must apply for admission in prescribed forms, which must be sent directly to the Registrar of the Institute.

- 2.7.1 All admissions will be made on approval by the Vice Chancellor on the recommendations of the duly constituted selection committees. A selection committee will consist of faculty members, one of whom will be from another department of DIAT. The constitution of the selection committee will be proposed by the concerned department and approved by the Vice Chancellor on the recommendation of Chairperson, PGC.
- 2.7.2 Separate selection committees may be constituted to select candidates belonging to different categories, viz., sponsored, regular, part-time, etc.
- 2.7.3 Admission to the M.Tech. programme may be made directly based on the performance in the qualifying examination and interviews.
- 2.7.4 Admission of the Scheduled Castes/Scheduled Tribes candidates will be governed by the rules prevalent for the respective categories.
- 2.7.5 The selected candidates, who have completed all the examinations including project/thesis examination and the viva voce before the date of registration but are unable to produce the certificate in proof of having passed and secured the minimum specified qualifying marks, may be considered for provisional admission. However, if admitted provisionally, they will be required to produce the evidence of their having passed the qualifying degree examination with minimum specified marks by the last date for document submission as specified in the academic calendar (usually about 8 weeks from the date of registration), failing which the admission may be cancelled.
- 2.7.6 On approval by the Vice Chancellor, the Registrar will issue the admission letters to the candidates who will be required to accept the offer of admission by depositing the prescribed fee before the specified date.

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- 2.7.7 In case a candidate does not accept the offer by paying the prescribed fee by the specified date, the offer of admission may stand withdrawn, and the admission offered to the candidates in the waiting list, if any, will be offered admission in the order of merit.
- 2.7.8 The offer of admission may also stand withdrawn if the candidate who has accepted the offer fails to register by the date for late registration.

2.8 Admission of Foreign Nationals

- 2.8.1 The applications of foreign nationals, who are sponsored by the Armed Forces will be scrutinized by the department concerned to assess their suitability for admission to the programme. The department's recommendation will be sent to the Vice Chancellor through the Chairperson, PGC.
- 2.8.2 The applications of non-sponsored foreign national candidates will also be considered for admission to the postgraduate admissions. Such candidates who are in India and are seeking admission to the M. Tech. programme must satisfy the requirements as the candidates in the general category. Admission of such candidates will be subject to the clearance from the Defence Research & Development Organisation and MEA, Govt. of India.

2.9 Admission to External Registration Programme for M.Tech.

- 2.9.1 A candidate working in an institution, which is equipped with the necessary research and library facilities, may be considered for admission to the M.Tech. programmes. Such a candidate must be sponsored by his/her employer. The employer must expressly undertake to pay full salary to the candidate and relieve him/her to stay on the campus to enable the candidate to complete his/her residence requirement (specified in section 5.1). The candidate will attend regular classes as per schedule of the Institute during Semester I & Semester II.

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- 2.9.2 A candidate applying for admission to the external registration programme must provide detailed information about the research facilities available at his/her organization and a certificate that these would be available to him/her for carrying out research. He/she should also provide the biodata of the prospective supervisor who would supervise the candidate's thesis work at his/her organization.
- 2.9.3 On the recommendation of the Head of the department, the Academic Council will approve an organization for carrying out M. Tech. thesis in a specified area. An application for admission from a candidate working in the approved organization will be considered only if he/she wishes to work in the specified area.

2.10 Admission to Part-Time Programmes

- 2.10.1 The Institute also offers part-time postgraduate programmes leading to the M. Tech. degrees for local professionally employed personnel such as working engineers, scientists and teachers who can, while employed, attend regular classes as per schedule of the Institute.
- 2.10.2 The applicant must be an employee of a recognized organization and be engaged in professional work in the area to which admission is sought.

2.11 Admission of Sponsored Candidates other than from M.O.D

- 2.11.1 A candidate who is sponsored by his/her employer and who meets the additional conditions specified below may be admitted through a separate selection committee appointed specifically for the purpose.
- 2.11.2 A sponsored candidate must be in service of the sponsoring organization. The sponsoring organization must specifically undertake to provide full salary to the candidate and to relieve him/her to pursue the programme for its full duration.

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2.11.3 The sponsored candidates seeking admission to the M.Tech. programme will be selected based on their performance in a qualifying examination/ interview or both.

2.12 Admission of Non-Degree Students

2.12.1 A non-degree student is a student who is registered for a degree in a recognized institute or university in India or abroad, and who is officially sponsored by that institute or university to complete part of his/her academic requirements at DIAT, Pune. For that purpose the non-degree student may carry out research or take courses for marks or otherwise or may use other academic facilities. However, marks earned by a non-degree student is not applicable for any degree programme at DIAT, Pune at any time.

2.12.2 A candidate will be admitted as a non-degree student on a duly sponsored application to the Dean (Academics) who will recommend admission on the advice of PGC to the Vice Chancellor for approval. The strength of non-degree students in any programme should not be more than 5% of the programme strength.

2.12.3 Students so admitted will be governed by the rules, regulations and discipline of the Institute.

2.13 Temporary withdrawal from the programme

2.13.1 A student may be permitted by the Vice Chancellor on the recommendations of Dean (Academics) to withdraw from the programme for a semester or longer for reasons of ill health or other valid reasons. Normally a student will be permitted to discontinue from the programme only for a maximum continuous period of two semesters.

2.14 Financial Assistance

- 2.14.1 The Institute may provide financial assistance in the form of teaching or research assistantships (referred to as Institute Assistantship) to postgraduate students. Assistantships are awarded on a semester-to-semester basis for a period of maximum up to four semesters for M. Tech. students. The stipend for the assistantship is paid as per the approved rates. A student is expected to devote up to eight hours per week towards job(s) assigned to him/her. The renewal of assistantship is contingent on the student's satisfactory performance in the academic programme and in the discharge of assistantship duties.
- 2.14.2 In addition to the students admitted with financial assistance, students may also be admitted to the M. Tech. programmes on a self-financing basis.

3. REGISTRATION

3.1 Registration Procedure

A student is required to register each semester for the courses that he/she intends to pursue in that semester. The registration process involves:

- i) submitting a duly approved course programme to be followed in the semester,
- ii) payment of fees for that semester and clearance of any outstanding dues, and
- iii) signing the registration roll with the Office of the Registrar.

3.1.1 A new entrant to the postgraduate programme who is awaiting the results of the qualifying examination, will be allowed to register "provisionally" on submission of a certificate from his/her institution certifying that he/she has appeared in the final qualifying examination (including all papers in theory, practical, project, oral, etc.). The candidate will submit attested copies of the certificates of having passed the qualifying examination by the last date for document submission as specified in the academic calendar (usually about 8 weeks from the date of registration), failing which the admission may be cancelled.

3.1.2 All students who are not on authorized leave must continue to register in the following semester till they submit their thesis. If, however, a student is likely to submit his/her thesis within two weeks from the commencement of classes, he/she need not register in that semester. This period will not be extended in any case.

3.1.3 In very special cases, students who have completed all the experimental work and analysis related to the thesis and are on sanctioned leave, the

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PGC on the specific recommendations of the concerned department may allow submission of M. Tech. thesis without registration.

- 3.1.4** If maternity leave (granted before the date of registration) extends beyond the date of late registration and expires before the end of seven weeks from the specified date of registration in a given semester the student will be allowed to register only for thesis units. The number of units that a student will be allowed to register will be worked out on a prorata basis.
- 3.1.5** A student in the external registration programme must complete the residence requirements (laid down in section 5.1) before the beginning of the semester in which he/she wants to register for thesis units for the first time.
- 3.1.6** The student in the external registration programme who has completed the residence requirement can register during the period starting from one week prior to the end of the previous semester till the late registration date provided he/she has been awarded grades for the previous semester.

