

# Guidelines of the Chemistry Subject Board

## Chemistry Ph.D. Programme at TIFR

[The following guidelines will be applicable for those who intend to obtain Ph.D. (and M. Sc. in special cases) from TIFR through the Chemistry Subject Board]

An M.Sc., M.Tech., or B.Tech., is the basic requirement for admission to a Ph.D. degree programme. Academically outstanding B.Sc. graduates are also considered for the admission. Students are selected through the TIFR Research Scholars' admission procedure and admitted to the Institute as graduate students. Annual progress of these students is monitored by the Chemistry subject board.

### 1. Graduate Programme:

The department of chemical sciences (DCS) at present offers only a Ph.D. program for those students who are selected through the TIFR Research Scholars' admission procedure. An M. Sc. degree is administered only to those students who qualify to join the Graduate program of the institute directly after B.Sc. and are desirous of obtaining this degree.

#### *1.1 Requirements for registration for the Ph.D. degree:*

A student is required to complete 6 lecture courses, 1 laboratory course, 2 projects and a mandatory short course<sup>1</sup> (whenever announced) in order to register for a Ph.D. degree. Each lecture course (minimum of 30 contact hours) carries one credit point, the laboratory course carries 2 credit points and each project carries 2 credit points. During the first year a student will have to complete **6 lecture courses, 1 laboratory course, and 1 project**. This project (called Project-A) will have to be carried out during the second semester of the first year. Project-A will have to be carried out within the DCS under the supervision of one of the members of DCS. A second project (called Project-B) will have to be completed in the 3<sup>rd</sup> semester (i.e., in the beginning of 2nd year). Project-B will be chosen in consultation with the Ph.D. guide (see Section 2). Thus a total of 12 credit points will have to be completed, before a student is allowed to register (see Section 1.2 for the Time Lines) for the Ph.D. degree in Chemistry. **Under no circumstances, Project-A and Project-B shall be done with the same supervisor.**

All the students registering for Ph.D. in Chemistry are expected to take the courses and projects offered within the DCS. However, if an exception is sought by a research scholar, the specific request must be made to the Convenor, Chemistry Subject board, for the approval before the commencement of the course/project.

## **1.2 Time Lines(tentative):**

August 1 <sup>st</sup> week (First Semester)	: Courses begin.
Dec. 15 (First Semester)	: Laboratory Course Seminars
Dec. 3 <sup>rd</sup> week (First Semester)	: End of courses and examinations. <b>Last date for submission of Faculty interaction form and Project-A option form</b>
Dec 31 (First Semester)	: End of First Semester

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Jan. 3 <sup>rd</sup> week (Second Semester)	: Courses and Project-A begin.
May 2 <sup>nd</sup> week (Second Semester)	: End of courses and project-A and exams.
May 31 (Second Semester)	: End of Second Semester <b>Last date for selection of Ph.D. guide and Registration of Project-B<sup>2</sup> (for 3<sup>rd</sup> semester)</b>
July 1-July 31 (Second Semester)	: Computer programming or other short courses (mandatory), whenever announced

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August 1 (Third Semester)	: Project-B begins.
Dec. 3 <sup>rd</sup> week (Third Semester)	: End of Project-B and evaluation seminar.
December 31 (Third Semester)	: End of Third Semester <sup>2</sup>

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Students should register for Ph.D. as soon as he/she completes the requisite total of 12 credit points (see section 3) after the Third Semester (December 31).

## **1.3 Examination Passing Criteria:**

Minimum passing marks in every course/project is 40%. Students not passing in a particular course will be required to repeat the same course. The minimum qualifying marks for Ph.D. registration, calculated as the weighted average taken over the secured marks on all the courses and projects<sup>3</sup> together, is 50%. Even after scoring the minimum passing marks (40%) in each course if a student fails to maintain the requisite qualifying average (50%), he/she will have to pass a comprehensive examination (minimum passing marks 50%) at the end of third semester, which will be based on the course work and the projects.

- Students failing in more than one course/project during the course work period, will have to leave the Ph.D. programme.
- Students failing in a course/project, will have to pass in the course/project in the next available opportunity.
- Students failing in a course even in the second attempt, will have to leave the graduate programme.

## **1.4 For students who join after B.Sc:**

Although obtaining an M.Sc. degree is not mandatory for students who join the Institute directly after B.Sc., the students are encouraged to do so, keeping in mind their future job prospects. Those who wish to obtain the M.Sc. degree must follow the procedure below.

