

INDIAN INSTITUTE OF TECHNOLOGY BOMBAY

RULES AND REGULATIONS

**M. Tech./M. Phil./M. Des./
M. Mgt./DIIT Programme**



Academic Office

**M.TECH., M.PHIL.,M.DES.,M.MGT.,DIIT PROGRAMME
STRUCTURE AND RULES.**

Preface

Academic Programmes of the Institute are governed by Rules and Regulations as approved by the Senate, which is the highest Academic body of this Institute. The Senate continuously monitors these programmes and makes appropriate modifications/improvements from time to time. This booklet gives comprehensive information on the existing Rules & Regulations about the M. Tech./M. Phil./M. Des./M. Mgt./DIIT Programmes.

The academic system is semester based and hence the students are required to follow certain procedures and meet certain academic requirements each semester.

It is in the interest of the student that he/she should be fully familiar with the academic systems of this Institute. Particular attention should be paid to the schedule and structure of coursework and project work, the assessment procedure and the rules governing conduct and assessment of these activities.

The academic performance is monitored by the **Postgraduate Academic Performance Evaluation Committee (PGAPEC)**, which also reviews status of individuals after reviewing their performance.

PROGRAMME COMMITTEES

The Institute offers Prof. Emeritus, NIAS Postgraduate Programmes in various areas (Table-1). The following sections provide the details of the programmes and set of rules governing them.

In order to keep pace with the rapid developments in science and technology and also to keep in view the requirements of the nation and the aspirations of students, it is imperative that the academic programmes of the Institute are reviewed continuously. The **Postgraduate Programmes Committee (PGPC)** is entrusted with this responsibility. It deliberates upon academic proposals received from the various **Departmental Postgraduate Committees ((DPGCs), Interdisciplinary Programmes Committees (IDPCs), School Postgraduate Committees (SPGCs) and Postgraduate Committees for Centre (PGC's)**. Based on its deliberations, it makes suitable recommendations to the Senate for its approval.

FACULTY ADVISORY SYSTEM

The advisory system plays a very important role in a flexible curriculum of the type offered under the various programmes of the Institute. The choice of courses being very wide, and considerable flexibility in these programmes being a characteristic feature, students normally need guidance to formulate a meaningful and well-knit programme. On joining the Institute each student is assigned a Faculty Advisor or a group of Faculty Advisors. He/She is expected to consult his/her Faculty Advisor on all matters relating to his/her in-semester and end-semester academic performance and the course workload he/she may take in the particular semester. The students are advised to contact the Faculty Advisors for advice about courses within the framework of the norms laid down for the purpose. For the student's project, his/her supervisor automatically becomes a Co-faculty Advisor and often takes over most of the role played by the Faculty Advisor after the Supervisor-student assignment is made. For further registration for courses, the students should consult their project supervisor also.

Table 1 gives the various programmes and specializations, which are available at the Institute.

Table 1
M.TECH., M.PHIL., M.DES., M.MGT. and PGDIIT PROGRAMMES

Programme	Specialization	Offered by Dept/ IDP/ Centre/ School
<u>M.Tech.</u>		
Aerospace Engineering.	1. Aerodynamics 2. Aerospace Propulsion 3. Aerospace Structures	Aerospace Engineering.
Chemical Engineering	--	Chemical Engineering.
Civil Engineering.	1. Transportation Systems Engineering 2. Geotechnical Engineering 3. Water Resources Engg. 4. Structural Engineering 5. Remote Sensing	Civil Engineering.
Computer Sc. & Engg. PGDIIT	--	Computer Sc. & Engg. -do-
Earth Sciences	1. Geoexploration 2. Petroleum Geoscience	Earth Science
Electrical Engineering.	1. Communication Engg. 2. Control & Computing 3. Power Electronics and Power Systems 4. Microelectronics 5. Electronic Systems	Electrical Engineering.
Energy Systems Engg.	--	Energy Science & Engg.
Mechanical Engineering.	1. Thermal & Fluids Engg. 2. Design Engineering 3. Manufacturing Engineering 4. Nuclear Engineering	Mechanical Engineering.
Metallurgical Engineering. & Science	1. Materials Science 2. Process Engineering 3. Steel Technology 4. Corrosion Sc. and Engg.	Met. Engg. & Mat. Materials Science
Biomedical Engg	--	School of Biosciences and Bioengineering

Programme	Specialization	Offered by Dept/ IDP/ Centre/ School
Industrial Engineering and Operation Research	--	Interdisciplinary Group of Industrial Engg. & Operation Research
Systems & Control Engg.	--	Interdisciplinary Group of Systems & Control Engg.
Environmental Sc. & Engg.	--	Centre for Environmental Sc. & Engg. (CESE)
Natural Resources Engineering.(upto 2009 Batch) Geoinformatics and Natural Resources Engineering (for batches admitted to the Programme from Academic Year 2010-11 onwards)	--	Centre for Studies in Resources Engineering (CSRE)
Centre for Technology Alternatives for Rural Areas	Technology and Development	Centre for Technology Alternatives for Rural Areas (CTARA)
Cross Departmental M.Tech Programme	Materials, Manufacturing & Modelling	Metallurgical Engineering and Materials Science (MEMS) Mechanical Engineering Mathematics

M.Phil.

Humanities & Social Sc.	Planning & Development	Humanities & Social Sciences
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M.Des.

	Industrial Design Visual Communication Animation Interaction Design Mobility and Vehicle Design	Industrial Design Centre
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M.Mgt.

Master of Management	--	SJM School of Management
DIIT	--	-do-

M. TECH. AND M. PHIL. PROGRAMMES

These programmes are of a two-year duration. The total minimum credit requirement for the entire programme varies from one programme to another (i.e. the M.Tech Programme of Department 'A' may be different from the Department 'B'), and may be in the range of 156-170 credits. Each programme is managed as per the Institute rules by a Programme Committee (PC) set up by Department/ School/Centre/Interdisciplinary Group, offering the programme.

The total credits are divided between course credits and the M.Tech/ M.Phil project credits, as specified by the individual Programme Committees(PCs). Course credits include theory courses, laboratory courses, seminars and other academic work like practical training, field visits, etc. as specified by the PCs. To enhance interdisciplinary content, one Institute Elective course has been made mandatory for all students, wherein students will select a course from a list of courses specified from time to time. Apart from this, one course on Communication Skills is compulsory for all students. A programme may have a mix of compulsory and elective courses.

The common framework of the programmes incorporates sufficient flexibility, both at the individual programme level and the student level. All academic work associated with the programmes, including those, which carry a PP/NP grade, carry credits commensurate with the quantum of work.

Students with adequate background may be permitted by PCs to replace 6 or 12 course credits with R&D projects (distinct from M.Tech/M.Phil project). If the option is for 12 credits, it can either be taken together in one semester or split into two projects of 6 credits each, taken in two semesters. One cannot register for more than 6 R&D project credits in the first semester. The projects will be evaluated as per norms set by each PC and will be awarded letter grades.

Another important feature of the programme is the concept of a 'minor' wherein a student can utilize electives into a focused group of courses in another discipline. A minor will consist of a minimum of 18 course credits. This may include a maximum of 6 credits of R&D project. The Programme committees are required to prescribe and approve the structure of the minors to be offered.

Table 2 gives, as an example, the structure of the M.Tech. Programme for the hypothetical Department. The credits are distributed over 4 semesters. The second and the fourth semesters include the immediately succeeding summers, and hence have higher credits. There should be a minimum of three theory courses in the first semester. Other courses may be spread over the next three semesters. The project work, done in two stages, is distributed in semesters 2, 3 and 4.