3.2 Late Registration

- 3.2.1** If for any compelling reason like illness, a student is unable to register on the day of registration, he/she will be allowed to register on the day of late registration specified in the academic calendar (which is about one week from the date of registration). Any student registering late will be required to pay the specified late registration fee.
- 3.2.2** In exceptional cases, the PGC on the recommendation of Head of the concerned department may consider registration beyond the date of late registration.

3.3 Academic Advising

- 3.3.1** The registration adviser appointed by the Head of the concerned department will advise a student in the selection of courses. A student registering for thesis units must have a thesis supervisor assigned to him/her.
- 3.3.2** In case of Students undergoing M.S Programmes, the General Test Committee (G.T.C) for the student will carry out academic advising.
- 3.3.3** A student may be permitted to repeat courses in which he/she has failed. Permission to repeat a course will be governed by the guidelines laid down in section 5.6. The request for repeating a course must be made in writing duly endorsed by the Head of the concerned department to the Office of Registrar at the time of registration.

3.4 Semester Load Requirements

- 3.4.1** For the M.Tech programmes, Semester I, Semester II, Semester III and Semester IV load is defined as 550 Marks, 550 marks, 400 marks and 500 marks respectively. Most courses carry 100 marks, while a few carry 50. Thus, a student who has registered for a full semester load is expected to attend – in general- five such courses of 100 marks and a seminar or lab course of 50 marks during Semester I & II.
- 3.4.2** A part time student will register for a minimum of 300 marks.
- 3.4.3** For the M.S Programmes, the student should successfully complete 5 courses of 100 marks each and 1 Seminar course of 50 marks (totaling to 550 marks) as prescribed by the G.T.C.
- 3.4.4** For the MSc programmes, the total academic load is as per the marks laid down in the respective programme structure..

3.5 Adding/Dropping of Courses and Withdrawing from Courses

- 3.5.1** Adding and dropping of courses after registration is permitted only if the student's request is endorsed by the instructor of the course that he/she is adding or dropping and is also endorsed by the Head of concerned department. The last dates of applying for adding and dropping of courses are specified in the academic calendar.
- 3.5.2** A student may be required to drop a course at any stage if it is observed that he/she does not fulfil the prerequisites for the course, or if a timetable clash exists which does not permit him/her to attend all the classes of the course, or any rule in this manual which forbids him/her to take the course(s) that he/she has registered for.
- 3.5.3** The Head of the concerned department in consultation with the instructor and with the approval of the PGC may allow a student at his/her request to withdraw from one or more courses during the semester, if he/she has been sick for considerable time and has submitted a certificate to the satisfaction of the chairperson of the concerned department, but the reduced load shall not be less than the minimum semester load (specified in section 3.4).

3.6 Change of Registration from Part-Time to Full-Time programme

- 3.6.1** A student admitted to a part-time programme may be allowed to change his/her registration to full-time (regular) studies at the beginning of a semester upon the recommendation of the Head of the concerned department and with the approval of the PGC. For the purpose of determining the maximum period of stay (specified in section 5.1) one half of the period spent as a part-time student will be counted.

3.7 Change of Registration from Full-Time to Part-Time Programme

3.7.1 A student admitted to a full-time M.Tech. programme may be permitted to change to a part-time M. Tech. programme. A student requesting such a conversion must:

- i) have completed the course work, passed the comprehensive examination and completed the residence requirements,
- ii) get the request endorsed by the supervisor(s) and the chairperson of the concerned department,
- iii) produce a "No Objection Certificate" from the Head of the institution/ organisation, which he/she proposes to join.

3.7.2 Such conversion, if approved by the PGC, will be subject to the following conditions:

- i) the student must complete his/her thesis within 5 years counted from the date of his/her first registration in the programme,
- ii) provision of conversion from full-time to part-time status can be availed of only once by the student during his/her programme,
- iii) the status of the student will be reviewed by the supervisor and the Head of the concerned department at least once every two semesters after the conversion, and his/her continuation on part-time status will be subject to his/her making satisfactory progress towards completing the thesis.

3.8 Permission to Proceed for Academic Activities outside DIAT

3.8.1 The PG students can be permitted to proceed for academic activities outside DIAT, Pune to carry out fieldwork, library work, computational work, experimental work, and Lab works, and also to attend conference, courses and to undertake other research work etc. as recommended by the department. Permission for a duration up to 30 days be sanctioned by the department with an intimation to PGC and more than 30 days by the Chairperson, PGC on the recommendation of the Department.

4. LEAVE RULES

Students may be granted leave on application to the Head of the concerned department. Applications must be submitted well in advance of the date of commencement of the leave requested. Leave for a period longer than specified in sections 5.1, 5.2 and 5.3 sanctioned by PGC on the recommendation of the Head of the concerned department will entail loss of financial assistantship for the extended period. In case a student is absent for more than 25% of the duration of the semester, he may not be allowed to appear for the examination in that semester.

4.1 Vacations and Casual Leave

- i) A postgraduate student may be allowed vacation leave during any period of the Institute's vacation or during the mid semester recess up to a maximum of 15 days per semester, subject to a maximum of 30 days at a time. Leave not availed in one semester may be carried over to the next semester up to a maximum of 15 days.
- ii) In addition, a student may be allowed casual leave for up to 8 days per semester subject to the condition that such leave will not be allowed for longer than 3 days at a time. The casual leave cannot be combined with any other kind of leave, and will not be carried over.
- iii) There will be no loss of financial assistantship for students going on vacation or casual leave.

4.2 Medical Leave

Leave on medical ground, duly supported by a medical certificate, may be granted to a student for up to eight days per semester. Unavailed leave may be carried over to the next semester up to a maximum of 8 days. However, at a stretch, the medical leave shall not exceed 15 days. Such leave shall not entail any loss of financial assistantship.

4.3 Maternity Leave

A female student may be granted maternity leave for a maximum of 3 months. Leave up to 6 weeks can also be granted for miscarriage including Medical Termination of Pregnancy, if supported by a proper medical certificate. Such leave can be combined with any other leave due and will not entail any loss of financial assistantship.

4.4 Semester Leave

Semester leave for up to a maximum of two semesters for M. Tech students may be sanctioned for bonafide reasons. Except for medical reasons, such leave would not normally be sanctioned before a student has completed his/her residence requirements and in no case before the student has spent two semesters in the programme. However, on medical considerations such leave may be sanctioned after his/her stay of one semester. Leave for more than one semester at a time will not be granted.

4.5 Medical Certificate

If a student falls ill while on the DIAT campus, the medical certificate must be obtained from the Institute's medical officer. If he/she falls ill outside the campus while on sanctioned leave, the medical certificate must be obtained from a registered medical practitioner.

4.6 Absence for a Minimum of 4 Weeks on Sanctioned Leave

If a registered student is absent on sanctioned leave for a period of 4 weeks or more at a stretch, PGC may decide to convert the leave to a semester leave, or reduce the total marks of thesis (in blocks of 100 marks) appropriately, in case the student is registered only for thesis work.

4.7 Absence Without Sanctioned Leave

Absence without sanctioned leave will entail loss of financial assistantship for the period of absence, and may result in the termination of the student's programme on the recommendation of the Head of the concerned department and approval of PGC.

5. ACADEMIC REQUIREMENTS

5.1. Minimum Residence, Maximum Duration and Academic Requirements

5.1.1 The following table (Table-1) lists the minimum residence and maximum duration allowed in the programme, and marks requirements for graduation in the various programmes:

5.1.2 "Course Work" includes only postgraduate course marks unless otherwise stated. To satisfy the "Minimum Residence" requirements, registration must be over consecutive semesters; exception will be made only if the student is on authorized leave. "Maximum Duration" is counted from the student's first registration date.

5.1.3 Students in the external registration Programme will be required to stay on the campus at least as long it takes to (i) complete the required course work and pass the comprehensive examination and (ii) get a written proposal (prepared in consultation with his/her supervisor and co-supervisor) outlining the work proposed to be done for his/her thesis. Add an additional year in case of part-time/external students.

