

Guidelines for roles and responsibilities of guides/co-guides, doctoral committees, deans-academic and standing academic committees

A doctoral thesis is expected to be a significant original and independent contribution to knowledge in a chosen field of study and be of such lasting value as to merit publication. It should demonstrate an ability to select an important problem and deal with it completely including an ability to effectively communicate what has been achieved through the research activity. It should be short, preferably less than 200 pages and in any case not longer than 300 pages.

A Master's thesis must show that the student is able to work in a scholarly manner and is acquainted with the principal works published on the subject of the thesis. It should demonstrate readiness of the student to pursue research and an ability to communicate complex issues in a cogent manner in about 100 pages.

A guide or a supervisor plays a very important role in the entire process viz., identification of the topic of research, formulation of the problem in a manner that is appropriate for the degree, guidance about the nature of research and the standard expected, planning research so as to complete it in accordance of the time table specified by the university, writing the thesis and getting it examined. Since the total duration of the programme can be three to four years, the guide has to be a regular faculty or should have at least four years of contract¹. Recognition as faculty is given by the Boards of Studies, and they may decide to advise a faculty member to gain experience in guiding a student as a co-guide (along with a senior faculty as a guide) before permitting him to take up a student as a guide. Board of Studies may also advise a member of faculty to gain experience by guiding M.Tech. or M.Phil. students before taking up a doctoral student.

To provide oversight on all issues related to the academic progress made by the student, to resolve any student-guide conflict, and to assure quality of a thesis, the Institute relies on student specific doctoral committees. A doctoral committee provides a safety net for both the student and the guide. Corresponding committees for M.Tech. or M.Phil. are known as monitoring committees.

HBNI has a distributed structure and with a view to localize administration, to the extent possible, each Constituent Institution (CI) has Deans-Academic. Number of Deans-

¹ Many positions in CIs could be temporary such as Raja Ramanna Fellows. Raja Ramanna Fellowship is given initially for a period of three years and there is no guarantee of its renewal. In order to derive benefit of expertise of such individuals, it has been decided that such individuals can be co-guides. An Individual holding such temporary positions can also be appointed a member or a chairman of doctoral committees for the duration of their appointment or even beyond. If appointed beyond the duration of their tenure as RRF, responsibility for payment of honorarium, if any, lies with the CI.

Academic at a CI depends upon the strength of students and diversity of subjects. Acting as a link between the Central Office in Mumbai and the CI, Deans-Academic speedily perform several functions and bring efficiency in managing the affairs of the Institute.

The process of admissions is handled by appropriate committees at each CI in an independent manner. HBNI has two kinds of research students: (i) individuals who join HBNI as students after graduation from universities, hereinafter called students(s), and (ii) individuals who are employees of units of Department of Atomic Energy (DAE) and work for their Ph.D. while on the job, hereinafter called students(e). Some CIs have same committees for both categories of students, while others have different committees so as to share the work load. For one particular category of students², selection is managed by the HRDD, BARC and students are distributed to CIs based on their research interest.

This document is meant for faculty and outlines role and responsibilities of guides, co-guides, doctoral committees, deans-academic and standing academic committees with respect to managing research students.

While every care has been taken to ensure that all statements in these guidelines are compatible with ordinances, in case of any conflict, ordinances will prevail.

1. Role and responsibility of guides

Helping a new scholar to become an independent researcher is a significant achievement for someone engaged in higher education. This achievement is so satisfying that many students and supervisors stay in contact for the rest of their academic career. Most members of faculty need some guidance before taking a student for the first time. That is why HBNI considers it desirable that a young faculty member first works as a co-guide alongside a more experienced guide or guides students for M.Phil. or M.Tech. to acquire experience. At what stage, a member of faculty can take up a student is decided at the level of the CI with guidance from respective Board of Studies. Experience as a co-guide is desirable and not a must as doctoral committees do provide appropriate direction to the student and the guide.

The purpose of this document is to supplement hands-on experience. Literature³ on this subject can be downloaded from the internet and faculty members are encouraged to read to understand fine nuances of guiding research students.

² This is in respect of the students admitted under DAE Graduate Fellowship Scheme (DGFS) explained later.

³ Richard James and Gabrielle Baldwin, "Eleven practices of effective postgraduate supervisors," The University of Melbourne, 1999 is a good document and is available on the internet. Those who are interested in more details may see a paper by Anne Lee, "How are doctoral students supervised? Concepts of doctoral research supervision,"

The following guidance is primarily aimed at Ph.D. supervision, but much of it will also be useful for other research programmes, such as M.Phil. or M.Tech.

