

Information and HBNI Guidelines for Physics Faculty

HBNI-IMSc Office

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1 Introduction

The Homi Bhabha National Institute is a conglomeration of DAE aided institutes, called the *Constituent Institutes* (CI's), IMSc being one of them. Its head office is at BARC, Mumbai. HBNI is a Deemed University. It has several *Boards of Studies* responsible for the academic programs offered at various CI's. At IMSc, we offer academic programs under the *Board of Mathematical Sciences* and the *Board of Physical Sciences*. We offer the *Ph D* and the *Integrated Ph D* programs.

As a CI of HBNI, we follow certain procedures in conducting the academic programs leading to the Degrees granted by HBNI. These are detailed below.

2 HBNI Faculty

As a constituent institute of the HBNI, IMSc faculty members are eligible to be recognised as guides for the Doctoral Degree. During the transition period, the then existing faculty members were recognised as guides and all the current faculty members are recognised as guides.

For new members who join the IMSc faculty, there is a prescribed form, available on the HBNI web-site, which needs to be submitted to the HBNI office at IMSc. This is then sent to the appropriate *Board of Studies* for approval. The minimum expectations for recognition as Ph. D. guide are that (a) there should be 4 - 5 years of research experience after Ph. D. and (b) there should be at least 5 publications in the previous five years.

This recognition is a requirement of HBNI for being a Ph. D. guide.

3 Monitoring Committees

Within a few weeks of registration, every student is assigned a *Monitoring Committee*. This committee consists of 3 members at least one of which is a teacher of the Aug-Dec semester. The Dean forms these committees and communicates the same to the student as well as the Committee members. This committee continues to supervise the student till the student has gotten a Ph D advisor and a *Doctoral Committee* is formed by the Dean in consultation with the advisor.

The Monitoring Committee is expected to play a general advisory role for the student and make a recommendation for promotion of the student to the Doctoral level.

1. The *Chair* of the Monitoring Committee is expected to meet the student at least once a month to assess the student's progress and advise/assist the student if needed. The monitoring committee should meet the student once a semester and counsel appropriately. If any corrective actions are needed, they should be brought to the attention of the Dean-Academic. In such a situation, a formal committee report should be sent to the HBNI Cell for record keeping.
2. The Monitoring Committee Chair is directly involved in the *evaluation of the final semester project/thesis*. For the evaluation of the thesis in the final semester, the Chair, in consultation with the project guide, requests another faculty member to evaluate the project report. The Chair coordinates with

the examiner and receives the evaluation and then conveys the evaluation in terms of marks and a grade to the HBNI Cell.

The project/thesis evaluation is to be completed by June 15th.

3. The Chair approves leave, use of contingency grant etc. for the corresponding student.
4. The course teachers are expected to inform the Chair of the corresponding Monitoring Committee in case of continual absence of a student.

4 Course Work

The detailed course structure as well as syllabi are determined by our faculty and submitted to the appropriate Board of Studies for approval. Within the degree requirement of number of credits, courses etc the courses and their syllabi can be tuned to our needs as well as revised from time to time. This has already been done and the approved syllabi are available on the web-site.

The semesters run during August - November and January - April.

The main points to note are:

1. In each semester there are *eight courses* running. Given our current strength, each of us is required to teach once in three semesters.
2. The announced time schedule for the courses should be adhered to and the syllabi should be followed to the maximum extent possible. The general understanding is that innovative modifications of the contents is generally limited to about 20 percent of the syllabus.
3. The evaluation procedure is left to the discretion of the course teacher and is expected to contain internal assessment, a mid-term and a final examination. *It is only fair that the evaluation procedure is announced to the students at the beginning of the course.*

The final evaluation is to be conveyed to the HBNI office in the form of marks and a corresponding grade. **The grades are due by December 15 and May 15 respectively.** The mapping between the marks and the grades is:

Marks	Grade
90 – 100 %	A
80 – 89 %	B
70 – 79 %	C
60 – 69 %	D
< 60 %	F

Qualifying GPA's: The *Grade Point Average* is computed by assigning 4 points to an 'A', 3 points to a 'B', 2 to a 'C' and 1 to a 'D' and taking the average.

A single 'F' will result in termination of registration and the student will have to leave the Institute.

Qualifying GPA for proceeding to Ph. D. is ≥ 2.0 ;

For Integrated Ph D students, a GPA ≥ 1.0 qualifies for the Master's Degree.

Project Evaluation: The project in the final semester is a requirement, an opportunity for both the guide and the student to explore the possibility of a future Doctoral research and a direct exposure for the student to research work. The student undertakes research and prepares a *project report* under the supervision of the guide. Once the guide is satisfied, the student submits the report to the Chair of the *Monitoring Committee* who, in consultation with the guide, appoints an examiner for the project report. The project is graded on the basis of an evaluation of the report. It may optionally include an oral presentation at the discretion of the guide and the Monitoring Committee Chair. It is conveyed in the form of marks and the corresponding grade, by the chair of the monitoring committee.