5.1.4 Students in the M.S.(by Research) Programme will be required to stay on the campus at least as long it takes to (i) complete the required course work and pass the comprehensive examination and (ii) get a written proposal (prepared in consultation with his/her supervisor and co-supervisor) outlining the work proposed to be done for his/her thesis.

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Programme	Minimum Total Marks	Marks Through Course Work (Minimum)	Marks Through Research (Minimum)	Minimum Number of Courses	Minimum Residence		Maximum Duration / validity of registration
					At IAT	At recognized Institutions for thesis work	
M.Tech. (Regular)	2000	1100	900	10 + 2 Seminars/ Lab Courses	4 Semesters	0	4 Years
M.Tech. (External)	2000	1100	900	10 + 2 Seminars/ Lab Courses	2 Semesters	2 Semesters	5 Years
M.Tech. (Part-time)	2000	1100	900	10 + 2 Seminars/ Lab Courses	4 Semesters	0	5 Years
M.S (by research)	-	550	-	5 + 1 Seminar	4 Semesters or 1 Semester	0 or 3 Semesters	6 Years
M.Sc	As specified in the respective Programme Curriculum				2 Semesters or 3 Semesters	0 or 1 Semester	2 Years or 3 Years

Table. 1

A department may prescribe, with prior approval of the PGC, additional units of courses/thesis over and above the minimum specified in the above table.

5.2 Extension of Programme

No student who has completed the prescribed maximum duration in the programme shall be allowed to register in the subsequent semester unless he/she has been granted extension of the programme by the Vice Chancellor on the recommendations of the Head of the concerned department and the PGC.

5.3. Audit Courses

The students are permitted to audit courses. The criteria for award of Audit marks shall primarily be on the attendance of student and participation of student in

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course activities including submission of any assigned work. The instructor shall apply stricter norms for award of Audit marks if he/she deems fit. Audit marks to be included in the final mark sheet for that programme.

5.4. Advance Standing at DIAT Pune

On the recommendation of the Head of the concerned department and approval of the PGC, a student admitted to a postgraduate programme after partial completion of such or similar programme elsewhere may be granted an exemption up to 50 percent of the minimum course Marks requirements. Further a student granted advanced standing at DIAT Pune may get an exemption of one semester from the residence requirement on the recommendation of the Head of the concerned department and approval of the PGC.

5.5 Residence Outside DIAT

Students registered in the postgraduate programmes may count for residence and marks requirements, research or field work undertaken outside the institute under the supervision of the Institute supervisor(s), if facilities for such work are not available at this institute. Such cases must be recommended by the Head of the concerned department and approved by the PGC before the student proceeds to the place of assignment.

5.6 Evaluation System

5.6.1 The Institute will follow a continuous evaluation system. A typical theory course will have a mid-semester examination carrying 30% marks; one or two quizzes/mini tests/assignments carrying 20% marks and an end semester examination carrying 50% marks.

5.6.2 Seminars shall carry 50 marks. Seminar shall be treated as a course for the purpose of registration and evaluation. HOD/Programme Coordinator/Seminar Coordinators appointed by the Head of concerned

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Department shall organize the Seminars and forward the marks awarded by the panels of examiners to the office of COE by the end of the Semester. Seminar Evaluation is to be conducted and evaluated as per procedure described in section 8.

- 5.6.3** Departments may also offer laboratory/practical courses as a separate course for 50 marks. Laboratory/Practical work can also be a part of the theory courses. The conduct and evaluation of such courses is to be carried out as per the procedure in Annexure "D"
- 5.6.4** The Instructors/examiners shall submit separate marks for each course (internal marks, mid-semester exam and end-semester exam) except for Seminar and Dissertation to COE and the cumulative marks obtained by the student is calculated after the final semester examination. The instructor shall forward the marks, rounded off to the nearest whole number for compilation of the final result.
- 5.6.5** A student need minimum of 40 % Marks in a course to pass the course and total of 45% in a semester to pass the semester. After fulfilling these minimum criteria for all the courses and semesters, an overall cumulative of 50 % marks is required for successfully qualifying the programme.
- 5.6.6** If a student does not appear for any mid-semester/end-semester examination due to genuine reason, a mis-muster examination is conducted within two weeks on recommendation of the Head of the Department and approval of Vice Chancellor.
- 5.6.7** Re-examination for end-semester examination may be permitted for a course if he/she fails in any course, at the beginning of the next semester. Re-examination carry 50 marks (for courses with total 100 marks) or 25 marks (for courses with total 50 marks). The marks in the re-examination will replace the mark obtained in the end- semester examination. The internal assessment mark and mid-semester marks will be carried forward.

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- 5.6.8** Total marks obtained in the re-examination will be counted towards the academic performance in the course and semester. However a student who does not pass any course in the first attempt will not be considered for the award of ranks or selection of topper.
- 5.6.9** If a student does not appear or fails in the reexamination, he/she will be permitted to repeat the course by registering for the same course in an alternate semester when the course is being offered, if recommended by the Head of the department (without counting as an additional courses) by paying the prescribed fee.
- 5.6.10** A student passed in a course with less than 50 % and his/her aggregate mark in that semester is less than 45% or cumulative aggregate till that semester is less than 50% ; he/she is permitted to improve by repeating the course. He/she will be permitted to repeat the course by registering for the same course in an alternate semester when the course is being offered, if recommended by the Head of the department (without counting as an additional courses) by paying the prescribed fee.
- 5.6.11** The course can be repeated by writing the mid-semester examination and end –semester examination, during the semesters where the course is being offered and the student need not attend classes. The internal evaluation marks obtained will be carried forward. No re – examination is permitted for a student repeating the courses. In case of failure or not fulfilling the minimum criteria even after repeating the course, student is permitted to repeat again in alternate semesters when the course is offered, till the expiry of validity of registration as per Section 5.1. Internal mark obtained will be carried forward through out. Marks obtained in every attempt will be reflected in the final mark sheet transcript.
- 5.6.12** The student registered for auditing a course shall be awarded "*Passed the course*" if they fulfill the requirement of minimum of 80% attendance and

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obtain 40 % marks. The marks obtained in the audit course to be included in the final grade report, but not be counted towards the final academic requirement. If the student does not qualify in the course, it will be assumed that the course has been dropped by that student. No re-examination / repeating the course is permitted for audit courses.

5.6.13 Practical Training, Communication skills and Instructional Visits courses will be considered as essential requirements to fulfill the academic requirement of the programmes if it is specified in the curriculum. No marks are associated with these and performance in these courses is not taken into account in the calculation of final percentage.

5.6.14 In addition to prescribed course work, every student in M. Tech. programme has to do a one-year dissertation under guidance of a supervisor approved by the Department. The project is evaluated in two stages, once by an internal board of examiners at the end of the pre-final semester and finally at the end of final semester, when an examiner external to DIAT is also present. Typically, the project carries 900 Marks.

5.7 Academic Performance Requirement

5.7.1 The minimum requirement to qualify a course is 40 % marks.

5.7.2 The minimum requirement to qualify a semester is 45 % marks, cumulative in all courses in the semester including seminar/dissertation.

5.7.3 The minimum requirement to qualify a programme is overall 50 % marks, cumulative in all courses in all semesters, including seminar/dissertation.

5.7.4 The Head of the concerned department will keep a watch on the progress of every student and whenever a student fails to meet the requirements, a warning letter is issued to the student with intimation to PGC.

