

18. REGULATIONS FOR DOCTOR OF PHILOSOPHY DEGREE

1. TITLE AND NATURE OF DEGREE

These Regulations may be called the NED University of Engineering & Technology, Regulations for the proposed Postgraduate studies leading to the Degree of Doctor of Philosophy.

2. COMMENCEMENT

These Regulations shall be applicable for Doctor of Philosophy students admitted in Spring 2014 session and onwards unless otherwise specified.

3. CRITERIA AND PROCEDURE FOR ADMISSION

3.1 Minimum requirement for admission in the Programme shall be Master's in a relevant discipline or an **equivalent** degree with a minimum CGPA of 3.0 (out of 4.0 in the Semester System) or First Division (Annual System), recognised by the University, with at most one second division in academic career.

3.2 A subject test conducted by the National Testing Service (NTS) or ETS, USA or an equivalent test conducted by the Department offering admission in the area of specialization chosen at the PhD level must be cleared. In the case of GAT Subject test, a minimum of 60% marks is required to be eligible for admission in PhD Programme. In the case of GRE subject test, 60% Percentile Score is required to be eligible for admission in PhD Programme. In the case of Departmental test, a minimum of 70% score is required to be eligible for admission in PhD Programme.

Note:

3.2.1. To be considered towards eligibility of PhD admission, an NTS or ETS subject test will be considered valid for a period of two years from the date of the test.

3.2.2. If the test is offered by the

Department offering admission in the area of specialization chosen at the PhD level, a departmental Postgraduate Admission Committee will conduct the Test at par with GRE Subject Test.

Note: Only for students admitted in between Spring 2014 session and Spring 2015 session – both inclusive, provisional admission may be granted to an applicant who has not cleared the NTS/ GRE subject test in the area of specialization chosen, who is otherwise eligible for admission. The test result, however, must be submitted by the student to the satisfaction of the eligibility requirements, prior to the end of the second semester of his/ her studies.

3.3 An application for admission to the Programme shall be submitted to the Chairperson of the concerned Department along with all required documents, indicating the proposed major subject area of research work.

3.4 At the time of application, the candidate must provide evidence of adequate financial support to undertake the complete PhD studies.

3.5 NOC from employer will be required at the time of application; if applicable.

3.6 A departmental Postgraduate Admission Committee constituted by the concerned Dean, comprising of the Chairperson and two senior faculty members of the Department/ Faculty, shall assess an applicant's suitability on the basis of the Entrance Test or NTS (GAT-Subject) or GRE (Subject), academic and professional qualifications, professional experience, reasons for desiring to enrol in the Programme, referees'

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opinions letter of recommendations, and submit recommendations to the concerned Dean to allow induction for one year in PhD Programme through concerned Chairperson.

(c) The following grades/ grade points with the equivalent marks shall be awarded to the students on the basis of their performance in each course of study.

3.7.1 The departmental Postgraduate Admission Committee, with the consent of the candidate and subsequent to the endorsement by the concerned Chairperson, will also recommend one supervisor for each candidate. The supervisor must be an HEC approved Ph.D Supervisor. In cases where essential, a co-supervisor shall be allowed. Both the supervisor and co-supervisor shall possess a Ph.D. degree and at least one of them should be a faculty member of this University. Formal supervisor allocation should be made at the time of admission of a Ph.D. student.

3.7.2 Each Ph.D. project would have a Ph.D.ReviewCommittee constituting of all Deans and Secretary, ASRB. The role of the Committee would be as follows:

- (i) Evaluating the Progress Reports and submitting its report to ASRB in prescribed format.
- (ii) Sorting issues with the students, including student grievance issues if any, during the progress of his/ her Ph.D. research.

4. GENERAL SCHEME OF STUDIES

4.1 (a) The scholar shall be required to register and qualify in six courses of PhD level – each equivalent to three credit hours. These courses are to be designed by the Supervisor or any other senior faculty member, reviewed by BOS and approved by ASRB.