Please see the bulletins of various departments/centers/schools & Interdisciplinary groups for details of their programmes.

Table 2
A Typical M.Tech./ M.Phil. Programme Structure:

Credits	Sem I	Sem II	Sem III	Sem IV	Total
Course Work					
Core Courses	18	6	--	--	24
Elective	12	12	--	--	24
Institute Elective	--	6	--	--	6
Courses outside Dept.	--	--	--	--	--
Lab Course	4	--	--	--	4
Seminar	4	--	--	--	4
R&D Project	--	6	--	--	6
Communication (P/NP)	--	+4	--	--	+ 4**
(** not included in total)					
Training (P/NP)	--	--	--	--	--
Course Total	38	30+4	--	--	(64+4) 68
Project	--	--	48 *	42	90
Total	38	30(+4)	48	42	158 (+4)

*Registration will be done in II Semester (January)

** For Communication Skills Course

M.DES. PROGRAMME

(Industrial Design, Visual Communication, Animation, Interaction Design and Mobility & Vehicle Design)

Industrial Design Centre offers a 2-year programme leading to Master of Design degree (M.Des.) in Industrial Design, Visual Communication, Animation, Interaction Design and Mobility & Vehicle Design .

The first two semesters in the first year consist of theory courses and learning/instruction-oriented projects. The second year is largely spent on design projects. Depending on their interest, the students choose elective courses in the 3rd semester. In the last two semesters, the students undertake three application-oriented projects of varying duration and complexity. The schedule of projects and seminars for students of this programme is given in Table 3.

Table 3

Semester wise Credits structure for Industrial Design

Semester	Credit for Courses		Credit for Project			Total
	Dept. courses	Other electives	I	II	III	
First Semester	26	12				38
Second Semester	22	12				34
Third Semester	10	12	6	18		46
Fourth Semester	6					
Project (III) Stage 1					12	42
Project (III) Stage 2					24	
Total	64	36	6	18	36	160

Semester wise Credits structure for Visual Communication

Semester	Credit for Courses		Credit for Project			Total
	Dept. courses	Other electives	I	II	III	
First Semester	26	12				38
Second Semester	22	12				34
Third Semester	10	12	6	18		46
Fourth Semester	6					
Project (III) Stage 1					12	42
Project (III) Stage 2					24	
Total	64	36	6	18	36	160

Semester wise Credits structure for Animation

Semester	Credit for Courses		Credit for Project			Total
	Dept. courses	Other electives	I	II	III	
First Semester	26	12				38
Second Semester	22	12				34
Third Semester	10	12	6	18		46
Fourth Semester	6					
Project (III) Stage 1					12	42
Project (III) Stage 2					24	
Total	64	36	6	18	36	160

Semester wise Credits structure for Interaction Design

Semester	Credit for Courses		Credit for Project			Total
	Dept. courses	Other electives	I	II	III	
First Semester	26	12				38
Second Semester	22	12				34
Third Semester	10	12	6	18		46
Fourth Semester	6					
Project (III) Stage 1					12	42
Project (III) Stage 2					24	
Total	64	36	6	18	36	160

Semester wise Credits structure for Mobility & Vehicle Design

Semester	Credit for Courses		Credit for Project			Total
	Dept. courses	Other electives	I	II	III	
First Semester	26	12				38
Second Semester	22	12				34
Third Semester	10	12	6	18		46
Fourth Semester	6					
Project (III) Stage 1					12	42
Project (III) Stage 2					24	
Total	64	36	6	18	36	160

MASTER OF MANAGEMENT PROGRAMME

Master of Management (M.Mgt.) Programme is a 21 month full-time postgraduate course conducted by the Shailesh J. Mehta School of Management. Most of the courses in the School are organized in a half semester fashion, thus allowing students to complete as many as ten courses in a semester. Students are also allowed to pursue related courses from other departments such as Industrial Engineering & Operations Research, Computer Science and Engineering, and Industrial Design Centre.

Table 4

<i>Semester</i>	<i>Credit for courses</i>		<i>Total</i>
	Core course + Electives	Project	
First Semester	39		40
Second Semester	39		40
Third Semester	24-27	12 (I Stage)	36-39
Fourth Semester	6 + (24-27)	9 (II Stage)	39-42
Total	132-138	21	153-159

PGDIIT (Post Graduate Diploma from IIT Bombay)

- i) Whenever the PGDIIT is proposed from among the existing courses, which are part of the regular M.Tech. Programme of the department, the eligibility criteria should be same as the eligibility to appear for GATE and additional constraints as required by individual departments.
- ii) When the PGDIIT Programme is an independent programme by itself, the eligibility criteria, should be defined by the concerned department based on the focus of the course. (These criteria could be same as the eligibility criteria for taking GATE examination).
- iii) Industrial experience and industry sponsorship need not be mandatory for admission to PGDIIT.
- iv) The admission procedure for PGDIIT programme should be defined by the department (it may, for example, consist of a written test and/or an interview).
- v) Minimum credit requirements should be 58 credits.
- vi) A minimum passing grade (DD) must be prescribed in each course. **The minimum cumulative grade point index (CPI) should be 5.50 for award of the diploma.**
- vii) The PGDIIT programme must include a Seminar (4 credits) or Project (10 credits) as part of the credit requirements.
- viii) Departments may offer specialized PGDIIT programme, where they will prescribe the minimum number of courses from the area of specializations.
- ix) If a candidate fails in a course, a 100 marks re-examination should be given once (a suitable fee for re-examination may be charged). Failure in re-exam should require a repeat (with fresh course fees) or registration in an alternate course.
- x) Situations not covered above will be referred to PGAPEC.

1. GENERAL INFORMATION

A) -1.1 REGISTRATION

- 1.1.1 On joining the Institute every student is required to plan his/her academic programme in consultation with a Faculty Advisory Group of the Department/ IDP/ School/ Centre in which the student is admitted. Details of the academic requirements of this programme and details of courses available are given in the bulletin. **The bulletins are available on the website of each Department.**
- 1.1.2 The registration for each semester is carried out through the computerized "Online Registration" programme. This registration is mandatory for all students, and they must register themselves on the prescribed dates announced from time to time. Every student must register in each semester until he/she completes the programme.
- 1.1.3 All students have to clear the Institute and Hostel dues **before Registration.**
- 1.1.4 If a student does not register for a regular Semester (Autumn or Spring) without prior written permission of PGAPEC, his/her name is likely to be struck off from the

rolls of the Institute and he/she may not normally be readmitted. To obtain prior permission, the student must apply to PGAPEC at least one month in advance of the date of registration.

- 1.1.5 The Faculty Advisory Group is authorized to carry out the course registration and also adjustments as specified later. However, once the student is registered for the project work, the project supervisor also acts as a Co-faculty Advisor and assumes most of the responsibilities of the Faculty Advisor. A student is to register for courses in the beginning of the semester, which is to be done on the dates announced for the purpose.
- 1.1.6 Along with the credit courses, a student is normally allowed to take a maximum of Two Audit courses per semester, with the consent of the Project Guide/Faculty Advisor, as appropriate.
- 1.1.7 A student is not permitted to re-register for a course, which he has undergone and in which he has secured AU, DD or higher grades.
- 1.1.8 Any student who concurrently registers for any postgraduate degree at another organization shall be automatically de-registered at the Institute.