6 . SEMINAR AND SEMINAR EVALUATION

6.1 Allotment of Seminar Topics & Supervisor

- 6.1.1 Each student shall select a topic for his Seminar and identify a Seminar Supervisor within three weeks of the commencement of the Semester duly approved by Head of the Department and an intimation be sent to Chairman, PGC.
- 6.1.2 A student will have only one seminar supervisor, appointed from amongst the faculty members at DIAT, Pune using modalities decided by the departments.
- 6.1.3 The student is supposed to work on the seminar topic assigned to him throughout the semester in consultation with seminar supervisor.
- 6.1.4 If a student's supervisor proceeds on long leave, the Head of the concerned department shall appoint a supervisor or a co-supervisor in consultation with the supervisor and the student with intimation to the Chairman, PGC.

6.2 Seminar Report Submission and Evaluation

- 6.2.1 The Seminar evaluation is carried out by a committee by evaluating the seminar report and a presentation by the student on the topic. Normally the evaluation is carried out after the theory examination of the semester.
- 6.2.2 The student has to submit the seminar report as per the guidelines in Annexure 'E', one week before the scheduled examination to the programme co-ordinator.
- 6.2.3 The seminar evaluation committee comprises of the Head of the department or his nominee, the seminar supervisor, a faculty member from the department and a faculty member from any department other than the student's department. The board will be proposed by the Head of

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Department and approved by Chairman, PGC. It is preferable to have the same evaluation board for all the students in the Programme.

- 6.2.4 Programme Coordinators of concerned Department shall organize the Seminar presentation/evaluation during the dates mentioned for the purpose in the academic calendar and forward the marks awarded by the panels of examiners to the office of COE within the stipulated period.

7. THESIS AND THESIS EXAMINATION

7.1 Project Allotment

Each student shall select a topic for his/her project work at the end of the first semester for M.S (by Research) and by the end of second semester for M.Tech. Regular, Part time and External programmes.

7.2 Appointment of Thesis Supervisors of M Tech. Students

- 7.2.1** A student shall not normally have more than two supervisors at any given time.
- 7.2.2** Thesis supervisor(s) of a student will normally be appointed from amongst the faculty members at DIAT Pune using modalities decided by the departments.
- 7.2.3** Under exceptional circumstances, other employees of DIAT Pune with the rank of Technical Officer 'B' and above may be appointed as co-supervisors. The recommendation of a peer group (appointed by the Head of the Department to which the student belongs) regarding the merit and qualifications of person being considered as co-supervisor should be sent to the PGC through the Head of the concerned department for approval. One such co-supervisor can be appointed to only one student at a time.
- 7.2.4** In exceptional cases a student can have a co-supervisor from outside the institute on the recommendation of the Head of the concerned department and the PGC and approval of the Dean(Academics).
- 7.2.5** The appointment or change of supervisor(s) will be communicated to the PGC by the Head of the concerned department. No change/addition of supervisor(s) is allowed after the thesis has been submitted.
- 7.2.6** In case there has been a change/addition in the supervisor(s), the M.Tech. thesis will not be submitted earlier than three months from the date of such change.

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- 7.2.7** If a student's supervisor proceeds on long leave, the Head of the concerned department shall appoint a supervisor or a co-supervisor in consultation with the supervisor and the student. In this case the number of supervisors may be more than two if an external supervisor already exists.
- 7.2.8** If all research work and related analysis is complete except writing of the thesis, and the supervisor proposes to go on leave, the Head of the concerned department may appoint a programme coordinator, to take care of the formalities, such as providing the list of examiners, conducting the oral examination, etc.
- 7.2.9** In case a supervisor resigns/retires or otherwise ceases to be a faculty member of the institute, the Head of the concerned department will appoint a new supervisor or co supervisor.

7.3 Constitution of Committee/Board for Thesis and Oral Examination

- 7.3.1** As the thesis/dissertation work is extended for two semesters, it is examined twice, one each at end of each semester, by an examination committee.
- 7.3.2** The first evaluation for 400 Marks is carried out at the end of the pre-final semester (Sem III). The evaluation committee is appointed by the Chairman, PGC and comprises of a Senior Faculty Member as the Chairman, HOD or his nominee, a subject expert (preferably from a department outside the student's department) and the Thesis Supervisor. The student has to submit a report highlighting the literature survey, his work in the semester and future scope of work and make a presentation on the same.
- 7.3.3** After detailed evaluation of the work by the evaluation committee and considering various standards and parameters, results of the evaluation will be sent to COE through HOD.

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7.3.4 The final dissertation evaluation is carried at the end of the last semester (i.e. Sem IV) for 500 marks by an oral examination committee constituted by COE on recommendation of Head of the concerned Department.

7.3.5 The committee shall consist of the following

- Senior Faculty Member as the Chairman
- HOD or his nominee
- Thesis supervisor(s)/ programme coordinator
- One member belonging to a department other than the student's department
- Subject expert [External Expert] from outside DIAT.

The thesis supervisor/programme coordinator will act as the Convener of the Committee.

7.4 Submission of Thesis/Project

7.4.1 After the constitution of oral examination committee, unbound copies of the thesis/project report - one for each examiner of the committee- prepared according to the format prescribed in Annexure E will be submitted at least a week before the probable date of oral examination. The COE will arrange to send the copies of the thesis to the examiners. Two copies of the abstract (approximately 250 words) should also be submitted along with the thesis/project report.

7.5 Processing of Project/Thesis

7.5.1 The oral examination will be conducted within four months from the date of submission of the thesis/project. If a student does not appear in the oral examination within this time period, his/her programme would be deemed to have been terminated. Request for reinstatement in the programme by such a student should be addressed to the Vice Chancellor. The request may be considered by the Vice Chancellor and in case the Vice Chancellor

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grants the request, it shall specify the requirements that the student must fulfill for the award of the degree.

- 7.5.2** The thesis supervisor/programme coordinator will intimate the date of the oral examination, finalized in consultation with the External Examiner to COE.
- 7.5.3** The oral examination committee will evaluate the thesis/project, conduct the oral examination and send a report of the examination to the COE through the Head of the concerned department.
- 7.5.4** A thesis will be considered to have been accepted if all members of the oral examination committee recommend its acceptance. A thesis, which is not accepted, will be considered to have been rejected.
- 7.5.5** An accepted thesis is evaluated by the oral examination committee considering various standards and parameters set by the department/Institute and send marks to COE.
- 7.5.6** If a thesis is rejected along with a recommendation for resubmission after incorporating any modification/correction suggested by the oral examination committee, oral examination of the re-submitted thesis/project will be conducted by the original committee unless a different committee is approved by the Chairperson, PGC. If the re-submitted thesis is rejected, the matter will be reported to the Vice Chancellor for appropriate action.
- 7.5.7** Once the thesis is accepted, two hardbound copies and a soft copy in PDF format of the thesis duly signed by the Supervisor and countersigned by the Head of the Department will be submitted to COE for retention.
- 7.5.8** On completion of all thesis evaluations in a particular semester, COE will compile the results along with the list of accepted thesis and submit the same to the Vice Chancellor for approval.

7.6 Evaluation of MS Thesis

The thesis is processed as specified in Annexure F.

8. GRADUATION REQUIREMENTS

- 8.1** A student shall be deemed to have completed the graduation requirements, if the student has -
- i) passed all the prescribed courses,
 - ii) attained the minimum required marks in each semester ,
 - iii) attained the minimum required total mark for the entire programme,
 - iii) satisfied the minimum academic and residence requirements,.
 - iv) satisfied all the requirements specified by the concerned department, if any,
 - v) satisfied all the requirements specified by the academic council
- 8.2** In addition, the student should have paid all the dues to the Institute and, should have no pending case of indiscipline.
- 8.3** Overall performance rating of the student will be reflected in the degree transcript as per the cumulative percentage of marks obtained in all semesters as follows:

75 % and above	: First Class with Distinction
60 % and above, but below 75%	: First Class
50 % and above, but below 60%	: Second Class
Below 50 %	: Failed

9. POWER TO MODIFY

- 9.1 Notwithstanding all that has been stated above; the Academic Council has authority to modify any of the above regulations from time to time.
- 9.2 Approval/ modification of courses will be carried out as per the procedure laid down at Annexure B.
- 9.3 Approval/ modification of M. Tech. Programme will be carried out as per procedure laid down at Annexure C.