(b) The scholar is required to successfully pass these courses within a twelve- month period. This period can be extended by a further six months with approval of concerned Dean on the recommendations of Supervisor and Chairperson.

Grade	Grade Point	Marks	Remarks
A	4.0	88 – 100	-
A –	3.7	80 – 87	-
B +	3.4	75 – 79	-
B	3.0	70 – 74	-
B –	2.7	67 – 69	-
C +	2.4	64 – 66	-
C	2.0	60 – 63	-
C –	1.7	57 – 59	-
D +	1.4	54 – 56	-
D	1.0	50 – 53	-
F	0.0	Below 50	Fail
S	-	-	Satisfactory
U	-	-	Unsatisfactory
P	-	50 – 100	Pass in non-credit course
X	-	-	Exempted
I	-	-	Incomplete

(d) Successful completion of six courses would entail achieving a minimum overall CGPA of 3.0 with all six courses passing.

(e) Registration in a course for change of grade/ improvement will be subject to the following conditions:

- i) Change of grade/ improvement may be allowed once for each course.
- ii) Better grade(s), if any, will be considered for determining GPA/ CGPA.

4.2 Comprehensive Examination shall be conducted by a committee after successful completion of six courses, consisting of Research Supervisor,



Chairperson and a senior faculty member of the concerned department. This Committee shall be approved by the concerned Dean. The scholar must pass the Comprehensive Examination in a maximum of two attempts to grant him the status of Ph.D. Candidacy. Passing of comprehensive examination would entail obtaining a minimum of 50% score in the exam.

- 4.3 Comprehensive Examination shall comprise of written examination (and oral if deemed significant by the Committee), covering at least the knowledge imparted in six courses completed during induction period.
- 4.4 During the induction period the scholar shall have to prepare a research proposal, which the scholar shall be required to present in a Seminar after obtaining Ph.D. Candidacy. If the Supervisor/ Department deems that the proposal needs further work, it may apprise the scholar appropriately assigning him a timeline for a proposal re-defense. Re-defense would only be allowed once. Successful completion of the Research Seminar shall be communicated by the concerned Chairperson to ASRB on prescribed Performa.
- 4.5 After having successfully defended research proposal, the proposal shall be recommended by the Supervisor for approval from ASRB through concerned Board of Studies and Dean, on the prescribed format approved by ASRB. The concerned Board of Studies may adopt its own procedure for evaluating the technical and financial merit of the proposal and will submit, along with the proposal, its recommendations on prescribed format duly endorsed by the Chairperson and the Dean for consideration of ASRB.
- 4.6 The registration in Ph.D. research shall only be confirmed by ASRB subject to following conditions:
- (a) The Scholar has successfully

completed six courses with 3.0 CGPA.

- (b) Has qualified Comprehensive Examination.
- (c) Successfully presented Research Proposal in a Seminar.
- (d) Research proposal has been approved by ASRB.

4.7 Research performance will be based on fulltime research conducted after confirmation of registration in Ph.D. research by ASRB.

4.8 The minimum period of full-time research shall be two, and a maximum of eight years shall be allowed for completion of all requirements for the Ph.D. degree. After a period of three years from the date of admission in Ph.D. programme, further extensions in the period of research may be granted by the concerned Dean on recommendation of Supervisor and concerned Chairperson, with Dean reporting to ASRB in due time.

Note: For students admitted in between Spring 2014 session and Spring 2016 session – both inclusive, maximum of seven years shall be allowed for completion of all requirements for the Ph.D. degree.

4.9 Each candidate shall get accepted at least one paper, containing his research work during Ph.D. carried out at this University, in a journal as prescribed by relevant University regulations at the time of candidate's enrolment in Ph.D. degree, prior to submission of his thesis for examination to foreign reviewers.

5. RESEARCH ASSIGNMENT AND SUPERVISION

- 5.1 The Supervisor shall be responsible for initial definition and plan of the research assigned to the scholar.
- 5.2 The Supervisor shall also be responsible for guiding the candidate in development of the research

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proposal and for working on the research plan.