B) Submission of final year mark sheets/provisional certificates of their qualifying degree by the Master's students (Ref: 197th Senate Meeting)

1. All Postgraduate students should ordinarily submit their certificates latest by 30th September /30th January respectively when admitted in the Autumn / Spring Semester of a given academic year, after joining the Institute.
2. The students who are unable to submit their certificate by these dates, should apply for extension along with an undertaking stating the due date for submission, giving proper reasons on a prescribed form to be developed for the purpose.
3. Even if a student does not submit the certificate until the commencement of the Semester end examination, he /she would be allowed to appear in the examination. However, the results of such a student shall be withheld until the required documents are produced.
4. Cases of students who do not submit the certificates after the first semester will be reported to the PGPC and the Senate for further consideration and decisions/actions.

1.2 COURSE ADJUSTMENTS

Within the period prescribed in the Academic Calendar, a student can substitute one or more courses by others. For this purpose the student **has to carry out Course Adjustment** in consultation with his/ her Faculty Advisory Group.

1.3 Institute Electives (Ref. 201st Senate Meeting)

The PGPC shall recommend one list of possible courses, which could be taken by a Mater's student as an Institute Elective, in the routine course of registration. A choice of Institute Elective from among the courses in this list will **not** require special approval from the Faculty Advisor and/ or Dissertation Supervisor, as appropriate, or from the Convener, DPGC/ PGC/ IDPC. However, a Master's student shall **also** be permitted to opt for any other course offered at the Postgraduate level in an academic unit **other than his/her own**, with sufficient credits assigned to it, as an Institute Elective. To exercise this option the **explicit approval** of his/her faculty Advisor and/ or his/ her Dissertation Supervisor, as appropriate, **together with** that of the Convener, DPGC/ PGC/ IDPC of his/her academic unit shall be required.

2. RULES AND REGULATIONS

The rules and regulations governing the M.Tech., M.Phil., M.Des., M.Mgt., and DIIT programmes are given below:

2.1 ADMISSION

MR 2.1.1 (a) STUDENT STATUS

The status of a student could be any one of the following :

1. Institute Teaching Assistantship (TA) – Full-time
2. Teaching Assistantship through Project (TAP) – Full-time
3. Research Assistantship – Part time
 - i) Institute Research Assistantship (RA)
 - ii) Project Research Assistantship (PA)
4. Project Staff (PS) – Part time
5. Institute Staff (IS) – Part time
6. Self-financed students (SF) – Full-time/ Part-time
7. Sponsored (SW) – Full-time/ Part-time
8. Full-time students under QIP/ CSIR/ paid by outside agencies
9. Foreign students with scholarship (Indian Council for Cultural Relations)/ Self-financed

NOTE:

(1) Institute Teaching Assistantship (TA):

A full-time student should complete the Programme within **24 months**. A Full Time student on Teaching Assistantship will receive the Institute Assistantship for the duration of **four** semesters (a maximum of 24 months) of the M.Tech./M.Phil. and M.Des. Programme, provided he/she has cleared GATE/CEED/MET as applicable. However, a B.Tech. student from one of the Indian Institutes of Technology who has obtained a CGPA/CPI greater

than or equal to 8.0 at the time of graduation (on a scale of 10) may be admitted to the M.Tech. Programme with Teaching Assistantship without having to appear in GATE.

Such students are awarded **Teaching** Assistantship on the following condition.

- i) They should not accept any other scholarships/ employments/ financial assistance/ salary etc. awarded through any other sources or shall not hold any appointment, paid or otherwise.
- ii) They are not sponsored by any organization.
- iii) They do not leave the course midway or appear in any competitive examination not related to engineering/technology.
- iv) The present rate of Teaching Assistantship of **Rs. 8000/-** per month is payable for a maximum period of **24 months (M.Tech. and M.Phil.)** and **23 months (M.Des.)**. However the Teaching Assistantship is not payable after the date of final assessment of project.
 - (a) Students getting the assistantship will be required to assist in teaching or research, as assigned by the department, to the extent of 8 hours per week.
 - (b) The continuation of the assistantship will be subject to satisfactory performance of the duties assigned by the Department/Center as well as satisfactory academic performance (see section 5).
 - (c) All M.Tech and M.Phil students will have to complete the programme in 24 months and M.Des students will have to complete the programme in 23 months.

(2) Full-time/Part-time Sponsored Students:

Sponsored candidates who are admitted to the programme should have full financial support from the concerned sponsoring agency, namely, the Govt. Department, organization, industry, etc., for the entire duration of the programme. They can complete the programme on full-time or part-time basis, depending on the nature of sponsorship. Sponsored candidates are not eligible for any Institute Assistantship. Admission to Sponsored candidates will be based on valid GATE score or 2 years of relevant experience and performance in the Written Test and/or Interview.

(3) Full-time students under QIP/CSIR/paid by outside agencies:

The Institute also admits students under the Quality Improvement Programme (QIP) from Engineering Institutes/Colleges approved by All India Council for Technical Education (AICTE). The Institute also admits students who have cleared the Council for Scientific & Industrial Research (CSIR) examination. A few students also get financial support from outside agencies such as Tata Consultancy Services (TCS), Ministry of Non-conventional Energy Sources (MNES), Atomic Energy Regulatory Board (AERB), and so on, as approved by the Institute from time to time.

(4) Full-time/Part-time Self-Financed Student:

The Institute also admits a limited number of students under self-financed category on the basis of their GATE percentile and performance in written test/interview. These students

have to support themselves fully. These students may be permitted to change to the TA category, if vacancies are available.

(5) Project Staff (PS)

This category is for Employees working in a Sponsored Research Project at the Institute.

Candidate to this category will be admitted subject to:

- a) 6 months service in project.
- b) Valid GATE score OR 2 years total experience of which 6 months is in the Project of the Institute.
- c) Performance in Written Test/Interview.

The students joining the programme under this category require to satisfy the following norms:

- a) The candidate under this category will be required to perform duties as assigned by the principal investigator of the concerned project.
- b) They are required to work for up to 20 hours a week.
- c) The duration of this category of the M.Tech. programme is 3 years.

(6) Institute Staff:

The requirements for admission to this category are as follows :

- a) Being a permanent employee of the Institute.
- b) Valid GATE score OR more than 2 years relevant experience.
- c) Performance in Written Test/Interview.
- d) The applicant must have 2-years service left.
- e) Students admitted under this category have to complete M.Tech. Programme in 3 years.
- f) The GATE Score of such candidates must not be lower than 10 percentile points below the cut off applied for General Category applicants.

(7) Foreign Students:

Admissions criteria of foreign students will be on a case-to-case basis and will depend on the details of the programme completed and his/her performance.

(8) Research Assistant (Part-Time):

Depending upon the requirement, each department/center may **admit** a few Research Assistants every year.

- (a) Students who have valid GATE score will be considered for Research Assistantship.
- (b) The amount of Assistantship will be **Rs. 9000/-** per month, with **annual increment of Rs. 1000/-**.
- (c) These Research Assistants have to look after the laboratories and also assist in teaching or research or other work assigned by the Head of the Department.

- (d) They are required to work for about 20 hours a week. They have to complete the PG Programme in **3 years**.

MR 2.1.1 (b) Criteria for admission to M.Tech. programme through CEP

- (a) The admission procedures for the students joining through CEP programme will be same as other regular/sponsored students.
- (b) A candidate should apply to the DPGC through CEP for conversion to M.Tech. after completing **at least 40 credits with minimum 6.5 CPI at the time of application.**
- (c) Professor In-charge, CEP will provide the details of the academic performance of the candidate.
- (d) DPGC/IDPC/PGC should examine the application and see that the courses completed by the candidate in CEP are equivalent to courses recommended for regular M.Tech. Students.
- (e) DPGC/IDPC/PGC should also recommend a time-limit for completion of programme.