Such students will register for the M.Sc. degree. They will be required to complete two more courses approved by the CSB (the courses given in the third or fourth semester) and start working towards their M.Sc. thesis (See time lines in Section 1.2). The Project B may be extended to two semesters (up to the end of fourth semester) to complete a M.Sc. thesis. The guide for the M. Sc.

thesis project shall be either the Ph.D. guide or any other Faculty Member of DCS. The M.Sc. project should start immediately after the end of the second semester. The thesis work shall normally not exceed one year. At the end of the third year, the M.Sc. thesis should be submitted, which will be evaluated for the M.Sc. degree in Chemistry. The research work carried out for the M.Sc. thesis shall not be included in the Ph.D. thesis. The M.Sc. degree will be awarded to the successful candidates at the end of their Ph.D. degree.

### ***1.5 M.Sc. program for the Scientific & Technical Staff of TIFR:***

Approval of the Chemistry Subject Board is required for any staff member before registering for the M. Sc. course. He/she must earn a total of 8 units of credits (the definition of credit is same as that given in Section 1.1) and will submit an M. Sc. Thesis. At least three (3) out of the eight (8) credit points, should be through the courses and at least two points from the experimental project. The remaining three (3) credit points could be through any combination of the courses and the projects. The staff member can complete these 8 credit points over a reasonable period of time.

## **2. Selection of Guide:**

The student must decide his/her Ph.D. guide before May 31 of the first year and inform the Chemistry Subject Board accordingly (see Section 1.2).

Choosing the Ph.D. guide is a responsibility of the research scholar. Any Faculty member of TIFR can in principle serve as a guide for the student so long as the subject/project of the thesis is approved by the CSB. A student can be registered with an academic staff member as a guide who has at least 3 years of service remaining in the institute from the date of registration. If a faculty member has less than 3 years of service then he/she can only be a co-guide.

Allocation of the PhD guide will primarily be based the choice of the student, but two students intending to join the same Guide for PhD will generally not be approved. The names of Faculty members who may accept student in a given year will be informed to the students in the first semester. A Faculty member will generally accept only one student from a given batch. A second student will be allowed to join a Faculty member who has already accepted one student of the same batch, only if there are no other Faculty members available as guides for the student and the concerned Faculty member agrees to accept two students. If a student fails to select a PhD guide as per the guidelines of the subject board then he/she will have to leave the graduate programme. Project-B, starting at the beginning of 2<sup>nd</sup> year, must be undertaken with the consultation of the Ph.D. guide.

### **2.1 Thesis committee:**

Each PhD student will have a thesis advisory committee constituted at the end of the second semester (after the guide selection) consisting of the Thesis Guide and at least two other Faculty members. The student should have regular interactions (minimum TWO meetings in a year) with the thesis committee and a formal report of the thesis committee on the progress of the student will be required for consideration of extension of the Research Scholarship of the student at the end of each academic year. Each registered PhD student will also be required to give at least one Departmental Seminar in each Academic year before May 31 in each year.

### **3. Registration for Ph.D. and Submission of Thesis:**

Once the course and project requirements are completed and the specific area of work for the Ph.D. thesis has been mutually agreed upon between the student and the thesis supervisor, the student may be allowed to register for Ph.D. with the University Cell. This is done by filling out a prescribed form, listing the name of the student, a tentative title of the proposed thesis, and a brief outline of the proposed work, co-signed by the thesis supervisor and the Convenor of the Chemistry Subject Board. This should be done by the end of second academic year.

In case a candidate wishes to change the title of the thesis after registration, it may be done at the time of submission of synopsis by notifying the Chemistry Subject Board.

The minimum period between the date of registration and the submission of the synopsis will be 2 years. The period between the submission of synopsis and the submission of thesis should not exceed 6 months. The student must have at least one paper, as a main contributor, accepted for publication before submission of the Synopsis of the Ph.D. thesis.

### **4. Code of Conduct:**

The students must refrain from any kind of academic misconduct. The following are some examples of academic misconduct: copying of answer sheets either in examination or home-work assignments, absenteeism from classes, fabrication or falsification of data/results, and indulgence in plagiarism. The acts listed above and any act that is not listed here and is perceived as an academic misconduct by the CSB will invite a disciplinary action, which may be expulsion of the students engaged in such acts.

### **5. Any deviation from the above guidelines must be brought to the Chemistry Subject Board well in advance for appropriate action.**

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<sup>1</sup> Students must pass this course but will not earn any extra credit point.

<sup>2</sup> Students may register for M.Sc. anytime during July 31 (end of Second Semester) to December 31 (End of Third Semester). The Project B for M.Sc students would be two semesters long and they would have to submit a thesis for evaluation and the seminar for them would be after the thesis submission.

<sup>3</sup> Students have to separately pass in the seminar and in the guide's evaluation for a Project.