- A Ph.D guide should be a recognized faculty member of the HBNI and should have been authorized to guide Ph.D. students.
- The Guide should help the student in writing a research proposal for Ph.D programme. First step towards this end is to make sure that his/her area of expertise matches with the research interests of the student. If necessary, guide may decide to take a co-guide or a technology adviser. The second step is to identify a topic that is within the mandate of the DAE and the CI, so that availability of research facilities and funding for their augmentation, if any, is taken care of. The stage at which guide and the topic are identified differs for the two types of students.
 - In case of students(s), the initial period is spent on the course work and getting acquainted. CIs have put in place a monitoring mechanism to track progress of students during the course work and identification of a guide and a topic for research is done at the end of the course work. For students joining Ph.D. programme after M.Tech., the guide and the topic are identified in the first few weeks.
 - Students(e) are invariably exposed to the subject during their professional activities, and are, therefore, expected to formulate the research problem at the time of appearing before the standing academic committee for selection for the Ph.D. programme. The first identification of course work (class room courses, self-study courses and credit seminars) to be done by the student(e) is also done at this stage. Doctoral Committee is also identified by the standing committee.
- Once Guide and the broad topic have been decided, further details of the problem are formulated in a manner that it enables research embodying new knowledge appropriate for the degree to be completed within the specified time. Experience of the Guide is an essential element in formulating the problem and it is Guide's responsibility to ensure that the details are appropriately worked out. The Guide has to ensure that appropriate literature survey is done by the student and the student is able to defend the proposal before the doctoral committee.
- Looking at the problem detail, the guide can modify course work specification. The process of identifying class room courses, self study courses and credit

seminars has to be a dynamic process and needs to be tuned to the requirements of the research work as its definition progresses. Students may also be encouraged to listen to on-line courses that are available on internet. The Guide should make sure that the student has completed all recommended credit courses and/or credit seminars (**within about two year of enrolment**). Mark sheet for self-study courses and credit seminars should be as per approved format.

- The Guide has to make sure that for students, who to start with have only a monitoring committee, get a doctoral committee once the topic for research has been formulated. Ph.D. ordinance specify that the guide is the convener of the Doctoral Committee of the student. The Guide can, in consultation with Dean-Academic, seek change of the Doctoral Committee if needed. The guide should prepare the student to go through the Oral General Comprehensive examination within **about two years** of enrolment. OGCE report should be prepared as per approved format.
- The Guide is expected to provide a framework within which the academic work can take place by:
 - setting up a regular schedule of meetings with student to allow for regular interaction and information flow;
 - reaching agreement with student on indicators of progress being made and dates for submission of progress reports; and
 - providing regular and prompt feedback on progress to student (including written feedback on written work within two weeks unless the written work is extensive).
- The Guide is expected to provide academic guidance by:
 - providing scholarly direction;
 - encouraging student in his/her academic work;
 - ensuring that appropriate time table for the completion of each phase of the work is established;
 - ensuring that student is given timely advice about style requirements and about the mechanics of presenting a thesis;
 - ensuring compliance with any legal, professional, ethical or safety guidelines associated with the project; and

- identifying and helping student acquire any missing skills for his/her research.
- The Guide is also expected to encourage the student into wider contacts as appropriate to the discipline by:
 - encouraging seminar and conference presentations;
 - helping student make contact with other scholars in the field; and
 - helping student publish his/her work as appropriate.
- The Guide as convener should also make sure that the Doctoral Committee meets at least once in a year to review the progress made by the student and send an Annual Review Report as per approved format to the Dean-Academic.
- In case a guide feels that a student can benefit by conducting research at any institute outside of HBNI (In addition to field work or short laboratory visits) as a part of any ongoing collaboration, he / she may be encouraged to do so. (Ref: AC-9 decision)
- When the student has completed his Ph.D. programme, the Guide should arrange a pre-synopsis seminar in a Doctoral Committee meeting. The seminar should be an open seminar and invitees should be asked to leave when the Doctoral Committee is discussing and preparing its recommendation. The recommendation of the committee should be duly signed by the members of the Doctoral Committee in the form of 'Pre synopsis Seminar Report' as per approved format.
- In case a student successfully clears pre-synopsis seminar, the Guide should communicate the following documents to the Dean-Academic:
 - Pre-synopsis report;
 - Names of the six Ph.D. thesis examiners⁴;
 - Synopsis⁵ (both hard and soft copies);

⁴ List of examiners should be prepared keeping in view the guidelines of the UGC. Only one examiner can be from the state in which the CI is situated.