MR 2.1.2

Change of student status is permitted, subject to approval of PGAPEC, from one category to another.

Rules for change of categories:

1. Admissions to Institute Teaching assistantship (TA), Institute Research Assistantship (RA), Teaching Assistantship through project (TAP) and Project Research Assistantship (PA) categories are on competitive basis and based on valid GATE score.
2. Candidates admitted to Institute Research Assistantship (RA), Teaching Assistantship through Project (TAP) and Project Research Assistantship (PA) cannot change their category to Institute Teaching Assistantship (TA).
3. Candidate admitted under Project Research Assistantship (PA) category may be supported by the Institute in exceptional cases for maximum period of 1 year.

MR 2.1.3 Change from M.Tech. to Ph.D.

- (a) If a student who is pursuing a full-time M.Tech. programme at the Institute also fulfills the minimum qualifications prescribed for admission to any specific Ph.D. programme of the Institute and wishes to change over to that Ph.D. programme, he/she may be permitted to do so provided he/she has obtained an SPI of 9.00 or above after having registered for **full** credits of course work in the first semester.

The student(s) shall apply for the change over by the end of the first semester through the DPGCs/IDPCs/SPGCs, who shall forward the applications to the PGAPEC with their recommendations.

(b) **Award of PGDIIT to M.Tech. students** (Ref. 136th Senate Meeting)
(Post Graduate Diploma of IIT Bombay)

An M.Tech. student who is unable to complete the M.Tech. Programme for various reasons may be considered for the award of PGDIIT, subject to satisfying the following requirements:

1. Minimum credit requirement should be 58 credits
2. A minimum passing grade (DD) in each course must be prescribed. The minimum cumulative grade point index (CPI) should be 5.50 for award of the PGDIIT.
3. The applications for the award of PGDIIT should be routed through DPGC for the consideration of PGAPEC.

(c) **Change from one PG programme to another**

- i) These Transfers will be considered on case-to-case basis.
- ii) Request for a change of PG programme should come from the student and should be endorsed by the Supervisor.
- iii) The application for consideration of admission to another PG programme should be routed through the Postgraduate Committee of the Dept./Group/Centre/School.
- iv) The candidate should satisfy all academic requirements for the award of the degree for which he is being considered.
- v) DPGC/IDPC/SPGC may recommend the time limits for submission of Dissertation/Thesis, if required.
- vi) The request will be considered by PGAPEC for subsequent approval by the Senate.

MR 2.1.4 Dual Degree – M.Tech/ M.Phil. + Ph.D. Programme [Ref:194th Senate Meeting]

A Dual Degree M.Tech/ M.Phil + Ph.D. Programme has been approved by the Senate in its 194th meeting, and approved by the Board of Governors. Students from M.Tech./ M.Phil. Programmes in the Institute can opt to change over to this Dual Degree Programme. Appendix 1 of this booklet gives the details of this programme.

2.2 PATTERN OF COURSES AND CREDITS

The courses offered for the PG Programmes may be Lecture Courses, Laboratory Courses, Design Courses, Seminars, R & D Projects, Communication Skills, Practical Training and Field Visits.

MR 2.2.1

The credits assigned to a course is dependent upon the contact hours associated with the course and is obtained by adding all these hours. The credits for all the available courses are indicated in the Courses of Study Bulletin.

MR 2.2.2

Students are required to complete all the credits required for the PG programme as approved by the Senate from time to time.

MR 2.2.3

Seminar shall satisfy the following conditions:

- i) Each seminar shall carry four credits.
- ii) Seminar shall be treated as a course for purpose of registration and evaluation.
- iii) Seminar Coordinators appointed by the DPGCs/IDPCs/SPGCs shall organize the Seminars and forward the grades awarded by the panels of examiners to the Academic Office by the end of the Semester.

MR 2.2.4

The general credit structure for full-time students for the M.Tech.,M.Phil.,M.Des. and M.Mgt. programmes are given on table 2, 3 and 4 respectively.

3. COURSE CREDIT REQUIREMENT AND REGISTRATION FOR COURSE

MR 3.1

The total minimum credit requirement for M.Tech./M.Phil. programme is **158 + 4*** including the main project.

MR 3.2 Part-time students :

Individual departments may work out the exact programme for their part-time students. It is expected that Autumn Semesters will generally have minimum 24 credits and Spring Semesters (including summer months) will have 28 credits.

Registration for I Stage Project will be done in their IV semester and registration for II Project Stage will be carried out along with the grade report for the I Stage evaluation.

(Note: The total minimum credits should be 158 + 4 (Communication Skills Course.)

MR 3.3 :

All categories of students are allowed to register for a **maximum of two UG Courses** for the entire programme, limited to a maximum of one course in each semester. These

should be from the approved list, **otherwise they will not be counted** towards the programme credits.

MR 3.4 Dropping of course(s) (Ref. 203rd Meeting of the Senate)

Students will be permitted to drop courses upto one week prior to the last day of instruction in the semester, subject to the student maintaining the minimum credit requirement or load in that semester as prescribed for his/ her Academic Programme.

MR 3.5

The students admitted under reserved category (SC/ST) may be permitted to take 1 less course in each semester, or drop one course from the list of registered courses late upto 1 wee before the final examinations. This will be with the approval of faculty advisor and PGAPEC or Dean (AP). These students may be permitted to extend their study into the 5th semester for completing their total credit requirements of the programme. They may be permitted to overload one course in the project semesters with the permission of Faculty Advisor. The students will not be given any assistantships beyond 24 months.

MR 3.6 : Transfer of course credits completed under CEP for the students who are not admitted through CEP to the M.Tech. Programme

If a student requests for the transfer of credits towards, the M.Tech. Programme, from among the credits earned from the CEP courses completed by him/her, the period of completion of his/her M.Tech. Programme should not exceed four years from the beginning of the earliest semester from which such a transfer of credit has occurred. The student must complete the programme within four years from the date of original registration.

4. COURSE ASSESSMENT & AWARD OF GRADES.

(Amended in the 158th Meeting of the Senate held on 6.3.2002 & 27.3.2002)

MR 4.1

For every course taken by the students, he/she is assigned a letter grade on his/her combined performance in all the assessments. These grades are described by the following letters and corresponding grade points.

AA (10 points), AB (9 points), BB (8 points), BC (7 points), CC (6 points), CD (5 points), DD (4 points), FF (0 points), **FR (0 points), PP (Passed), NP (not Passed)**. Minimum passing grade in a course is DD.

MR 4.2 – FF and FR grade

The letter grades **FF** and **FR** shall be treated as failure grades. Re-examination may be permitted for a course if he/she obtains **FF** grade. After such re-examination if the student passes in that course, he/she will be awarded the **maximum grade of DD** in that course. If a student does not take or fails in the re-examination, he/she will be awarded the grade **FR**.

MR 4.2.1

A student getting a **FR** grade has to re-register for the same course if it is a core subject. If this course is an elective course, he/she may register for an alternative course as prescribed by the DPGC/ IDPC/SPGC, without this being counted as an additional courses.

'DAAD' ((Deutscher Akademischer Austausch Dienst): German Academic Exchange Service:

This applies to those students who are selected under DAAD scheme and who in some cases, due to ill health, cannot clear a course, of a particular semester in that semester. If the backlog course is not offered in the next semester, they cannot register and clear it in time. These cases will be decided on a case to case basis by the Chairman, Senate after obtaining necessary recommendations from the DPGC/ IDPC/ SPGC/ CPGC and Convener, PGAPEC.

