118

Annexure - 4

ORDINANCES FOR THE AWARD OF THE DEGREE OF DOCTOR OF PHILOSOPHY (Ph. D)

IN ENGINEERING

(With effect from 2015)

आर्यभट्ट ज्ञान विश्वविद्यालय
ARYABHATTA KNOWLEDGE UNIVERSITY

Aryabhatta Knowledge University, Patna

1187

Index

31.03.17

ARYABHATTA KNOWLEDGE UNIVERSITY, PATNA
ORDINANCE FOR THE AWARD OF THE DEGREE OF DOCTOR OF PHILOSOPHY (Ph. D) IN ENGINEERING
(With effect from 2015)

Ordinances

Section No. 1 SHORT TITLE AND COMMENCEMENT

1.1 These Ordinances shall be called **"AKU Ordinances for the Award for the Degree of Doctor of Philosophy (Ph.D.) in Engineering- 2015".**

1.2 These Ordinances shall come into force from the date as decided by the Competent Authority and be applicable to the candidates who seek registration for Ph.D. in the Faculty of Engineering.

1.3 All correspondence concerning Ph.D. like Reports/presentation /Thesis shall be in English language only.

Section No. 2 DEFINITIONS

2.1 In these Ordinances unless the context requires otherwise or it is specifically so defined:

a) **Ordinances Committee** means a committee constituted by the University to govern the activities of Ph.D. programme.
b) **Admission Committee** means a committee constituted by the University to carry out the activities concerning the admission of candidates to the Ph.D. programme.
c) **AICTE** means the All India Council for Technical Education, established at New Delhi by an Act of Parliament in 1987.
d) **Coursework** means the courses prescribed as a part of the Ph.D. programme, which all the candidates shall successfully complete as a pre-requisite.
e) **Co-Guide** means the additional Research Guide who supervises/guides the doctoral research of a candidate along with the Research Guide.
f) **Degree** at Undergraduate/ Postgraduate/ Doctor of Philosophy level means UG/ PG/ Ph.D. in abbreviated form.
g) **Doctoral Committee** means the committee constituted by the University to review the research progress of a candidate.
h) **Research Guide** means a qualified faculty member / scientist recognised by the University to supervise/guide the Ph.D. (Engg.) research work of the candidates.
i) **Research Centre** means a College / Institute / Department / Research establishment and the like, recognized by the University where the candidates can pursue Ph.D. in Engineering.
j) **University** means Aryabhatta Knowledge University (AKU), Patna.

k) **Viva-Voce Board** means a committee of experts appointed by the University to conduct the final viva-voce examination on the Thesis submitted by the candidate.

Section No. 3 BOARDS AND COMMITTEES

3.1 Constitution of Boards/Committees

The University shall constitute the following Boards and Committees for monitoring the Ph. D. Programme:

a) Ordinances Committee

b) Admission Committee

c) Doctoral Research Committee

d) DSC (Doctoral Scrutiny Committee)

e) Viva-Voce Board and,

f) Such other Boards/Committees, as may be required,

The composition, duties and responsibilities of the Boards and Committees are as given below:

3.1.1 Ordinances Committee

The Ordinances Committee shall be constituted by the Vice-Chancellor as and when required. The scope of the committee shall be,

a) To lay down the policy connecting Ph.D. Ordinances from time to time.
b) To resolve any issues raised by the Admission Committee or issues referred by the
Registrar, AKU, Patna
c) Any other related matter.

The tenure of the committee shall be three years. The committee may meet as often as required, subject to a minimum of two meetings in an academic year.

3.1.2 Admissions Committee

The Admissions Committee to be constituted by the University, consisting of the following:

1. Dean (Engineering), -Chairman
2. One Nominee of the Executive Council, -Member
3. One Nominee of the Academic Council, -Member
4. One Nominee of the Vice Chancellor, -Member
5. Controller of Examination -Member Secretary

and makes selection of the Candidates as per provisions made in here under.

3.1.3 Doctoral Research Committee (DRC):

31.03.17

The University shall constitute a Doctoral Research Committee for each candidate and shall have the following composition:

1. Senior Most Head of the Concerned Department, having Ph.D. degree (or his/her Nominee approved by the Vice-Chancellor) - **Chairman**
2. Two domain experts, (at least one external expert) to be identified by the Vice-Chancellor in consultation with the Research Guide.
3. Research Guide, -Member-Secretary
4. Co-Guide (if any), -Member

DRC will finalize the area of Research along with the topic of thesis after completion of the requisite course work and comprehensive viva-voce examination.

All the expenses related to Doctoral Research Committee meeting shall be borne by the institute where the candidate has been registered for his/her Ph.D. Program.

3.1.4 Doctoral Scrutiny Committee (DSC):

The DSC to be constituted by the Dean of Faculty and shall be approved by the Vice-Chancellor, it shall consist of the following members.