5.3 The Supervisor shall suggest reading material to enhance the scholar's understanding of subjects related to the research topic.

5.4 The Ph.D. Review Committee shall regularly monitor on biannual basis for externally funded Ph.D. projects and quarterly basis for University funded Ph.D. projects (fully or partially funded) the progress of the candidate and then submit a report to ASRB on prescribed format. The Committee shall meet once every quarter – prior to scheduled ASRB meetings – for providing its recommendations to ASRB on the accumulated Progress Reports.

5.5 The research work shall be carried out in the concerned Department or in the laboratory of some other Department(s) of the University. With the approval of the concerned Dean some part of such work may be carried out in some other organization or institution.

6. PROGRESS OF WORK

6.1 Each candidate shall be expected to attend the University regularly and submit to the supervisor Quarterly (for projects partially or fully funded by University) or Biannual (for externally funded projects) Progress Reports during the period of research. This report shall be submitted to Ph.D. review committee for evaluation and subsequent recommendations to ASRB. Any candidate failing to attend the University regularly and/or not showing sufficient progress may not be allowed to continue enrolment in the programme.

6.2 Any change in the subject, title and/or outline of the approved research proposal shall require prior approval of ASRB. Such change shall be submitted to ASRB through the concerned Board of Studies.

6.3 (a) A candidate, who is temporarily unable to continue research because of unavoidable circumstances, should file an application to the ASRB through the Supervisor for temporary suspension from the programme. Such leave of absence shall not exceed twelve months. During this period, the Ph.D. project shall be suspended and no remuneration shall be paid.

6.3 (b) On return after availing the leave, Chairperson of the concerned department on recommendation of Supervisor may allow the student to continue and inform ASRB.

6.4 Admission of any candidate enrolled in the programme may be cancelled under the following circumstances:

- i. If the candidate is not regular in attending the University.
- ii. If the candidate is involved in any serious disciplinary action.
- iii. If the candidate fails to qualify six courses or pass comprehensive examination after two attempts.
- iv. If the candidate fails to successfully defend the research proposal after two attempts.
- v. If the candidate fails to demonstrate satisfactory progress.

7. SUBMISSION AND EVALUATION OF THESIS

7.1 A candidate may be allowed by the Vice Chancellor to submit the thesis only after:

- 7.1.1 Fulfilling all requirements put forward by the Postgraduate Admission Committee at the time of admission;
- 7.1.2 Successful registration in Ph.D. research as per clause 4.6;
- 7.1.3 Pursuing full-time research work for at least twenty-four months at the University;
- 7.1.4 Publishing/ Getting accepted one journal paper as per clause 4.9.

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- 7.1.5 Fulfilling all other regulatory requirements prescribed by the University.
- 7.2 Every candidate shall be required to produce a declaration counter-signed by the Supervisor and endorsed by the Chairperson that his thesis contains material contribution to knowledge and affords evidence of originality shown by the discovery of new facts or of new interpretations and that the thesis represents original work done by the candidate himself.
- 7.3 The thesis shall be written in the English language and shall be in the form prescribed by the University.
- 7.4 No thesis shall be considered satisfactory unless it shows evidence of original inquiry, capacity for development or application of scientific principles and methods, acquaintance with work of others in similar fields and ability in presentation of ideas.
- 7.5 The concerned Board of Studies shall evaluate the thesis and recommend it for onward submission to two foreign experts. The concerned Board of Studies may devise its own procedure for evaluating the thesis.
- 7.6 The thesis shall be submitted to two Ph.D. experts as referees. These referees are to be approved by ASRB on recommendation of the Board of Studies concerned. The selection of the foreign reviewers shall be as follows:
- 7.6.1A tenured, tenure-track or non-tenure-track faculty member with or without dissertation status working in a recognized university or a recognized research organization may be eligible provided that s(he) fulfils the following minimum eligibility:
- (a) S(He) should have been working for a minimum of last 5 years on a rank of Assistant Professor or above in a recognized university or equivalent position in a recognized research organization/ research departments in organizations in a technologically/academically advanced country as per HEC prescribed list.
 - (b) S(He) should not have served as Supervisor/Co-Supervisor of the Ph.D. candidate during the candidate's earlier higher education studies.
 - (c) S(He) should not have been a co-author of the candidate on any publication.
 - (d) S(He) should have relevant academic expertise as demonstrated by at least two of the following:
 - i. S(He) holds a doctoral degree in the subject area of Ph.D. project.
 - ii. S(He) has at least 10 research publications in the subject area of Ph.D. project in peer-reviewed journals of international repute indexed by ISI or Scopus, in the last 5 years.
 - iii. S(He) has at least 5 research publications in the subject area of Ph.D. project in peer-reviewed journals of international repute indexed by ISI or Scopus, and at least 2 patents approved by International Patenting Association/ Office from a technologically/academically advanced country, both in the last 5 years.
 - iv. S(He) has at least 5 research publications in the subject area of Ph.D. project in peer-reviewed journals of international repute indexed by ISI or Scopus, and at least 1 peer-reviewed book authored/edited that has been