The following options may be recommended to clear backlog course(s).

- a) Taking course work at the host Institute of equivalent credits.
- b) R&D Project: Students may be given an option to register for 6 or 12 courses credits as R&D project work during their entire stay (PC option). If the option is for 12 credits, it can either be taken together in one semester or split into two projects of 6 credits each, taken in two semesters. One cannot register for more than 6 R&D project credits in the first semester. These projects will be evaluated as per norms set by each PC, and awarded letter grades.

MR 4.2.2

(i) M.Tech./M.Phil./M.Des.

A student will be permitted to take re-examination for FF grades in a given semester provided the number of FR grades do not exceed those given in MR 5.2.1(i). The re-examination is assigned 50% weightage and is conducted as per a declared schedule after the semester-end examination.

(ii) M.Mgt.

A student will be permitted to take re-examination for FF grades in a given semester provided the number of FR grades do not exceed those given in MR 5.2(ii) for 50% weightage & immediately after the semester end-examination.

After such a re-examination if the student passes in that course, he/she will be awarded the maximum grade of DD in that course.

Student with FF grade(s) shall be permitted to write re-examination, if after re-examination they are likely to get a SPI/CPI greater than or equal to 6.00. The SPI/CPI will be calculated before re-examination assuming that he/she gets 'DD' grade in re-examination.

MR 4.3 Audit Grade

The student registered for a course as audit shall be awarded the grade AU if they fulfill the requirement of minimum of **80% attendance and duly satisfactory in-semester performance as prescribed by the Instructor**. The Instructor shall include such AU grades in the final grade report for that course. If the student does not qualify for the grade AU, it will be assumed that the course has been dropped by that student and the semester grade card issued accordingly.

MR 4.4.1 II grade

The grade II shall be awarded to a candidate in a lecture course in which he has satisfactory in-semester performance but could not appear for the end-semester examination for bonafide reasons viz. of an illness or a serious accident to himself/herself, death of a parent/guardian or any similar contingency of serious nature. In case of illness or accident to the candidate, the application for the re-examination should be supported by a medical certificate from the Senior Medical Officer of the Institute or a Civil Surgeon. A student obtaining the grade II is entitled for a re-examination in that course and after such a re-examination, the Instructor can award an appropriate grade to him/her. If no medical certificate is received before re-examination schedule his/her II grade will be converted to FR grade and the result will be finalized accordingly.

MR 4.4.2 Class Attendance Rules (DX grade) (Ref : 202nd meeting of Senate)

Every Instructor must, in the first week of the semester, clearly and unambiguously announce one of the following **TWO Options (A, B)** that he/ she would adopt, for the purpose of accounting for the attendance of the student in evaluation of student performance. The option chosen, should be indicated in the course data as registered with the Application Software Cell (ASC). In case an instructor fails to exercise the choice explicitly, **Option A below, would be the default choice**.

Option A: If the attendance of the student, as counted with effect from the first contact hour held after the last date of course adjustment, falls below eighty percent of the total attendance expected with effect from that date, the Instructor would award the student a '**Drop due to Inadequate Attendance**' Grade in that course. This 'Drop due to Inadequate Attendance' Grade would, for the purpose of CPI calculation, be treated as **equivalent to a 'Course Drop' carried out on initiation by the student**. In calculating attendance, no specific concession is to be given for lack of attendance on medical grounds, beyond the fact that a minimum of only eighty percent attendance is required for the 'Drop due to Inadequate Attendance' **not** to be awarded. This Option should, in the long run, be administered automatically through the Application Software Cell (ASC), once the automated system for attendance can be put in place.

Option B: The Instructor decides and announces in the beginning, a system of **percentage weight** in student performance evaluation in the course, reserved specifically **for attendance and/or class participation**. Penalties in attendance and/or class participation should be reflected only in this component of student performance evaluation. The percentage weight for this 'Class Participation' Component should range **from 0 to 20 percent**. Assigning a zero percent weight for Class Participation automatically implied the earlier Option I – where there was no penalty for shortfall in attendance. This Option should be administered by the instructor himself/ herself.

MR 4.5.1 Seminar Grade

For the student who has submitted the seminar report in time, but the evaluation of which however could not be completed, the Seminar Co-ordinator shall award the grade **II** and shall forward the grade report to the Academic Office before the end of the semester. All such **II** grades shall be converted into suitable letter grades in due course of time, before one month following the end of the semester.

MR 4.5.2

If a student either does not submit his seminar report by the prescribed date or he/she is absent for presentation on the scheduled date he/she shall be awarded **FF** grade unless he/she is given extension by the coordinator under exceptional circumstances.

MR 4.5.3

All students who get **FF** grade in the Seminar shall be allowed to complete the evaluation during the period earmarked for re-examination and will not be given a grade better than the grade, **DD**.

M.R.4.5.4 PP/NP Grade

Practical Training, Communication skills and Field Visits courses will be awarded PP/NP grades. No grade points are associated with these grades and performance in these courses is not taken into account in the calculation of the performance indices SPI or CPI. However, the award of the degree is subject to obtaining a PP grade in all such courses.

5. PERFORMANCE REQUIREMENTS AND RE-EXAMINATION IN COURSES

MR 5.1

The performance of a student in a semester is indicated by a number called the Semester Performance Index (SPI). The SPI is the weighted average of the grade points obtained in all the courses and projects taken by the student during the semester.

Example: Suppose in a given semester a student has taken five courses having credits C_1, C_2, C_3, C_4, C_5 and his/ her grade points in those courses are G_1, G_2, G_3, G_4, G_5 respectively. Then his/ her

$$\text{SPI} = \frac{C_1 G_1 + C_2 G_2 + C_3 G_3 + C_4 G_4 + C_5 G_5}{C_1 + C_2 + C_3 + C_4 + C_5}$$

SPI will be calculated (after re-examination, if any) on the basis of the final grades awarded **AA, AB, BB, BC, CC, CD, DD** and **FR**. The SPI is calculated up to two decimal places.

An up-to-date assessment from the time the student entered the Institute is obtained by calculating a number called the Cumulative Performance Index (CPI). The CPI is the

weighted average of the grade points obtained in all the courses taken by the student since he/she entered the Institute. It is calculated in the same manner as the SPI.

CPI for the course credits and the project credits will be separately calculated and will be shown in the semester grade card, along with the course CPI, Project CPI and overall CPI [Ref : 194th Senate Meeting].

MR 5.1.1

In case of a student clearing a failed course, or a course taken in lieu of an earlier course as approved by the Department, the earlier failed grade would be replaced by the new passing grade in calculation of the CPI.

MR 5.1.2

For CPI requirement of 6.00 (Rule 5.2.4), if re-examination is allowed and taken, CPI will be calculated using the new grade obtained by the student in the re-exam.

MR 5.2 Discontinuation from the programme (Ref. 167th Meeting of the Senate)

MR 5.2.1 (Ref: 182nd Senate Meeting)

(i) M.Tech./ M.Phil./ M.Des.

A student will be required to discontinue the programme if at the end of any semester he/she has two or more FR/XX grades.

(ii) M.Mgt.

A student will be required to discontinue the programme if at the end of any semester he/she has three or more FR/XX grades.

MR 5.2.2 For Master of Management:

A student from M.Mgt. is required to discontinue the programme, if he/she has more than one failed course (with FF/XX grade) at the end of 1st Semester or more than two failed courses at the end of subsequent semesters.