ANNEXURE A

A.1 POSTGRADUATE COMMITTEE

Overall coordination of academic activities related to various PG programmes in DIAT is carried out by Post Graduate Committee (PGC). PGC shall consist of one representative from each of the academic departments, the outgoing Chairperson (if not otherwise a member), Registrar or his nominee and COE or his nominee. Chairperson of the Postgraduate Committee is nominated by Vice Chancellor for a period of two years. The Postgraduate Committee shall have jurisdiction in the following matters concerning the postgraduate programme of the Institute:

- *The formal approval of new courses of instruction,*
- *Modification of courses already approved,*
- *Formulation of rules and regulation of PG programmes and modification of the same*
- *The rules governing the form of presentation and disposal of theses,*
- *Such other related matters as may be referred to it by the Vice Chancellor.*

The functions of the Committee shall consist primarily of general policy determination, coordination and review, but the Vice Chancellor shall retain the power of final review. The points discussed and the decisions taken by the PG Committee will be sent to Academic Council for ratification. The Heads of the departments shall assist this committee.

A.2 BOARD OF STUDIES

Formulation and modification of the academic curriculum and the syllabus of PG programmes are carried out by the Board of Study nominated for the respective programmes. The board shall consist of the Head of the department conducting

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the programme as the Chairperson, an experienced professor from a reputed academic institute, a renowned personality from R&D/industry/defence services, a faculty member from a sister department as members and a faculty member from the same department as the member secretary. The board is nominated by the Vice Chancellor from proposed names by the HOD for a period of four years.

The Board of Study shall formulate/review/modify the syllabus of respective programmes as and when required by the Chairperson. Any modification/inclusion of course syllabus offered by another department require the concurrence from the respective HOD.

The modified/formulated/reviewed syllabus/curriculum, with concurrence of all involved department to be put up to PGC for approval of AC. Further modification suggested by PGC/AC shall have to be incorporated before offering the programme/course.

The respective BOS shall review the syllabus and curriculum at least once in two years.

ANNEXURE- B

POSTGRADUATE COURSES

B.1 Course Number

Each postgraduate course will have a unique number consisting of two parts. The first part will consist of a code to identify the department offering the course, which will be of 1 to 3 characters of English alphabet and identical for all courses offered by a particular Department.

The second part will be a three-digit number beginning with 4,5 or 6. To ensure active participation of the identified department to run courses offered under the programme shall reflect the identity of the department offering the course. The first digit indicates the level of the course with 6-for M.Tech and 5 &4 for M.Sc. Based on the qualifications of the participants, a 6 level course may also be offered for the M.Sc programmes. Other two digits are the serial numbers provided by the departments.

B.2 Total Marks for various courses

Generally most of the theory courses are of 100 marks and are having minimum 3 lecture and tutorial / 2 lecture and 2 practical hours per week. Course with less than this load will be of 50 marks.

Laboratory courses and seminar courses will be of 50 marks.

B.3 Approval of a Course

All Postgraduate courses shall require approval of the Academic Council before they are offered. A course can be proposed by an interested faculty member/ or

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can be framed by a department for their programme. The Head of the department will send the proposal to all the Heads of the concerned departments for circulation among their colleagues for probable induction to any programme. Interested HODs circulate the content among BoS members for inclusion to their programme. On recommendation of BOS and PGC, the proposed Postgraduate course will be offered after obtaining the approval of the Academic Council.

B.4 Discontinuation of Course

Any postgraduate course, which is not offered for three consecutive years, may be discontinued. The Head of the concerned department can request in writing to the Chairperson, PGC to delete such a course from the list of approved courses of the department. The Academic Council on the recommendations of the Chairperson, PGC, will approve discontinuation of the course.

B.5 Modification of the course

All Postgraduate courses require the approval of the Academic Council for any modification in it. Any modification of a course requires the concurrence of the Head of the department offering the course. Concerned faculty member propose the modification of the course, forward the same thru the HOD offering the course. The modification with the concurrence of all Heads of the concerned departments, will be forwarded to BOS for the recommendation. The proposed changes with the recommendation of BOS will be sent to Chairperson, PGC. The Academic Council on the recommendations of the Chairperson, PGC, will approve the modification of the course.

ANNEXURE- C

POSTGRADUATE PROGRAMMES

C.1 Approval of a Programme

A Postgraduate programme requires the approval of the Governing Council before it is offered. An interested will propose a programme . He/She will send the proposal to all the Heads of the departments for circulation among their colleagues to elicit their comments and suggestions. One copy shall be sent to the Chairperson, PGC. The proposal is discussed in Academic Council and if agreed in principle, a Board of Study for the programme is constituted as per Annexure 'A'. The programme curriculum and syllabus is framed by BOS with the concurrence of all other departments offering various course for the programme. The proposal with the concurrence of supporting departments is submitted to Academic Council with the recommendation of PGC. The proposed Postgraduate programme will be offered after obtaining approval from the Governing Council on the recommendations of the Academic Council.

C.2 Discontinuation of Programme

Any postgraduate programme, which is not offered for three consecutive years, may be discontinued. The Head of the concerned department may request in writing to the Chairperson, PGC to remove such a programme from the list of approved programmes of the department. The Governing Council on the recommendations of the Academic Council may approve discontinuation of the Postgraduate Programme.

C.3 Modification of the Programme

Modification of a programme means addition/deletion/replacement of core courses or changing the structure of the programme. Any change affecting more than 50% of the course content shall be treated as a major change and shall require the approval of the Full Academic Council before the modified programme is offered. Minor changes can be incorporated with the approval of Internal Academic Council.

The Head of the concerned department will propose modification of a programme with the recommendation of respective Board of Studies and send the proposal to all the Heads of the other concerned departments for circulation among their colleagues to elicit their comments and suggestions. One copy shall be sent to the Chairperson, PGC. PGC shall evaluate whether the change is major or minor. The proposed modifications require the approval of HODs of concerned departments regarding the courses offered by them. Case is forwarded to academic council with the recommendation of Chairperson PGC.

The minor modifications are incorporated in the programme with the approval of Internal AC; and major modifications with the approval of Full AC on recommendation of Internal Academic Council.

ANNEXURE- D

CONDUCT AND EVALUATION OF LABORATORY/PRACTICAL COURSES.

D.1. INTRODUCTION

A laboratory/practical course for M.Tech / M.S / MSc programme can be offered as either a 'Full Fledged Laboratory Course' or 'Lab Course as a part of theory courses'. The following sections discuss the procedure for conduct and evaluation of such laboratory / practical courses.

D. 2. MARKS FOR LABORATORY COURSES

D.2.1. An independent Lab course is normally having 4 contact hours per week or more and will be evaluated out of 50 marks. A 2-hr-per-week lab work can be proposed as a part of theory course. Even if the lab work is done to support the theory class, 4-hr-per-week or more, the lab work is to be proposed as a separate lab course,.

D.2.2. Simple demonstration/ experiments to enhance the theoretical understanding with one hour per week or less can be carried out at the discretion of the instructor, no marks awarded separately for Lab work. Internal evaluation is to be carried out by the instructor and the marks are to be included in the internal assessment marks.

D.2.3. For an M.Tech programme, there should not be more than one laboratory course per semester, however there is no restriction for laboratory work as a part of theory course.

D.3. EVALUATION OF FULL FLEDGED LAB COURSE

D.3.1. Lab course shall be evaluated at the end of every semester out of **40** marks.

There is no mid-semester examination for such courses. Remaining **10** marks are awarded by the instructor considering the over all performance of the student in the lab through out the semester.

D.3.2 COE will schedule practical Exam immediately after the theory examinations. The practical examination will be conducted by the department offering the course. The department may conduct the examination in a day or two depending on the availability of the lab and intimate the COE about the schedule of the examination.