5 Doctoral Committees

After completing successfully the course work and the oral comprehensive examination, the student is expected to explore and settle with a faculty member to be his/her doctoral guide. The guide then forms the *doctoral committee* consisting of at least four members including the guide. The *Chair* of the committee must be a professor of rank 'H' or above. Guide and the chair can be the same person.

There can be more than one guides. The second guide can be from another CI or any other institute with which IMSc has a relevant MoU. The list of institutions with which an MoU exists is available at the <http://www.hbni.ac.in> .

The constitution of the Doctoral Committee is to be conveyed to the HBNI cell in a prescribed form, available on the web-site. At this stage, the monitoring committee's role is over.

The Doctoral Committee must be constituted by April 30 of the second year of the Ph. D. program (or third year of the Integrated Ph. D. program). *The student will not get an extension to the following year without DC constitution..*

The Doctoral Committee is expected to monitor the progress of the student through the Doctoral Committee meetings required to be held **at least one per year**. The Doctoral Committee's minutes are to be filed with the HBNI Cell. Prescribed form is available on the web-site.

These reports constitute the papers required to be submitted to the Board of Studies along with synopsis for proceeding with thesis submission and evaluation process.

Apart from monitoring the progress of the student, the doctoral committee also takes the following decisions:

1. Assist and ensure that adequate amount of published research is completed during the **5 year normal tenure** of the registration. The UGC guideline stipulates a minimum of one journal publication for initiating thesis submission and evaluation process.
2. The Committee satisfies itself that the process can be initiated. It advises the student to prepare a *synopsis* and also approves a list of *six* possible examiners.
3. The committee is empowered to recommend an extension of the tenure by one year giving valid reasons. *This must be approved by the Director.*

The extension beyond the 6th year has to be approved by the Board of Studies.

4. In case of unsatisfactory progress of the student for any reasons, the committee recommends alternative advisor and/or thesis problem. Any changes in the Committee, are to be filed with the HBNI Cell.

In spite of making adequate effort, if the progress continues to be unsatisfactory, the committee may also write a *closure note* and recommend termination of the registration.

6 The Thesis Submission Process

Below is detailed the process of thesis submission.

1. Doctoral Committee determines that the student has adequate work and recommends that the student may prepare a synopsis and begin writing the thesis. The committee draws up a list of *six* possible examiners for the thesis. **It has been advised that the examiners should preferably be from outside the HBNI unless it is inevitable.**
2. Once the synopsis is ready, the student submits it to the advisor/Doctoral Committee Chair who forwards it to the HBNI Cell along with the list of examiners, with their addresses and emails.
3. The Dean forwards the synopsis, the Doctoral Committee's reports and the list of examiners to the Chair, Board of Studies, HBNI. The Board of Studies grants permission to submit the thesis and selects an ordered list of *four* examiners. This is conveyed back to Dean, IMSc.
4. Dean, IMSc receives the permission and the selected examiners. The student submits the thesis to the HBNI Cell (this is the date of submission of the thesis) and the Dean gets the thesis examined by *two* examiners. This may take a few months depending upon the examiner's promptness.
5. Once the two reports are received, the advisor is informed. The viva is arranged. The viva board consists of the Doctoral Committee and an external examiner. The external examiner is one of the two examiners, usually the Indian one (and the first one if both are Indians).
6. The thesis is prepared for the final submission, incorporating all corrections/modifications recommended by the examining committee. The advisor gives a certification that the modifications/revisions recommended by the thesis examiners are incorporated in the final submitted copy of the thesis. The certification is *not* included in the final copy of the thesis but is included in the student's file.

The second page of the *Viva Board Recommendation* form is required to be filled in and signed by the Viva Board members.

*Please have **five copies** of the signature page in the thesis as well as the viva board recommendation form.* Three copies will go into the hard bound thesis copies, one should be with the student and one could be as a spare, in case a need arises. Since getting signatures could be time consuming (eg skype based viva), this is a precautionary suggestion.

Three hard bound copies along with the soft copy of the final corrected version of the thesis is submitted to HBNI office.

The Dean-Academic, IMSc issues a viva completion certificate to the student.

7. After a scrutiny of all papers, the HBNI, central office, issues a provisional certificate followed by the final degree certificate.

7 Closure

In the normal course, the student completes the program successfully and a simple closure statement would suffice. In some cases, the student may be unable to complete the program. In such cases, the Doctoral Committee may write a closure note summarising the circumstances and recommending termination of the registration. If a student leaves *before* qualifying for the Ph. D., a closure note may likewise be filed by the Monitoring Committee.