MR 5.2.3

5.2.1 & 5.2.2 will be applied after re-examination, if any, as permitted by Rule 4.2.2.

MR 5.2.4

At the end of a given semester, a student must maintain a CPI of 6.00 (computed with FR/XX, if any, but after re-examination grade if re-examination is permitted). Otherwise, the student will be required to discontinue the programme.

MR 5.3 : Academic Probation to the students having lower SPI/CPI than the minimum required for continuation of their studies (Ref: 184th and 190th Senate Mtg.)

a) Such students can be placed under 'Academic Probation'

- b) It will be a one time exercise during the study programme of the students for the period of ONE semester and decided by PGAPEC in consultation with the Faculty Advisor and DPGC's.
- c) For the Academic Probation Semester, the students must obtain such SPI as to make his/her CPI greater than or equal to 6.0 immediately on including the performance of the semester of Academic Probation.
- d) The concerned students must submit a declaration in the prescribed format before allowing the facility of Academic Probation. Academic Probation can be granted only if completed forms are submitted with all due recommendations.
- e) **Financial Support during the period of Academic Probation in Masters' Programmes (New Policy) - [Amended as resolved in 198th Senate Meeting held on 24-03-2010]**
1. The student who are under Academic Probation may continue to be paid Teaching Assistantship/Research Assistantship at the rates applicable to them.
 2. However, no Teaching Assistantship duties should be given to them on account of the need for them, to concentrate on their academic performance and to improve the same.
 3. Therefore, these students would be expected to pay Non-Concessional Fees applicable to students of their academic programme.
 4. The date of implementation in general, shall be prospective from the 198th Meeting of the Senate and not restropective. However, specific cases may be considered for retrospective implementation if deemed fit by the Convener, PGAPEC and/or Chairman, Senate.

6. PROJECT

MR 6.1 PROJECT ALLOTMENT:

MR 6.1.1

Each student shall be given a topic for his project work at the end of the first semester for M.Tech./ M.Phil., by the end of second semester for M.Des. and by the end of third semester for M.Mgt. programmes.

MR 6.1.2

Each student should have a Project Supervisor from the faculty of the parent Department to which he/she is admitted. In addition, Co-supervisor(s) from the same Department/ other Department/IDP Group/Center/School may be co-opted by the Supervisor with the approval of DPGC/IDPC/SPGC.

MR 6.1.3

Whenever a Supervisor leaves the Institute permanently/temporarily, the DPGC/ IDPC/SPGC shall make alternative arrangements for guidance during the supervisor's absence.

MR 6.2 SCHEDULE FOR PROJECT ASSESSMENT (Ref.: 190th and 191st Senate Mtg.)

Schedule for Project Assessment is as per MR 6.2 or as approved by the PGAPEC based on the recommendations of the DPGC/ IDPC/ SPGC.

(A) M.TECH AND M.PHIL PROGRAMME :**For Full-time Student (implemented from 2008-10 Batch)**

Project Stage	Registration	Submission/Presentation/ Assessment to be completed during the following period:	Submission of Grades to the Academic Office on or before
I stage (Modified)	Registration for I stage will be done in January (II Semester)	1 st September to 31 st October (III Semester)	5 th November of the same year (III Semester)
II (Final) Stage (Modified)	Registration for the II Stage will be carried out along with the grade report for the I Stage evaluation.	30 th April to 30 th June (Just after 4 th semester).	5 th July of the same year (Just after 4 th Semester)

For Part Time Student (implemented from 2007-10 Batch)

Project Stage	Registration	Submission/ Presentation/ Assessment to be completed during the following period:	Submission of Grades to the Academic Office on or before
I stage (Modified)	Registration for I stage will be done in January (IV Semester)	1 st September to 31 st October of the same year (V Semester)	5 th November of the same year (V Semester)
II (Final) Stage (Modified)	Registration for the II Stage will be carried out along with the grade report for the I Stage evaluation.	30 th April to 30 th June (just after 6 th Semester)	5 th July (just after 6 th Semester)

(B) M.DES. PROGRAMME:

I stage assessment	End of June(II Semester)
II stage assessment	By 1 st December (III Semester)
III stage assessment	by end of June (IV Semester)
III stage- special project	by end of June (IV Semester)

(C) MASTER OF MANAGEMENT:

Summer Project	by end of June (IV June)
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MR 6.3 SUBMISSION OF PROJECT

- 1) Students are required to submit four soft bound copies of the dissertation atleast two weeks prior to date of defense to the Supervisor, for perusal and modification and atleast one week prior to the date of defense to the Committee for examination.
- 2) The viva-voce is to be conducted under departmental arrangements.
- 3) Forms for submission of Dissertation, duly completed must be deposited to the Academic office along with the provisional clearances from Accounts Section and from HCU(Hostel Coordination Unit)/ Hostel.
- 4) Final grade reports are to be sent by the panel of examiners to the Academic Office on completion of viva-voce.

MR 6.4 LATE SUBMISSION OF PROJECT

Whenever any project stage is not submitted before the last date as specified in the academic calendar, the student is required to:

- a) Make specific request for extension with justification **(without grade restriction)** upto a specific date for submission **at least 15 days before the last date of submission.**
- b) Pay the Institute fees for the next semester.
- c) Formally register for that semester.

Grade will be restricted to “CC” unless permitted otherwise by PGAPEC or Dean (AP) before the last date for submission.

MR 6.5 PROJECT EVALUATION

MR 6.5.1 (Amended in 159th Meeting of the Senate held on 9.5.2002 and 191st Senate Meeting)

Committee Members for Evaluation:

I Stage	i) Supervisor(s) ii) One Internal Examiner
II (Final) Stage	The Final (II) stage assessment will be done by a Board of Examiners appointed by the DPGC/IDPC/SPGC consisting of the following: i) Supervisor (s) ii) Internal Examiner iii) *External Examiner/Additional Internal Examiner in absence of External Examiner, if approved by the Academic Unit/Department iv) Chairperson: A Professor from another academic unit or Department/ An Associate Professor from another academic unit or Department

* The presence of an External Examiner is desirable. However, in case of difficulty in finding an external examiner in the required areas, an additional Internal Examiner may be appointed in place of the external Examiner subject to the approval of DPGC/IDPC/PGC.

MR 6.5.2

The minimum passing grade in each of the project assessments shall be CC.

MR 6.5.3

In case a student gets a fail grade in any of the project assessment stages he/she should carry out additional work/modifications etc. as suggested by the panel and appear for assessment within one month from the date of previous assessment. At this assessment, he/she should not be given a grade higher than CC. If the student fails in this re-assessment, he/she must repeat that stage completely.

MR 6.6

A full-time student should not take up any other assignment before submitting his/her dissertation.

MR 6.7 Submission of Electronic form of Dissertation/ Report

Dissertations/ Report need be submitted only in electronic form to the Central Library. Due academic approvals of the final version of the Dissertations/ Reports to be archived, from the faculty member(s) of the concerned Academic Committees, should be obtained prior to finalizing the archival version of the Dissertation/ Report.

7. Temporary Discontinuation

MR 7.1.