D.3.3. Evaluation is carried out by two examiners proposed by the HOD offering the course. One is the instructor and other is a faculty member from a sister department as proposed by Head of the Department offering the course. No separate invigilators will be detailed for the examination by the COE other than the examiners.

D.3.4. The distribution of marks out of 40 for the examination will be distributed for **Lab Records, Viva and experiment** and distribution to be reflected in the question paper.

D.4. LAB COURSES AS A PART OF THEORY COURSES

D.4.1. In case the lab work is part of a theory course, the theory and practical/Lab exams to be conducted and evaluated separately .

D.4.2. Such courses will have no internal marks and the practical mark to be submitted out of 20% of the total mark. A rigorous internal practical examination is conducted by the instructor and evaluates the same.

ANNEXURE- E

GUIDELINES REGARDING THESIS PREPARATION

E.1. INTRODUCTION

E.1.1 Purpose

This annexure gives the general and specific requirements regarding thesis preparation including guidelines for the arrangement of contents. In the matter of style, structure and presentation of the thesis, students may refer to additional manuals or reference guides (some of which are listed below) and to the published literature in their respective fields of study.

E.1.2 Manuals or Reference Guides

- (i) Michaelson, H.B. "How to write and Publish Engineering Papers and Reports", ISI Press, Philadelphia, 1984.
- (ii) Turner, R.P. "Technical Report Writing", Rineheart Press, San Francisco, 1971.
- (iii) Turk, C. and Kirkman, J."Effective Writing" E&F,N.Spon, London, 1982.
- (iv) Compbell, W.G. and Ballon, S.V. "Form and Style, Thesis Reports and Term Papers", Houghton Mifflin Co.,Boston, 1974.
- (v) "Publication Manual" of the American Psychological Association Washington, 1983.

E.1.3 Thesis Submission

E.1.3.1 For purposes of thesis examination the number of thesis copies (loose / spiral bound) to be submitted to the COE is not less than the number of examiners (including thesis supervisors) for an M.Tech. degree student.

E.1.3.2 In addition to various existing requirements for thesis submission, such as submission of list of examiners, additional copies of synopsis/abstract, students and their thesis supervisors should ensure that the specifications and guidelines have been adhered to.

E.2. SPECIFICATIONS FOR THESIS FORMAT

E.2.1 Preparation of Manuscript and Copies

E.2.1.1 The thesis may be printed in black on a laser printer on white bond paper of A4 size 297mm X 210mm.

E.2.1.4 All copies of thesis pages, including photocopies must be clear, adequately dark and even, with uniformly sized and spaced characters, lines and margins on every page of good quality bond paper.

E.2.1.5 Thesis should be free from typographical errors, over writings, strikeovers, interlineations or crossed letters or words. Corrections should not be made in ink or with opaquing fluid. If a neat eraser or correction can not be made, the page should be retyped. Use of tape for patching or covering is not acceptable.

E.2.2 Size and Margins

E.2.2.1 The details of paper size, margins, letter font & size to be used in preparation of the thesis text is as follows

Paper Size : A4 size (Height 297 mm and width 210 mm)

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Printing	: Single sided
Fonts	: The standard font shall be Times New Roman of 12 pts with 1.5 line spacing
Top margin	: 30 mm
Text height	: 245 mm
Left margin	: 30 mm
Text width	: 160 mm
Footer	: 3 mm
Foot separation	: 10 mm

E.2.2.3 Typing should not extend beyond the bottom margin except for completing a footnote, last line of a chapter/subdivision or figure/table caption.

E.2.2.4 A sub-head at the bottom of the page should have at least two full lines of type below it. If the sub-head is too short to allow this, the sub-head should begin on the next page.

E.2.2.5 All tables and figures should conform to the same requirements as text. If they are large they may be reduced to the standard size (provided the reduced area is not less than 50% of the original) and/or folded not more than once flush with the thesis margin (if page size does not exceed 250 x 360 mm).

E.2.3 Page Numbering

E.2.3.1 Beginning with the first page of the text of the thesis (chapter 1), all pages should be numbered consistently in Arabic numerals at the center of the footer throughout the thesis, including appendices. Page number 1 for the first page of the Introduction chapter shall not appear in print, only the second page will bear the number 2.

E.2.3.2 The subsequent chapters shall begin on a fresh page.

E.2.3.3 Page indications before Chapter 1 should be done in lower case Roman numerals. The title page is considered to be page i, but the number is not typed.

E.2.4 Tables, Figures and Equations

E.2.4.1 All tables (tabulated data) and figures (charts, graphs, maps, photographs, diagrams etc.) should be prepared wherever possible on the same paper used to type the text and conform to the specifications mentioned earlier. They should be inserted as close to the textual reference as possible.

E.2.4.2 If tables and figures are of size half a page or less, they may appear on the same page as text but separated above and below by triple line spacing.

E.2.5 Format for Paragraph, Chapter & Section

E.2.5.1. The Format for to be used for each paragraph of a chapter will be as follows

- a) Vertical space between paragraphs : 2.5 line spacing.
- b) The first line of each paragraph should normally be indented by five characters or 12mm.
- c) A paragraph should normally comprise more than one line.
- d) The word at the right end of the first line of a page or paragraph should, as far as possible, not be hyphenated.

E.2.5.2. The Format for to be used for each Chapter of the thesis will be as follows

- a) Each chapter shall begin on a fresh page with an additional top margin of about 75 mm.

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- b) Chapter number (in Arabic) and title shall be printed at the center of the line in 6 mm font size (18 pt) in bold face using both upper and lower case.
- c) A vertical gap of about 25 mm shall be left between the Chapter number and chapter title lines and between chapter title line and the first paragraph.

E.2.5.3. The Format for each section of the chapter will be as follows

- a) A chapter can be divided into Sections, Sub-sections and Sub-sub-sections. Sections and sub-sections can be numbered using decimal points, e.g., 2.2 for the second Section in Chapter 2 and 2.3.4 for the fourth Sub-section in third Section of Chapter 2.
- b) Chapters, Sections and Sub-Sections shall be included in the Contents with page numbers flushed to the right.
- c) Further subsections need not be numbered or included in the contents.
- d) The Sections and Sub-sections titles along with their numbers in 5 and 4mm (16 and 14 pt) fonts, respectively, in bold face shall be flushed to the left (not centered) with 15 mm space above and below these lines. In further subdivisions character size of 3 and 3.5 with bold face, small caps, all caps and italics may be used for the titles flushed left or centered. These shall not feature in the contents.
- e) As far as possible tables and figures should be presented in portrait style. Small size table and figures (less than half of writing area of a page) should be incorporated within the text, while larger ones may be presented in separate pages.

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- f) Table and figures shall be numbered chapter-wise. For example, the fourth figure in Chapter 5 will bear the number Figure 5.4 or Fig.5.4. Table number and title will be placed above the table while the figure number and caption will be located below the figure.

E.2.6 Binding

The student should submit the copies of the thesis in a fully bound form (soft cover). The binding should be done as per the format below :

- a) The thesis shall be hard cover bound in leather or rexin of Black Color (For M.Tech./M.S. Dissertations)
- b) The front cover shall contain the following details :
- Full title of thesis in 6 mm 22 point's size font properly centered and positioned at the top.
 - Full name of the candidate in 4.5 mm 15 point's size font properly centered at the middle of the page.
 - A 40 mm dia replica of the Institute emblem followed by the name of the Department, name of the Institute and the year of submission, each in a separate line and properly centered and located at the bottom of the page.
 - All lettering shall be embossed in gold.
 - The degree, the name of the candidate and the year of submission shall also be embossed on the bound (side) in gold.
 - In addition to the white sheets (binding requirement) two white shall be put at the beginning and end of the thesis

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After the acceptance of the thesis, it is the student's responsibility to get the thesis properly bound for depositing the copies in the Central Library and the department concerned.