⁵ Synopsis should include a list of publications at the end which are the result of research included or to be included in the thesis. Synopsis should also include a certification that the work reported is original contribution by the student and has not been used by the student or any other person for a university degree.

- List⁶ of papers published as part of the present Ph.D. programme along with preprints of publications or manuscripts and letters of acceptance by journals; and
- Certificate from the Guide about the completion of all the credit courses, credit seminars and the General Comprehensive Examination.
- The Guide should read the entire Ph.D. thesis and make sure that:
 - The thesis deserves a Ph.D. degree;
 - Thesis is written as per HBNI format;
 - That issues related to copyright have been addressed and the student has not resorted to plagiarism; and
 - Student has sufficient number of journal publications.
- On receiving examiners' comments from the Dean-Academic, the Guide should make sure that the thesis is appropriately modified by the student taking into consideration all the comments from the examiners.
- The Guide should contact the recommended examiner for the final viva voce and arrange the final viva voce with the help of Doctoral Committee. The Guide should follow up with the Accounts Officer of the CI to make sure the payment of honorarium to the examiner, and TA/DA to the external examiner who attends the viva voce meeting.
- After successful completion of the viva voce, the guide should forward the following documents to the HBNI Central Office:
 - Report of the final viva voce duly signed by all the members of the Doctoral Committee and the external examiner;
 - A certificate confirming incorporation of all comments by examiners and members of Doctoral Committee;
 - Two hard copies of the thesis as per HBNI format;
 - Soft copy of the thesis;

⁶ In all cases, list of publications should be under various heads as follows: journal publications (giving authors, name of the journal, title of the paper, year of publication, volume and page numbers), conference publications, chapters in books, and other such as archival sites. In case of publications having a large number of authors, the guide must certify that the part of the work from the paper included in the thesis has been done by the student and will not be used by anyone else as part of her/his thesis for any other academic degree.

- Soft copy of one page abstract as a word document for inclusion in the annual report of HBNI.
- A Demand draft of ` 5,000/- as Thesis evaluation fee.

Besides all above, a Guide also has to provide pastoral support to the student on a regular basis. A student should find him interested, available, critical, supportive, inspiring and encouraging. A Guide has to work towards ensuring that after completing doctoral research, a student is ready to work as an independent professional.

In case a guide leaves or has to leave the CI because of any reason he/she must ensure that an alternate guide is appointed after consulting Dean-Academic and information is sent to the Central Office⁷. In case a Guide has to be away for more than three months⁸, he/she should make arrangement to handle paper work so that the student gets administrative help as needed.

2. Role and responsibilities of doctoral committees

As indicated in the beginning, to provide oversight on all issues related to academic progress made by the student, to resolve any student-guide conflict, and to assure quality of a thesis, the Institute relies on student specific doctoral committees. A doctoral committee provides a safety net for both the student and the guide. The following provides a brief write up on doctoral committees.

- The Doctoral Committee is constituted by the Standing Academic Committee at the time of admission to Ph.D. programme in case of a student(e) and once guide and topic has been decided in case of student(s). The Doctoral Committee should consist of a Chairman, convener (the guide), the co-guide and three members. The Technical Adviser is a permanent invitee to the Doctoral Committee. A guide can seek change in the doctoral Committee and this has to be done in consultation with Dean-Academic. Change of the chairman of the Doctoral Committee requires approval of the Chairman of the Standing Academic Committee or Director of the CI.

⁷ Once an individual loses the status of being a member of faculty of HBNI, it will not be possible for him/her to sign papers needing administrative approvals such as giving honorarium to examiners. Therefore, it is necessary to have a guide, who is available in the CI and may take care of all formalities. In cases where research work has been completed and synopsis submitted, Dean-Academic can take care of such formalities and may take up the role of a guide. In case, some research remains to be completed by the student, it is desirable to appoint a new guide. An individual may remain a member of a doctoral committee for a period of up to one year after superannuating.

⁸ In case a guide is on deputation for a longer period, but retains his/her lien with the CI, a co-guide may be appointed in consultation with Doctoral Committee and Dean-Academic or Dean-Academic may volunteer to provide all support to the student. It is assumed that the guide will continue to engage with the student through emails and telephone as well as during periodic visits to the CI.