In genuine cases, if the DPGC/IDPC/SPGC/CPGC recommends temporary discontinuation **after course work or project stage-I**, the PGAPEC may take a decision on merits for permitting such temporary discontinuation. Such cases will be governed by the following rules. However, they have to submit the following certificates at the time of rejoining the programme:

a) If a break is permitted on medical ground

1. He/She should submit fitness certificates from the Senior Medical Officer of the Institute or an authorized medical practitioner.
2. Joining report through the Head/Convener of the Dept/Centre/School/ID group.

b) If a break is permitted to join a job

- 1) He/She should submit a relieving certificate from the employer.
- 2) Joining report through the Head/Convener of Dept/Centre/School/ID groups.

MR 7.1.1

The student must complete the programme within **four** years from the date of original registration for the PG Programme.

MR 7.1.2

He/She has to work at a stretch for a minimum period of **12** months at the Institute for earning the remaining credits for the project.

MR 7.1.3

When he/she rejoins and commences his/her project the student has to give a seminar on the topic of his/her project before a panel of examiners duly constituted by DPGC/IDPC/SPGC/CPGC.

- (a) If the panel is satisfied that he/she can continue with the original project, **the students will be permitted to continue and the student will submit a detailed programme for the remaining study/project work to PGAPEC through the panel.**
- (b) If the panel is not satisfied, he/she will have to register for the project afresh and will have to work for a new project. **The student will submit a detailed programme for the project work through the panel.**

8. VACATION/LEAVE RULES

1. They are entitled for - i) Winter vacation ii) Summer break (15 days) for the first year.
2. In addition, they are entitled for a maximum of 30 days leave in addition to public holidays, during the entire tenure of the programme.

Glossary:

- IDP - Interdisciplinary Programme.
- PGPC - Postgraduate Programmes Committee.
- DPGC - Departmental Postgraduate Committee.
- IDPC - Interdisciplinary Postgraduate Committee.
- CPGC - Postgraduate Committee for Centre
- SPGC - School Postgraduate Committee
- PGC - Postgraduate Committee
- PGAPEC - Postgraduate Academic Performance Evaluation Committee.
- CRF - Course Registration Forms
- CAF - Course Adjustment Forms
- FA - Faculty Advisor
- Course List - List of students registered for a course
- Course Credit- Weighted sum of the number for credit hours (L) Tutorial hours (T) Practical hours (P) associated with the course.
- SPI - Semester Performance Index, which is obtained by dividing the Semester Grade Points by the Semester credits.
- CPI - Cumulative Performance Index which is obtained by dividing the Cumulative Grade Points by the Cumulative Credits.

June 2011

FINALIZED STRUCTURE OF THE DUAL DEGREE (M.TECH./M.PHIL. + Ph.D.) PROGRAMME AS APPROVED BY THE SENATE: in its 194th Meeting on 6 May 2009

Preamble: IIT Bombay seeks to get the best students to join its Doctoral Programmes. It is particularly helpful, if students who have obtained an M Tech / M Phil Degree from one of the IITs; in particular, IIT Bombay, could continue into a PhD Programme soon after the M Tech. It is even more helpful and productive, if the student has commenced working on a research proposal during the M Tech, which can immediately be built upon for the purpose of a Doctoral Thesis. Further, when admitting a Doctoral student, one would ideally like to have a thorough knowledge of his/ her ability to complete a Programme leading to the award of the Degree of Doctor of Philosophy.

One of the objectives of this proposal is to make a much wider choice of motivated and capable M.Tech. / M. Phil. students who could become research scholars, without compelling them to forfeit the Masters' Degree for which they have been admitted.

It may also be noted, that the IIT Council, in its 39th meeting convened on 28.1.2009, has welcomed the initiative by the IITs to introduce Dual Degree Masters'-PhD Programmes (Vide Item 39.22).

At first, the complete plan as applicable to a two-year (full time) M. Tech./ M. Phil. Programme is detailed. Subsequently, the modifications needed in a three year (part time) programme are outlined.

I. Complete Plan as applicable to a two year (full time) M. Tech./M. Phil. Programme:

1. By the first stage of evaluation of the Masters' Dissertation, promising and motivated students in the Masters' (M Tech/ M Phil) Programmes can be encouraged to move to a Dual Degree M Tech/ M Phil + PhD Programme in a seamless manner - with the concurrence of the proposed Doctoral Supervisor (normally expected to be the same as the Supervisor during the first stage of Masters' Dissertation, but not mandatory) AND the PGC of the concerned academic unit.

2. This would administratively mean that: they could now plan their final semester in such a manner, that they complete any remaining coursework for the Masters' Degree, and work towards constructing a **Research Proposal** instead of the Final Stage Dissertation (Report). The interpretation in this case is, that the **research proposal has replaced the dissertation**, and the academic difference is that - an M Tech/ M Phil Dissertation **may or may not** have components that could be built into a PhD Thesis by additional work - for example, it may primarily describe sophisticated developmental or implementational novelties, which need not necessarily lead onward into Doctoral level investigations. On the other hand, a research proposal is an indication of Masters' level dissertation work which clearly indicates potential for Doctoral investigations, through some preliminary efforts in that direction. **The Research Proposal, on its own, is NOT archived by the Institute.**

3. A **Research Progress Committee (RPC)** is constituted immediately at the time of, or soon after, the first stage of examination of the (earlier) dissertation, and in any case not later than the end of the corresponding semester. This RPC advises the student on any additional courses, if any, that

should be taken over the fourth and fifth semester to build the background needed for a PhD Thesis. During the same period, the qualifying examination if prescribed by the academic unit, must also be completed. It is normally expected that the student completes all coursework related to the Dual Degree Programme by the end of the fifth semester. While the RPC has complete freedom in prescribing courses to be taken on credit/ audit, it is suggested that any additional courses, if prescribed, beyond the requirements of the M. Tech./M. Phil Degree, be taken on **audit**, rather than on credit, to allow the objective of course exposure to be fulfilled, but to avoid an effect of the relative performance in the class on doctoral studies/ Ph.D. confirmation.

4. The research proposal can be examined by the RPC any time **at or after the point of the First Stage Examination** of the M. Tech./ M. Phil. Dissertation of the candidate - notably, this means that for extremely meritorious candidates, **the first stage examination of the dissertation and the examination of the research proposal can be merged into one concurrent examination**. This means that the RPC can be constituted at the time of the first stage examination of the dissertation itself, and it evaluates the first stage presentation per se. If it finds that the work merits award of the AA Grade, then it may also consider whether the work also merits treatment as a Research Proposal directly, and certify the Research Proposal as having been completed concurrent to the first stage.

In general, however, PGPC felt that it is expedient to retain the first stage examination as a part of the process in keeping with Points C.4 and C.5 above. This allows for the possibility of a **separate examination of the research proposal**, to allow some flexibility. This would happen,

(i) if the supervisor has not felt it appropriate to constitute the RPC at the time of the first stage examination itself, but prefers to let the first stage examination proceed as usual, and take a final decision to allow movement to the Dual Degree M-PhD Programme only after the first stage evaluation has been completed.

(ii) if the RPC has been constituted, and examines the first stage work - finding it not adequate to award the AA Grade; or, even if adequate to award the AA Grade, not adequate to be considered as a Research Proposal then and there.

5. **Relaxation in course work/ modifications in course work**, **AFTER** the point of movement from the M Tech/ M Phil to the Dual Degree M Tech/ M Phil + PhD Programme can be recommended on a case by case basis for a candidate by the PGC of the concerned academic unit, and **shall normally be accepted routinely on the merit of this recommendation**. However, in case the candidate chooses to exit from the Dual Degree M Tech/ M Phil + PhD Programme with only the M Tech/ M Phil Degree, all requirements of the lone M Tech/ M Phil Degree must be completed. It is therefore recommended that, when a transfer from the lone Masters' programme to the Dual Degree M Tech/ M Phil + PhD Programme is made, a plan of course work to be **subsequently** followed (which could also be **no** further coursework in some cases or just the standard **remnant** coursework for the Masters' Programme in some others) be forwarded by the concerned PGC along with the recommendation for this transfer. Such a system would allow for the maximum possible flexibility in the matter of subsequent coursework. Completion of prescribed coursework for the Masters' Programme, and that recommended by the PGC for the Dual Degree, is **mandated for confirmation** of registration.

