

Guidelines for Comprehensive Examination of Ph.D. & I-Ph.D. Scholars

(Approved in 9th Senate meeting of IIT Mandi (held on 11th May, 2016))

The institute is growing at a very healthy rate both in enrolments in B.Tech., PG and Ph.D. programs and in research output. The enrolment in Ph.D. program has increased many fold and the trend is likely to continue. In early years, due to small number of Ph.D. scholars, all responsibilities of research scholars including comprehensive examination were assigned to Doctoral Committee. Each school and each discipline are likely to have many scholars. Conducting separate examination for individual scholars is likely to put enormous work pressure on our faculty. It may constrain our growth. It has now become imperative to look at our existing process and plan for both quantity and quality in our research output.

The comprehensive examination plays an important role in the Ph.D. degree program. It provides us opportunities to identify factors which are likely to improve quality of our research output. It evaluates the academic preparedness of the scholar in terms breadth of his/her knowledge in his/her chosen discipline and his/her ability to think independently of solutions for scientific, technical and social challenges. The assessment provides feedback to the scholar which will be useful for planning future course of action in the research. The guidelines define only a process template. The Schools shall use this template to implement Comprehensive examination both in letter and spirit.

The comprehensive examination consists of **two parts**: written and oral viva examinations. Both examinations focus on evaluation of preparedness of scholar on basics and advance knowledge of the chosen discipline. The performance in both written and oral examinations will be described separately using categorical adjectives: Very Good, Satisfactory and Not Satisfactory. These categorical attributes shall be derived from numeric values which may represent percentage of marks obtained in written and oral examinations. The relationship between numeric values and categorical values need to be specified explicitly.

The Comprehensive Examination shall be conducted every semester once for a group of scholars who opt to take the examination.

Composition of Comprehensive Examination Committee (CEC): The Chairperson of the School in consultation with members of DCs of eligible scholars will appoint a Comprehensive Examination Committee (CEC) to prepare question papers, evaluate answer copies and to conduct of oral viva examination. The CEC must include one faculty from other school, nominated by the Chairperson of the school, and may include DC members and/or internal or external experts. It is proposed that one CEC will be appointed to evaluate all the scholars of a particular discipline admitted in a particular semester. The CEC recommendation will explicitly mention the results of both parts of the examinations and may also include descriptive observations.

1. Written examination:

- **Topics :** The topics and syllabus for written and oral examinations will be decided by the CEC. Topics, syllabus, and question paper may be divided in **two** parts to address heterogeneous research interests of scholars.
 - The first part should be kept common for all scholars and should include topics which are either part of B.Tech./M.Tech./M.Sc. subjects and are essential basic knowledge components for research or part of the courses undertaken by scholars at the institute.

- The second part is elective and may be different for scholars having different research areas. If any of the proposed topics happens to be the one that any scholar has covered extensively during course works and has received good grade (B or better), the scholar may be exempted to write examination on that topic, but he/she needs to write examination for other proposed topics. However, the course should be a lecture based course with more than five students enrolled in that course. No self study course will be considered for this exemption. The question paper may also include topics which are not part of any course but scholars need to have in-depth knowledge of it for their research.
- The duration of the written examination will be decided by the CEC but should not be less than two hours. It may be either closed or open book exam. The CEC may permit other resources in the examination based on the nature of examination paper. It may have multiple choice questions, open- or close-ended questions, design problems, or any other format decided by the CEC.
- Topics, syllabus, duration of examination and grading methodology must be communicated to the scholar well in advance so that they get adequate time for preparation.

2. **Viva Examination:** This examination will be conducted only after successful completion of written exam. The syllabus for viva-examination may be in similar areas as that of written examination. The duration of viva examination will be decided by the CEC. This will be a closed presentation, and only CEC and DC members will attend the examination. An expert may be called during Viva Examination.

The scholar will be graded by the CEC based on her/his overall performance in both written and viva examinations.

If the scholar fails to clear comprehensive examination even after second attempt, her/his registration in PhD program at IIT Mandi will be terminated.

Any exception to the above procedures needs approval from the Chairman, Senate.