(i) Senior Most Faculty of the Concerned Department having Ph.D. Degree, from the concerned college where the candidate is pursuing his research. Chairman
(If the concerned senior most faculty is not having Ph.D. Degree, the domain expert will act as the Chairman and the senior most faculty will be a member of the Committee)

(ii) One Domain Expert to be identified by the Vice-Chancellor - Member

(iii) Research Guide -Member

(iv) Co-Guide, if any Member

DSC will monitor the progress of the Research activities at the end of each Semester. The Progress report shall be sent to the University in each Semester by the Chairman of the committee.

183

3.1.5 Viva-Voce Board

The Viva Voce Board to be constituted by the Vice Chancellor for each candidate soon after the receipt of favourable Reports from all the Examiners, the composition of the board shall be as follows:

1) One Internal Examiner - Guide
2) One External Examiner - One of the thesis Evaluator

The Board shall conduct the final open Viva-Voce examination for the candidate. The board shall submit the reports in the prescribed format to the Controller of Examination.

Section No. 4 CANDIDATE SELECTION AND REGISTRATION PROCESS:

4.1 Selection Process

4.1.1 Invitation for Application

The Registrar of the University shall invite applications for registration to the Ph.D. Programme as decided by the University once in a year. A candidate desirous of pursuing a Ph.D. programme in Engineering under AKU shall apply in the prescribed form, if he/she satisfies the following eligibility criteria.

4.1.2 Eligibility for Application

Candidates belonging to one of the following categories shall be eligible for registration to the Ph.D. programme of the University.

(a) Possessing M.Tech.. or equivalent Degree with a minimum of 6.5 CGPA in a 10 point scale or 60% in aggregate at M.Tech Level.
(b) Possessing B.Tech. Degree with minimum of 8 CGPA in a 10 point scale or 80% of marks in aggregate.
(c) Possessing B.Tech. Degree with a minimum of 7.5 CGPA in a 10 point scale or 70% of marks in aggregate for Teachers working in AICTE approved Institute having at least 10 years of teaching experience. Faculty having less than 10 years experiences will come under section (b) of 4.1.2 and 4.1.5 (b).

4.1.3 Scrutiny of Application forms:

The applications received in the University shall be scrutinized by a committee constituted for the purpose by the University.

4.1.4 Pre- Ph.D. Entrance test

All eligible candidates shall have to qualify a common Pre- Ph.D. entrance test to be conducted by the Controller of Examinations of the University once a year. Candidates with a minimum of 50% marks in the Pre- Ph.D. entrance test shall be eligible for appearing at the interview. The Controller of Examinations shall notify list of the successful candidates in order of merit in the University website.

31.03.17

4.1.5 Exemption from the Test

The following categories of candidates shall be exempted from the Pre- Ph.D. entrance test.

(a) Candidates who have qualified GATE/NET/SLATE/GPAT or any other National/State level eligibility test.

(b) Faculty members appointment of Substantive post of constituent and affiliated colleges of the university having at least one year of service.

The candidates exempted from Pre- Ph.D. entrance Test, however, will have to appear at the interview for the final selection.

Section No. 5 ELIGIBILTY CRITERIA FOR RESEARCH GUIDE/CO- GUIDE

5.1 Procedure for Recognition

a) All faculty member of the Constituted/Affiliated Colleges/PG Deptt. of the University possessing at least Ph.D. degree will be eligible to become the Research Guide/Co-guide. Guide may also be from premiere institutes like IITs, NITs, IISc and ISM. However, in such case one Co-guide must be from the Institute/ Centre where research work will be carried out by the candidate or vice-versa, if needed.

b) In case of death of the Guide/ Co- Guide, the Research Scholar shall identify a substitute Guide/ Co- Guide and send an application to the University along with the consent letter of the new Guide and head of institution/organisation.

c) In exceptional circumstances the candidate may be allowed to change his Guide//Co- Guide following the prescribed procedure to be laid down as & when required.

Section No. 6 INTAKE

6.1 Number of Candidates per Research Guide

The following norms / procedure shall be strictly adhered to while assigning the Research Guides to the candidates admitted at a Research Centre. Any violation of these norms/ procedure shall result in the University taking serious steps like de-recognition of the Research Centre or the Research Guide.

(a) A Professor rank Research Guide shall supervise not more than 06 candidates and a Associate/Assistant Professor rank Research Guide shall supervise not more than 04 candidates at a time including the candidates who have registered for Ph.D. degree at other Universities (acceptance for supervision of Ph. D. students at other Universities shall be with the written permission of the University) if any.

Section No. 7 THE Ph. D. PROGRAMME

After provisional registration, the Ph.D. programme of a candidate shall consist of three parts in sequence, namely,

Part-I : Coursework,
Part–II : Comprehensive Vice-Voce,

Part-III : Satisfactory Progress report by DSC,
Part-IV : Synopsis Submission followed by Thesis Submission and successful Defence examination.