E.3. GUIDELINES FOR ARRANGEMENT OF CONTENTS

E.3.1 Sequence of Contents

The following sequence for the thesis organisation should be followed:

- | | | |
|-------|--------------------|--|
| (i) | Preliminaries | Cover Page
Title Page
Dedications (where Included)
Approval Sheet
Certificate of Course Work
Declaration
Acknowledgement
Abstract
Table of Contents
List of Figures, List of Tables,
Symbols, etc. (wherever applicable) |
| (ii) | Text of Thesis | Introduction
The body of the thesis, summary
and Conclusions |
| (iii) | Reference Material | List of References
Bibliography (where included) |
| (iv) | Appendices | Where included |
| (v) | Index | Where included |

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All the Headings, Certificates, Abstracts, Acknowledgements, Table of Contents, Chapter Headings, etc. are centred without punctuation at the top of the page 25 mm down the top edge. The subsequent typing begins four spaces below the heading.

E.4. CONCLUDING REMARKS

This thesis guide gives only the basic requirements for thesis preparation. Over and above the aforementioned points, a thesis should be easy and pleasant to read both in its appearance and presentation. Several aspects of thesis preparation, particularly style of writing and presentation, have not been discussed in much detail in this document. The student should glean appropriate ideas from standard literature of his/her area of research, and adopt a uniform style and format throughout the thesis, such as in the structural divisions/subdivisions of the thesis, in the mode of citing references and foot-noting in the text, in using dimensions, units and notations, and in preparing tables and figures etc.

ANNEXURE- F

RULES & REGULATIONS - **MASTER OF SCIENCE (M.S) (BY RESEARCH)**

F.1. INTRODUCTION

The institute offers *Master of Science (MS) (by research)* programs in various disciplines of science and engineering technology. A candidate who is with a Bachelor's degree in Engineering/Technology or Master degree in Science from a recognized Institute or University approved by the academic council is eligible to apply for the Master of Science by Research (M.S.). A candidate who has qualified for the award of the M.Sc. degree in basic Sciences from a recognised Institute or University in the discipline approved by the Academic Council is also eligible to apply for the M.S Programme.

F.2. ADMISSION

F.2.1 Categories of Admission

Candidates will be admitted to the M.S. by research Programme in Engineering of the Institute under one of the following categories:

- a) Regular full-time scholars
- b) Staff members
- c) Sponsored candidates under the external registration programme sponsored by DRDO / Industry/ Institute/ Defence Services / organisation having adequate R & D facilities and recognized by DIAT.

(A research scholar under the external registration programme will normally carry out part or all of his/her research work in the industry/Institute/organization employing the scholar under the supervision of a co-guide employed in the same

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organization and a guide at DIAT. The candidate must have at least two years work experience to be considered under External Registration Programme).

F.2.2 Eligibility

F.2.2.1. Minimum Educational Qualifications

The minimum educational qualifications for admission to the M.S. by research programme are as follows:

F.2.2.2 Regular Full-Time Scholars

a) Candidates with a Bachelor's degree in Engineering / Technology with valid GATE score or a Master's degree in appropriate Sciences with a good academic record and a valid GATE score or CSIR/UGC NET qualification tenable for the current year in the relevant areas.

b) Candidates having Associate Membership of the following professional bodies will also be eligible for admission to the M.S. programme of their parent discipline provided they have a valid GATE score and have passed both part A and part B of the Membership examinations with a good academic record. :
The Institution of Engineers (India) (Civil, Mechanical, Electrical and Electronics, Electronics and Communications), The Aeronautical society of India, The Indian Institute of Metals, The Indian Institute of chemical Engineers, The Institute of Electronics and Telecommunication Engineering.

F.2.2.3 Institute staff members/ Sponsored candidates under the external registration programme

Same as specified for regular full time candidate as per F.2.2.2 (a) and (b), but are exempted from GATE / NET qualification.

Additional and stiffer criteria than the minimum educational qualifications given above may be set by the Selection Committee from time to time for short listing candidates to be called for interview and or test.

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F.2.2.4 Admission to a Department other than that of Discipline of Candidate

The Selection Committee may consider meritorious candidates from disciplines other than that of the department if there is a good match between the educational/research background of the candidate and the proposed area of research.

F.3. SELECTION PROCEDURE

Eligible candidates possessing the minimum educational qualifications, and satisfying additional criteria set by the departments from time to time, will be called for an Interview and / or Test by Selection Committee appointed by the Vice Chancellor.

F.4. ADMISSION

a) Candidates whose selection is approved by Academic Council will be admitted to M.S programme after payment of prescribed fees.

b) Ordinarily, a candidate is not eligible for re-registration for M.S. after cancellation of his/her earlier registration for any reason. Based on the merits of the individual case, and taking into consideration any special circumstances, a candidate may be considered for re-registration.

F.5. CHOICE OF GUIDE

a) Allotment of research scholars to guides will be made by the Head of the Department taking into consideration the research profile of the department and the preferences of the research scholars and guides.

b) There shall be not more than two guides for a research scholar.

F.6. ELIGIBILITY FOR BEING GUIDES

The following may be a guide for a M.S. scholar:

- a) All faculty members of the Institute.
- b) Members from other Academic Institutions, Research Labs, Industries (having relevant work experience) on approval of the Academic Council based on recommendations of the PG Committee.

F.6.1 Continuance of retired faculty members/emeritus faculty as guides.

F.6.1.1. When a faculty member, who has guided a candidate for at least 2 years, retires, he shall be permitted to continue as guide. However, a co-guide who is in service will be appointed in addition. The guide who has retired will be invited for the General Test Committee meetings, synopsis meeting and the viva-voce examination.

F.6.1.2. A faculty member who is to retire within 2 years may be permitted to become a guide to a new scholar with another faculty member who is not likely to retire within 3 years as co-guide at the time of registration itself. On retirement, the faculty member will continue to be a guide and will be invited to the General Test Committee meetings, synopsis meeting and the viva-voce examination.

F.6.1.3. In case a faculty member who is a guide goes on leave exceeding one year duration another faculty member will be identified to become a co-guide of the research scholar.

F.6.1.4. The General Test Committee of a research scholar may recommend change of guide or appointment of a co-guide for valid reasons.

F.7. GENERAL TEST COMMITTEE OF THE DEPARTMENT

F.7.1. A General Test Committee is constituted in every department offering MS programme for monitoring and evaluation of the academic and research progress of the MS student affiliated to the department. The departmental GTC will consist of the Head of the Department as the Chairman, MS Guide (s) in the departments, one faculty member from allied department nominated by Vice Chancellor as members. (If HOD is the only guide, one other faculty member nominated by the HOD will be a member). Committee is constituted once the department plans to offer MS programme, on recommendation of HOD and approved by Vice Chancellor.

F. 7. 2 In case any member goes on leave exceeding one year duration, or resigns or retires from the Institute, the Vice Chancellor or his nominee will nominate another member on the suggestion of the Chairman, General Test Committee.

F.8. REGISTRATION & COURSE WORK

F.8.1 The General Test Committee will meet normally within a week of being constituted, where the research scholar will make a presentation. The General Test Committee will consider the proposed research topic and prescribe the courses of study in this meeting.

F.8.2 The student has to successfully complete 5 courses with 100 marks each and a seminar course as a part of his/her MS programme.

F.8.3 The General Test Committee will prescribe the courses considering the background of the student and the proposed research area. In addition to above courses the M.S. Research scholar will present a seminar on a topic leading to the research problem to be pursued after the course work. This seminar will be evaluated for 50 Marks. The General Test Committee may prescribe additional

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courses for research scholars wherever found necessary. No course waiver will be permitted for the M.S. programme.

F.8.4 The course work and seminar to be completed within two semesters of registration to the MS programme.