6. **Preferably before** the end of the fourth semester, and in any case not later than 31 October of the same calendar year in which the fourth semester occurs; this research proposal must be presented to the Research Progress Committee (RPC) of the student. The Proposal must be evaluated for suitability to be pursued into a complete Doctoral Thesis. If it is found unsatisfactory/ incomplete in

the first instance, one more opportunity is given to the student to make a revised proposal by 31 January of the subsequent calendar year.

7. Subject to all of the following:

(a) the student having completed a satisfactory Research Proposal and on its successful examination by the RPC constituted

(b) the student having completed the course requirements for the M Tech/ M Phil, as also any additional courses if prescribed for the PhD Programme by the RPC

(c) the student having completed a Qualifying Examination, if prescribed by the concerned academic unit, successfully

the student is deemed to be **CONFIRMED** in the Doctoral Programme with effect from the **commencement of the THIRD SEMESTER (note the departure to advantage from the proposal earlier approved by the Senate)** of this Dual Degree M Tech/ M Phil + PhD Programme.

8. Now that the confirmation has been spelt out, the rest of the process for the PhD in this Dual Degree M Tech/ M Phil Programme follows in a natural extension from the PhD Programme of the Institute.

9. Scholarship options can be contemplated by the Financial Authorities of the Institute to make the transfer to the Dual Degree Programme attractive for worthy candidates. It is recommended that an enhancement in scholarship be given immediately after making a **successful Research Proposal**.

10. The Research Proposal is treated as the first Annual Progress Examination of the PhD Student. The student must subsequently be examined for annual progress commencing with July-August of the fourth academic year of the programme.

11. Financial Support shall be available for a maximum of FIVE years from the commencement of the M Tech/ M Phil Degree.

12. On successful completion and examination of the Doctoral Thesis, BOTH the degrees - M Tech/ M Phil AND PhD are awarded to the candidate.

II. Modification for Three Year Part-time M. Tech./ M. Phil. Programmes: All the activities of movement from the M. Tech./M. Phil. Programme to the Dual Degree Programme are moved to one year later as compared to the two-year programme. However, for a meritorious candidate, this does not affect the possibility of still completing the Dual Degree M. Tech./M. Phil. + Ph.D. Programme in five years. The Senate and the Financial Authorities of the Institute can consider awarding an additional year of support to such candidates moving from the three year part-time programmes.

III. Exit Option:

In the (hopefully rare) case when a student who moves to the Dual Degree Programme cannot complete the requirements of a PhD, an exit with the M. Tech./M. Phil. Degree can be earned at any time **at or after the end of the final semester of the normal M.Tech./M.Phil. Programme**, by letting the research proposal, possibly with some work done to polish it to necessary completion, be

examined in the standard manner as per the requirements of an M Tech/ M Phil dissertation, for suitability for the award of an M Tech/ M Phil degree. When the research proposal is so put forth for examination by the panel of examination of a final stage of the Masters' Dissertation, it must indicate adequate work done to merit award of the Masters' degree in question, although it may or may not now be continued into a PhD. This shall be certified in the standard way by the standard procedure for M Tech/ M Phil Dissertations, and this research proposal shall then be treated as a Masters' Dissertation to permit exit only with an M Tech/ M Phil Degree, and **archived**. If the candidate desires to pursue a PhD at IIT Bombay in the future, fresh admission to the PhD programme must be sought, whereupon rules as applicable to fresh admissions would apply.

This Dual Degree M Tech/ M Phil + PhD Programme (Scheme) has been approved for implementation, by the Senate of IIT Bombay, for commencement from the Autumn Semester of the Academic Year 2009-2010.

The details of the scholarship to be awarded are being worked out in consultation with the Deputy Director, FEA and the Deans' Committee.

Appendix:

Some consolidated reflections on the philosophy behind the Programme.

1. The genuinely interested candidate gains by not having to apply again for the PhD, as also probably a more attractive scholarship in the Masters' tenure, if we agree upon the same.
2. The number of students need not increase in the Institute immediately, since the quota consumed in the Dual Degree M Tech/ M Phil + PhD Programmes by a given academic unit can be subtracted from the PhD quota to it in the coming academic year. This is to address the immediate concern about increasing the number of students – but this may not be a concern at all after a few years.
3. The student earns BOTH the degrees at the end. Even if he/ she does not make it to the PhD, there can be a graceful exit with a Masters' Degree in between.. Only tried and tested students shall be admitted to this programme. In other words, there need not be "admissions" to the Dual Degree M Tech/ M Phil Programme, there could be CONVERSIONS from a M Tech/ M Phil to such a Dual Degree Programme immediately with effect from the Academic Year 2009-2010. In future years, the Senate could also contemplate specific ADMISSIONS to this programme - if necessary making this, subject to the student numbers not increasing across the Institute, in case there are infrastructural and resource limitations.
4. There is universal agreement that we certainly need to encourage M. Tech/ M. Phil. students who are meritorious, to continue into a Ph.D. at IIT Bombay, without forcing them to forfeit the M. Tech/ M. Phil. Degree. The thought behind not forcing them to forfeit the M. Tech./M. Phil. Degree is as follows:
 - (i) Typically, students recognize the uncertainty behind entering Doctoral studies. Given the needs of a typical student at the age at which he/she is likely to enter the Doctoral Programme, the option of "giving up what is already in hand and seeking something greater after some years, but fraught with some uncertainty" is likely to appear unwise. Therefore, the mental security associated with also obtaining the M. Tech./ M. Phil. is a very important factor.
 - (ii) If we wish to increase the number of good students opting to pursue doctoral studies at IIT Bombay, we must also remember that all of them may not wish to join the academic profession

immediately. Having an M. Tech./ M. Phil. Degree gives the message of a training somewhat broader based than the Ph.D., and having the Ph.D. also gives the necessary higher qualification when needed. From an employment perspective, earning both the degrees can only be advantageous.

5. It must be remembered that one is awarding the M. Tech./M. Phil Degree, for which a reasonable set of requirements must be fulfilled in reasonable synchronism with other M. Tech/ M. Phil. students. On the other hand, there must be good reason for a student to seek to move into this programme, as opposed to completing the M.Tech/ M.Phil. Degree and then entering the Ph.D. Programme through fresh admission.

6. Lateral movement from the only M. Tech./M. Phil. Programme to the Dual Degree Programme must occur after ascertaining the merit of the candidate over a long enough time, and in a manner feasible in the system that we have, with the commitments that faculty already fulfil. There is greater likelihood of meritorious candidates being identified and groomed, if it fits into the running activities of the M. Tech/ M. Phil. Programmes in a convenient way, rather than if it requires significant departure from the same. This programme will automatically allow a thorough examination of candidates who are likely to complete a PhD, and also motivated.

7. Even after making the movement from the lone M.Tech./M. Phil. to the Dual Degree, it would help if there is one quick and clean opportunity to let the student exit in normal course – which has been ensured. At the same time, one must ensure that if the student **does** continue successfully into completion of the Ph.D., there is all to facilitate this.