7. 1 Coursework

7.1.1 Proposed Coursework:-

For the candidates having M.Tech. Degree – 16 credits

- Research Methodology - 03 credits
- Subject relevant courses - 06 credits
- Seminar - 03 credits
- Comprehensive viva-Voce examination -04 credits

Total - 16 credits

For the candidate having B.Tech Degree. - 25 credits

- Research Methodology - 03 credits
- Subject relevant courses - 12 credits
- Seminars I & II - 06 credits
- Comprehensive viva- - 04 credits voce examination

Total 25 credits

7.1.2 Coursework Approval

a) After getting provisional Ph.D. registration (Admission), all the candidates shall register for the coursework recommended by the Doctoral Research Committee (DRC), which shall be a compulsory requirement.

b) The candidate having M.Tech. Degree cannot register for more than 09 credits in one semester. The Seminar and comprehensive viva-voce examination are not to be taken in 1st semester.

c) The candidate having B.Tech. Degree also cannot register for more than 09 credits in one semester. The Seminars are not to be taken in 1st semester. However, comprehensive viva-voce examination is required to be taken in last semester.

d) All the candidates shall submit their applications along with the prescribed fees for the examinations in the individual courses of Coursework in response to the notifications issued by the University in this respect.

Note: Course work to be taken by the candidate along with the detail syllabus for each department shall be announced by the University from time to time. The Pre-Ph.D. course work will be conducted in the University.

7.1.3 Setting up of Question Papers

Question papers shall be set by the appointed examiners for this purpose by the University from the panel prepared by Examination Board and selected by the Vice-Chancellor from that panel.

7.1.4 Evaluation of Answer Scripts

Answer scripts of all the candidates shall be valued by evaluators appointed by the University having a minimum teaching experience of five years.

31.03.17

7.2 Pre - Ph.D. Presentation

Prior to the submission of Thesis, each candidate shall give pre-Ph.D. presentation before DSC at the Research Centre or at the place decided by the University. After satisfactory report of the DSC, the candidate will be allowed to submit the thesis for final evaluation.

The Recommendation of Doctoral Scrutiny Committee shall be submitted along with the soft copy of Synopsis and Thesis to the University.

7.3 Publication Requirements

7.3.1 Mandatory Publications requirement

Each candidate shall publish a minimum of two research papers at least referred Journal based on his/her research work for the Ph.D. Degree and produce evidence for the same in the form of reprint or acceptance letter from the Publisher(s) of the Journal.

7.4 Minimum Period for Submission of Thesis by Students

a) Full-Time and Part-Time candidates for the Ph.D. Degree shall be normally eligible for submission of the Thesis after a minimum period of three years and four years respectively from the date of submission to the Ph.D. pragramme, subject to fulfilment of all the prescribed requirements.

b) The maximum time period will be 05 years for regular programme and 06 years for Part-Time programme.
One year extension may be given by the Vice-Chancellor if DRC recommends for the same.

7.5 Submission of Thesis along with synopsis

The contents of the thesis will be checked for plagiarism using appropriate software. The content should not match more than 20%. After passing through the said process the candidate shall submit a Synopsis and the Thesis in English language. The candidate shall submit six hard copies and one soft copy of the Synopsis and Thesis both.

Section No. 8 EXAMINER FOR Ph.D. THESIS

8.1 Panel of Examiners

Within a maximum period of three months of the submission of Thesis, the University shall decide the panel of examiners. The Guide shall submit names of at least five External Examiners to the University (preferably from outside the State). The guide will be the Internal Examiner. The Dean can add the name of the External Examiners but he will not delete name of any of the External Examiner recommended by the Guide. The final name of two External Examiners shall be decided by Vice-chancellor from the panel of Examiners (If the Vice-Chancellor is not satisfied with the panel, he/she may ask for additional names).

8.2 Receipt of Thesis Reports at the University

The selected two External Examiners and Internal Examiner will evaluate the Thesis and send their Reports in prescribed format independently to the Controller of Examination.

8.3 Consideration of Final Report submitted by External and Internal Examiners.

External-1	External-2	Internal-3	Remarks
Positive	Positive	Positive	Positive
Positive	Negative	Positive	Decided by DRC
Negative	Negative	Positive	Negative

Section No. 9 FINAL VIVA-VOCE EXAMINATION

Final Viva-Voce examination shall be open defence examination.

The composition of final Viva Voce Board shall be as follows:

a) Head of the concerned deptt., - Co-ordinator
b) Guide, -Member
c) Examiner identified by the Vice Chancellor from –Member
The thesis evaluator.

In case, the Identified external examiner informs in writing his / her inability to be present at the Viva-Voce, the same shall be communicated to the Vice-Chancellor. The Vice-Chancellor shall appoint 2nd evaluator of the thesis. The date, time and place of via-voce shall be announced by the University in consultation with external examiner.

The candidate shall provide suitable clarification(s) to all the queries of the Examiners and the Audience at the time of Viva Voce.

Section No 10 AWARD OF Ph. D. DEGREE

10.1 Degree Certificates

Upon the approval by the Executive Council, the University shall issue a Ph.D. Degree Certificate to the candidate certifying that the Degree has been awarded in accordance with the **"Ordinances for The Award of Degree of Doctor of Philosophy (Ph.D.) in Engineering"**. Provisional Certificate may be issued after satisfactory viva-voce examination after approval of the vice-chancellor before the convocation.

Note: The Ph.D. in Engineering shall be conducted in the Government College/Institute. Ph.D. in Pharmacy course can also be conducted in the Government .Pharmacy College/Institute.

31.03.17