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- published by an international publisher of repute from a technologically/academically advanced country, both in the last 5 years.
- v. S(He) has produced at least 2 Ph.Ds./ Post-Docs in the subject area of Ph.D. project in the last 5 years, in a technologically/academically advanced country.
 - vi. S(He) has served on doctoral committees of at least 4 Ph.Ds./ Post-Docs in the subject area of Ph.D. project in the last 5 years, in technologically/academically advanced countries.
 - vii. S(He) has won at least 2 research grant awards as PI/ Co-PI in the subject area of Ph.D. project in the last five years with funding amount greater than US\$100,000 (or equivalent) for each, in technologically/academically advanced countries.
- 7.6.2 All tenured or tenure-track faculty members fulfilling criteria mentioned in sub-clause 1 above are eligible for consideration of the Board without any further evaluation.
- 7.6.3 All non-tenure-track faculty members with dissertation status (i.e. approved by their universities to serve on doctoral committees), fulfilling criteria mentioned in sub-clause 7.6.1 above are eligible for consideration of the Board without any further evaluation.
- 7.6.4 All non-tenure-track faculty members without a dissertation status in their universities may be considered by the Board if s(he) meets at least two of the following requirements in addition to those in sub-clause 7.6.1 above:
- (a) S(He) should have been consistently teaching graduate courses (5-level or above) for the last 5 years (at least 3 courses per academic year on average) in a university belonging to a technologically/academically advanced country.
 - (b) S(He) should have at least 10 research publications in the last 5 years. Research publications for the purpose of eligibility may include papers in peer-reviewed journals of international repute, which are indexed by ISI or Scopus; peer-reviewed books authored/edited that have been published by an international publisher of repute from a technologically/academically advanced country; and patents approved by International Patenting Association/ Office from a technologically/academically advanced country.
 - (c) S(He) should have produced at least 2 Ph.Ds./ Post-Docs in the last 5 years in technologically/academically advanced country.
 - (d) S(He) should have served on doctoral committees of at least 3 Ph.Ds./ Post-Docs in the last 5 years in technologically/academically advanced country, in addition to his or her own Ph.D./ Post-Doc students.
 - (e) S(He) should have won at least 2 research grant awards as PI/ Co-PI in the last 10 years with funding amount greater than US\$100,000 (or equivalent) for each, in a technologically/academically advanced country.
 - (f) S(He) should have been actively serving in international technical committees, or editorial boards of international journals of repute, or task forces and think tanks related



to the area of expertise, or committees for development/improvement of policy and legislation.