- Doctoral Committee should meet at least once in a year to monitor the progress of a student. Considering that new needs could arise during the course of defining the topic of research, the Doctoral Committee may change the course work on the recommendation of the Guide and inform Dean-academic of the change.
- Doctoral Committee should make sure that all the course work, credit seminars and comprehensive examination are completed by the student within two years of joining the Ph.D. programme.
- The guide who is also the convener of the Doctoral Committee should send the Annual Progress Report of the student to the Dean-Academic every year.
- The Doctoral Committee should arrange for the pre-synopsis on the recommendation of the guide regarding completion of the Ph.D. programme. The pre-synopsis seminar report duly signed by all the members should be handed over to the guide at the end of the seminar. In case a doctoral committee member is not able to attend the pre-synopsis seminar, he or she can separately interact with the student and give an independent report. A replacement can be invited in place of the permanent member with the approval of dean-academic.
- The Doctoral Committee should arrange the final viva-voce of the student inviting the recommended external examiner. The final viva-voce report duly signed by all the members should be handed over to the guide.
- In case of extension required by the student, the Doctoral Committee should judge the progress made by the student and justify the extension to be given to the student. The applicable extension form duly filled in should be signed by the chairman of the Doctoral Committee and handed over to the guide for onward transmission to HBNI.

Overall, doctoral committee ensures that doctoral research and thesis meets with quality requirements of the Institute and guidelines of the UGC. In case guide of a student leaves the CI and before leaving is not in a position to suggest a new guide, Chairman of the doctoral committee and Dean-Academic may interact with the student and appoint a new guide. Change of guide requires approval of chairman, Standing Academic Committee or the Director of the CI.

3. Role and responsibilities of Standing Academic Committees/ Selection Committees

Process of admissions is handled by appropriate committees at each CI in an independent manner and each CI has devised an appropriate nomenclature for this purpose. All are requested to adopt a uniform nomenclature and constitute Standing

Academic Committees to guide the process of selection of students for the doctoral programme. HBNI encourages scientific employees of CIs to register for research based degrees, they directly interact with students. An individual joining a CI as research students has to first face an interview by a selection committee after having been screened in based on a written test. Standing Academic Committees and Selection Committees are appointed by the Director of the Constituent Institution. There could be a single Standing Academic Committee for a CI or discipline specific committees. Decision about number of committees has to be taken by the Director of the CI. Each Standing Academic Committee has a chairman and a convenor. Dean-Academic can be the convenor and in case Dean-Academic is not the convenor, she/he should be a member. The following is a brief write up on the role of these committees.

3.1 For Students(e)

- Convener of the Standing Academic Committee makes announcement in the campus of the CI inviting applications from employees for joining Ph.D. programme. The application has to include a proposal for proposed research to be done.
- Having obtained all the applications, written examination is conducted for the applicants as per the document “General Guidelines for Ph.D and M.Sc.(Engg)”⁹.
- Convener arranges to conduct interviews of applicants who clear the written examination by calling meeting of the Standing Academic committee.
- The Standing Academic Committee decides:
 - Decides suitability of the research proposal for the Ph.D./ integrated single degree Ph.D./ integrated dual degree Ph.D./ M.Sc. (Engg)/ M.Phil. programme and if needed advises the student to make changes;
 - Decides the course work (class room courses, self-study courses and credit seminars) for the student;
 - Decides the composition of the Doctoral committee/ M.Sc. (Engg)/ M.Phil. Committee; and
 - Advises the student about scheduling an oral general comprehensive examination at a time as appropriate for fer/hom.
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⁹ Candidates having M.Sc.(Engg.), or M.Tech., or M.Phil., or a PG Diploma from HBNI are exempt from written test. However, they have to appear for an interview.

- Convener should send the minutes of the meeting along with the duly filled applications and enrolment forms to the office of the Dean-Academic for onward transmission to HBNI Central Office.

3.2 For students(s)

- Students are selected based on an interview by selection committees at CIs after a screening test conducted by CIs or a national level screening test (such as NET, GATE, JEST etc.) and students fill in only form A of the enrolment form at this stage.
- Extent of course work and time when a guide is selected depend on qualification.
 - Students having a M.Sc. or a B.Tech. are assigned to go through one year of course work. Progress in course work is monitored by monitoring committees¹⁰ and topic of research is assigned to student during or after the completion of course work. The process of allocation is an interactive process involving monitoring committees, student and potential guides.
 - Students having M.Tech. are asked to go through only a few courses depending upon the problem chosen. Efforts are made to assign guides through an interactive process in less than two weeks.
- Once a topic is decided, guide identified, a doctoral committee is constituted by the monitoring committee.
- Thereafter doctoral committee takes over and provides oversight on all issues related to academic progress of the student.

4. Role and responsibilities of Deans-Academic¹¹

HBNI has a distributed structure and with a view to localize administration, to the extent possible, each Constituent Institution has Deans-Academic. Number of Deans-Academic at a CI depends upon the strength of students and diversity of subjects. Acting as a link between the Central Office in Mumbai and the CI, Deans-Academic speedily perform several functions and bring efficiency in managing the affairs of the Institute. The office of a Dean-Academic acts as another check with regard to **academic quality assurance**.