F.8.5 M.S. research scholars admitted to the programme shall obtain a minimum of 40 % marks in every course. If more than the minimum required electives have been taken, only the electives with the best performance will be considered for computing the total marks.

F.8.6 It shall be open to the General Test Committee to permit or not to permit a research scholar to take optional courses in view of research work. The optional courses will not count towards the requirements of M.S. Programme. The marks obtained in these courses will be mentioned in the transcript.

F.9. PROGRESS REPORT

F.9.1 A research scholar shall, after registration, submit a written report every semester in the prescribed format. The report should be routed through the guide to the Head of the Department, for consideration of the General Test Committee.

F.9.2. The progress made by a research scholar shall be reviewed by the General Test Committee once every semester. Continuance of registration, and award/continuance of scholarship will be based on the recommendation of the General Test Committee. In the case of research scholars under the external registration programme, the General Test Committee will pay particular attention to the quantum of effort put in by the scholar towards M.S Studies. Inadequacy of effort can be a reason for cancellation of registration.

F.10. SEMESTERLY ENROLLMENT

All research scholars who are in residence and whose registration for research degree is still in force are required to register in person each semester on the stipulated date till the submission of thesis, on payment of the requisite fees. Those not in residences may enroll in absentia, on payment of the requisite fees.

F.11. MINIMUM RESIDENTIAL REQUIREMENT

F.11.1. The minimum period of study and research required at the Institute from the date of registration for M.S. Programme to the date of submission of M.S. thesis shall be 24 months for all regular full time M.S research scholars.

F.11.2. The minimum period of research required from the date of completion of course work of M.S. Programme to the date of submission of M.S. thesis shall be 24 months for all M.S scholars registered under External Registration programme.

F.11.3. The minimum residential requirement for M.S research scholars under external registration or M.S research scholars working on a part-time basis not employed in the Institute is one semester.

F.12. RELIEF FROM M.S. PROGRAMME TO TAKE UP JOB

M.S. research scholars who get job offer can get relief from the programme, while keeping their registration alive on payment of the requisite fees every semester, on the following conditions:

i. Scholars who take up jobs will be relieved on their request, based on the recommendations of General Test Committee, if they have completed their (a) minimum residential requirement and (b) course work.

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ii. The renewal of their registration for every year/semester will be considered only if the General Test Committee finds his/her progress to be satisfactory and recommends continuance of registration.

F.13. MAXIMUM DURATION OF PROGRAMME

M.S. Research Scholars shall submit thesis within Three years from the date of registration. The General Test Committee may extend the period of submission of the thesis by up to 1 year for regular full time research scholars with an additional year for research scholars who are staff members of the institute and research scholars under external registration.

F.14. CANCELLATION OF REGISTRATION

F.14.1. The registration of a research scholar whose progress is not found to be satisfactory by the General Test Committee or who has not enrolled is liable to be cancelled.

F.14.2. The registration of a research scholar who has not submitted his/her thesis before the end of the maximum permissible period will be cancelled.

F.16. SYNOPSIS OF THESIS

F.16.1. On satisfactory completion of the prescribed courses and research, research scholars under the M.S. Programme, shall submit to the Head of the Department through their guide(s) 6 copies of the Synopsis of the research work for consideration of the General Test Committee.

F.16.2. Prior to the submission of the synopsis, research scholars are required to give at least one seminar talk on the topic of their research work(over & above the one given as part of course work), which will be evaluated by the General Test Committee.

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F.16.3. Research scholars are expected to publish the results of their research before submission of their thesis.

F.16.4. The research scholars shall present Synopsis before the General Test Committee. The General Test Committee will, if it approves the work reported in the synopsis, permit the research scholar to submit the thesis and recommend a panel of at least six thesis examiners from outside the Institute.

17. SUBMISSION OF THESIS

The research scholar shall, within three months of acceptance of the synopsis, submit the requisite copies of the thesis and abstract of the thesis as stipulated.

The General Test Committee may grant additional time beyond three months, on request from the scholar for valid reasons.

18. PANEL OF EXAMINERS

The thesis of the research scholars shall be referred to two external examiners from outside Maharashtra, preferably from IITs/IISc/NITs/Central Universities; chosen by the Vice Chancellor or his nominee from among the panel of examiners recommended by the General Test Committee.

19. THESIS REPORT

F.19.1. The examiner is expected to send the report on the thesis within six weeks from the date of receipt of the thesis.

F.19.2. In case of undue delay in receiving the thesis report, the Vice Chancellor or his nominee shall appoint another examiner in his place for evaluating the thesis.

F.19.3. If one of the two thesis examiners declare the thesis as not commended the thesis shall be referred to a third examiner from the panel for his evaluation.

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F.19.4. If an examiner suggests resubmission of the thesis, after revision, the research scholar will be allowed to resubmit the thesis within the time stipulated by the General Test Committee failing which the revised thesis will not be accepted and his/her registration will be cancelled.

F.19.5. If two examiners, after referral to a third examiner, if necessary, report the thesis as not commended the General Test Committee will meet to decide the future course of action, which may include changing the scope of the research work or cancellation of registration of the scholar (in case the poor quality of work is due to compulsory negligence on part of the student).

F.19.6. On approval of the thesis report by both the external examiners, the viva voce board will conduct the viva voce examination and recommend the award of degree of M.S (by Research) to the scholar, with a certificate that the performance of the research scholar in the viva voce was found to be satisfactory and that the corrections/revisions suggested by the examiner(s) have been incorporated in the thesis.

F.19.7. In all other cases, not covered by the above regulations the matter will be referred to the General Test Committee for consideration.

F.20. VIVA VOCE BOARD

F.20.1. The viva voce board shall comprise of the Chairman, GTC, Guide and one of the thesis examiners.

F.20.2. The viva voce board will examine the scholar on his/her thesis work and evaluate his/her performance as satisfactory or otherwise.

F.20.3. If the report of the viva voce board declares the performance of the research scholar as not satisfactory, he/she may be asked to reappear for viva voce

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at a later date (not earlier than a month and not later than six months from the date of the first viva voce).

F.20.4. If the viva voce board on the second occasion also evaluates the performance of the research scholar as not satisfactory, the matter will be referred to the Academic Council for a decision.

F.20.5. The viva voce board may also recommend revision to be made in the final version of the thesis after taking into consideration, suggestions of the examiners who evaluated the thesis and the discussion at the oral examination.

F.20.6. The Chairman of the viva voce board (who is also the chairman of General Test Committee) shall certify that the revisions recommended by the viva voce board, if any, have been incorporated in the copy of the thesis report.

F.20.7. All the research scholars shall submit one copy of the final form of the thesis in A4 size and an electronic version in pdf format after the General Test Committee or the viva voce board recommends the award of the degree.(The research scholars may prepare additional copies for submission to guides, library etc)

F. 21. AWARD OF M.S. DEGREE (BY RESEARCH)

On the recommendation of the General Test Committee/viva voce board and on approval of the Academic Council of the Institute the research scholar will be awarded the M.S. degree (by research).

F.22. POWER TO MODIFY

Notwithstanding all that has been stated above, the Academic Council has the authority to modify any of the above Regulations from time to time.

ANNEXURE- G

SELF STUDY COURSES

For the M.S programmes, the student may require to undergo course work on courses not offered in the regular curriculum at DIAT. Such courses can be offered as 'Self Study' Courses to the students.

G.1. Courses for Self Study

Self Study Courses are offered subject to the following :

G.1.1. The courses are generally theoretical in nature and have no practical content.

G.1.2. Syllabus of each course is to be vetted and approved by the GTC for the particular candidate.

G.1.3. For every self study course, a faculty member from the Institute will be identified by the GTC, who shall agree to monitor and evaluate the progress of the student and award internal marks.

G.1.4. The self study courses will have only end-semester examination with 80% weightage and 20 % will be out of internal evaluation.