7.7 The Plagiarism Test must be conducted on the thesis by the Supervisor using Turnitin Software, or any other software approved by the University, before its submission to the two foreign experts. The candidate will be required to bring the similarity in acceptable range as prescribed below:

- (i) Overall acceptable range of similarity index either from candidate's own previous work or the work of some other person(s) is less than 20%.
- (ii) Maximum acceptable range of similarity index from an individual link is 5%.
- (iii) There must not be a similarity more than 3% in the abstract of the thesis.
- (iv) Verbatim copy of text would be considered as plagiarism.
- (v) While conducting similarity test, following settings, as recommended by HEC, should be followed:
 - Exclude bibliographic material = Yes;
 - Exclude small matches = Yes;
 - Exclude matches by: Word count = 5 words
 - All other settings left at default

7.8 On the recommendation of the Board of Studies concerned, the Advanced Studies and Research Board shall propose a panel of three examiners including the Supervisor for evaluation of thesis and examination. One examiner shall be from outside the University.

7.9 A candidate shall submit an application on prescribed form after fulfilling conditions of Section 7.1 to the Vice Chancellor for his examination and shall submit three copies of the thesis for

evaluation.

7.10 An open defense of the thesis (an announced public seminar followed by an examination by the designated examiners) shall be conducted after positive evaluation from foreign experts.

7.11 Three examiners shall examine the thesis. The report of the experts shall also be made available to the examiners. The candidate shall be required to undergo a viva-voce examination to be conducted jointly by the examiners. The panel of examiners shall submit a report to the ASRB. No degree shall be awarded unless all the three examiners recommend the award of degree.

7.12 The result of examination shall be declared in the following manner:

- (a) Requirement fulfilled without any corrections
- (b) Requirement fulfilled with minor corrections
- (c) Deferred
- (d) Failure

7.12.1 In case of result as 7.12(b); one of the members of the Examiners' Committee, as nominated by the Examiners' Committee, shall certify that the corrections are carried out to his satisfaction.

7.12.2 In the case of a deferred result the Examiners' Committee shall indicate in what respect the material of the thesis should be modified and specify period for re-submission. Committee shall also decide whether to hold subsequent examination or not.

7.12.3 The Examiners' Committee shall deposit the result of the entire examination of the candidate immediately after the oral examination and shall submit the result in the prescribed form to the

Controller of Examinations.

- 7.13 If the thesis is not accepted for Ph.D. degree but found to have made some contribution sufficient for award of Master's Degree, the University may on the recommendation of examiners, confer Master's Degree by Research to the candidate, subject to re-submission after necessary changes in the thesis format.
- 7.14 If the examiners find that the thesis is wholly inadequate they may recommend that it be rejected without any further test.

8. AWARD OF DEGREE

If the candidate passes the examination, his result may be declared with the permission of the Syndicate and he may be awarded the degree.

9. PUBLICATION OF THESIS

- 9.1 A candidate, having qualified himself for the degree of Doctor of Philosophy, shall submit four hard copies of the thesis and one soft copy of the thesis on a CD/ DVD in a prescribed format to the Chairperson of the concerned Department.
- 9.2 The Chairperson shall retain one copy for the departmental Library and shall forward three copies to Controller of Examinations for necessary disposal as follows:
- 9.2.1 Two copies to be disposed to University Library.
- 9.2.2 One hard copy and one soft copy (on CD/ DVD) to be disposed to the Registrar for onward transmission to HEC for record in Ph.D. Country Directory and for attestation of the Ph.D. degree by the HEC in future.
- 9.3 The NED University of Engineering & Technology shall have the intellectual rights of the outcome of any research carried out within University.

10. REMUNERATION OF EXAMINERS, FEES AND OTHER CHARGES

- 10.1 Examiners shall be paid such remuneration as may be prescribed by the University from time to time.
- 10.2 The rate of fees and other charges payable by the students shall be such as may be prescribed by the University from time to time, and announced through the relevant Prospectus/ University Notifications.
- 10.3 Subject to approval by the competent authority, these Regulations may be changed from time to time. Changes shall be announced through University Notifications and/or relevant Prospectus.

11. CONDUCT OF PH.D. PROGRAM

- 11.1 There should be at least 3 relevant full time Ph.D. Faculty members in the faculty to launch the Ph.D. program.
- 11.2 The maximum number of Ph.D. students under the supervision of a full time faculty member is five which may be increased to eight under special circumstances in certain teaching departments subject to prior approval of the Vice Chancellor.