- Dean-Academic is appointed by the Director of a CI. The office of the Dean-Academic is a link between the CI and HBNI Central Office. In principle, all documents from a CI should be referred to the Central Office of HBNI through the

¹⁰ Standing academic committees function as monitoring committees.

¹¹ Duties with respect to research students are covered in this document. Dean-Academic (Health Sciences) performs several functions for the smooth conduct of various programmes such as M.D., M.Ch., D.M., DRM, M.Sc.(Nursing) etc. and those are not covered here. However, all issues related to BARC Training Schools are coordinated by Training School Apex Committee, Head, HRDD, BARC and Heads of BARC Training Schools at various locations. Head RPAD, BARC coordinates DipRP programme.

Dean-Academic's office. There may be multiple Deans-Academic in a CI so as to share work load.

- Dean-Academic should receive duly filled in enrolment forms from students and keep all records of the students of the CI. The records should contain name, enrolment no., academic programme, credit courses, credit seminars, oral general comprehensive examination, extension if any, pre-synopsis seminar, final submission etc.
- Dean-Academic should make sure that the Doctoral Committee of the student meets regularly to review the progress of the academic program. The Annual Performance Review Report (APRR) of every student should be communicated to HBNI Central Office as needed. In case guide of a student leaves the CI and before leaving is not in a position to suggest a new Guide, Chairman of the doctoral committee and Dean-Academic may interact with the student and appoint a new guide. Change of guide requires approval of chairman, Standing Academic Committee or the Director of the CI. In case any member of a doctoral committee leaves the CI, Dean-Academic may consult Guide and appoint a replacement member.
- Extension of any academic programme should be taken before the expiry of the current term. If Guide is unable to inform a student about it, Dean-Academic should inform the students to comply with this.
- Dean-Academic has the responsibility of carrying out review process of a Ph.D. programme. The procedure is as follows. Dean-Academic must receive the following documents from the Ph.D. guide to start the review process:
 - Pre-synopsis seminar report duly signed by Doctoral Committee members;
 - Names of six Ph.D. thesis examiners¹²;
 - Synopsis;
 - A self-certificate from the student declaring that he / she has taken permission from co-authors to include the research work in his / her thesis and other student co-authors will not include the work in their theses.

¹² While selecting examiners, Dean-Academic should ensure that no examiner is a collaborator of the guide or co-guide so as to avoid any conflict of interest. It should also be ensured that no individual is repeatedly chosen as examiner from a research group. This would require consultation between the Dean-Academic and the guide.

- List of papers published as part of the present Ph.D. programme (at least one accepted paper in journal as per UGC regulations¹³); and
 - Certificate from the guide regarding completion of all the credit courses, credit seminars and Oral General Comprehensive Examination.
 - First page of all journal paper published / accepted.
 - Board of Studies (BoS) are empowered to make a judgment on adequacy of research work and publications.
- These documents then should be sent to the Convener, Board of Studies to enable BoS to make a judgment about the adequacy of the work done and thereafter process to be followed is as detailed in the ordinance for Ph.D. programme. Dean-Academic is expected to maintain complete confidentiality of the process of examination and this also includes names of individuals selected as examiners. In case the thesis is accepted for the award of a degree, Dean-Academic has to instruct the guide to arrange for the viva voce examination.
 - When one of the thesis examiners is from outside the country, the second examiner is the automatic choice for the conduct of the Viva Voce examination. When both the examiners are from India, then the examiner appearing earlier in the prioritized list of examiners is the external examiner for the conduct of viva voce examination. In case the external examiner is not able to travel, electronic media can be used for conducting viva voce examination.
 - Some CIs seek honorarium for outsider examiners and TA/DA for outsider examiner from HBNI and in such a case, Dean-Academic should send the following documents to HBNI Central Office for approval:
 - Comments from both the examiners.
 - Name of the examiner for the viva voce.
 - Honorarium & TA/DA for examiner and Honorarium for thesis examiners.
 - After receiving the approval from HBNI Central Office, Dean-Academic should communicate the same to the guide for arranging the final defense.
 - Dean-Academic should respond to any queries sent by HBNI Central Office related to academic details, UGC requirements, CI news for Annual Report etc.

¹³ In most disciplines, Boards of Studies are insisting on more than one publication.

Approved in the meeting of the Standing Committee of Deans held on 1.10.2015

- Dean-Academic should attend the meetings of the Standing Committee of Deans as a member and meetings of the Academic Council as a permanent invitee.