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AMRITA VISHWA VIDYAPEETHAM

Ph.D. Programme
(Doctor of Philosophy)

Policies and Procedures

SCHOOL OF ENGINEERING

August 2014

PREAMBLE

1. The name “Amrita Vishwa Vidyapeetham” will be abbreviated as “the University” in this document.

2. For the purpose of this document, Centres shall be considered as equivalent to Departments, and Centre Heads as equivalent to Department Chairs.

3. The PGP (Post-graduate Programmes) Dean, or Chair of the University-level PGP Committee, has primary responsibility over all Ph.D. Programmes in the University. The PGP Dean reports to the Vice Chancellor and shall work closely with the Deans of Schools/Campuses, Principals of Schools and PGP Chairs to ensure the smooth functioning of all Ph.D. Programmes.

4. A Campus/School Dean, Principal of a School, or Senior Professor may be appointed as a PGP Chair. For Health Sciences, the Dean Research shall be appointed as a PGP Chair. A campus may have more than one PGP Chair. The PGP Chairs for a campus collectively have the responsibility for the Ph.D Programmes in that campus.

5. A Department/Centre/School/Campus that wishes to offer a Ph.D. Programme should submit an application to the PGP Dean through a campus PGP Chair, and should list the potential Ph.D. Thesis Advisors and their areas of specialization. The PGP Dean will forward the application along with a recommendation to the Vice Chancellor for approval.

6. The Ph.D. degree will mention only the Thesis Title and the School in which the student is registered, in recognition of the interdisciplinary nature of doctoral research.

7. The award of the Ph.D. degree shall be in accordance with the Policies and Procedures as outlined in this document, as well as other Ordinances, Rules, and Regulations of the University.

8. A Ph.D student may appeal to the PGP Chair through the Thesis Advisor/Department Chair for a waiver/substitution of any requirement. The appeal should be in writing and supported by proper justification. If the appeal is denied, it may be escalated to the Associate Dean/School Dean, PGP Dean and the Vice Chancellor, whose decision is final and binding.

9. Amendments to the policies and procedures outlined in this document may be made with the approval of the Vice Chancellor and subsequently ratified by the Academic Council and Board of Management.

The next two sections cover, respectively, the School-level Policies and Procedures and the University-wide Policies and Procedures which are applicable to all Schools.

1. SCHOOL OF ENGINEERING—POLICIES AND PROCEDURES

1.1 Admission Eligibility

The eligibility criteria are as follows:

- Applicants with first-class (minimum of 65% marks) in the following degrees are eligible to apply for admission to the Ph.D. Programme: B.E., B.Tech., M.E., M.Tech., M.Sc., MCA. The PGP Chairs in Engineering shall evaluate, as needed, whether any other degree, including a degree from a foreign university, can be considered as equivalent to one of the above degrees for the purpose of admission.

- All applicants are expected to have strong academic records. Applicants with only a Bachelors degree should show additional evidence, such as excellent scores on standardized aptitude tests (e.g. GRE, GATE) or publications in good conferences or journals.

1.2 Categories of Doctoral Students

There are two categories of doctoral students, full-time and part-time. An applicant must choose, at the time of admission, the category in which he or she wishes to be admitted.

A full-time doctoral student is primarily focused on carrying out at the University all course-work, research, and other doctoral requirements. The student may be employed on a research project that has his or her Thesis Advisor (see section 2.2) as PI/Co-PI, but the research project and doctoral research should have substantial overlap.

A part-time doctoral student typically has a full-time appointment at the University or at another academic/R&D organization. They are permitted to proceed at a slower pace in completing their doctoral requirements (see section 1.4).

1.3 Course-work Credits

The number of course-work credits that a doctoral student undertakes is decided by the Doctoral Committee (see section 2.2) and depends upon the student's background and intended Ph.D. research area.

All students must complete a 1-credit course on *Research Methodology* and a non-credit course on *Mathematical Foundations* (see Annexure 1). In addition:

- students entering with B.E., B.Tech. or equivalent degrees must complete a minimum of 36 credits of PG-level course-work;
- students entering with M.Sc and MCA must complete a minimum of 21 credits of PG-level course-work; and
- students entering with M.E., M.Tech, or equivalent degrees must complete a minimum of 12 credits of PG-level course-work.

All students must complete a 3-credit *Minor* course, i.e., one that falls outside the student's research area. This course could be from the same school as that of the student (but different department) or it could be from a different school. When a student's intended research area is interdisciplinary or the student's entering degree is from a different discipline, the Doctoral Committee may petition the PGP Chair for substitution of the Minor course with another course. The credits for the Minor course or its substitute are included in the above-mentioned course-work credits.

When necessary, the Doctoral Committee may prescribe more course-work credits than the minimum number of credits stated above.

1.4 Normal Duration of Ph.D.

The normal duration for the Ph.D. depends upon the student's qualifications at the time of admission and also the category of admission.

- For full-time doctoral students entering with an M.E., M.Tech or equivalent degrees, the normal duration for the Ph.D. is four years, the minimum being three years and maximum being six years.
- For full-time doctoral students entering with a B.E., B.Tech, M.Sc, MCA or equivalent degrees, the corresponding periods are five, four, and seven years, respectively.
- For part-time doctoral students, the normal duration for the Ph.D. is between five and eight years.

Under special circumstances, the PGP Chair may approve deviations from the normal period of completion based upon a written justification provided by the Thesis Advisor and approved by the Doctoral Committee.

A doctoral student who registers and successfully completes all requirements in the School of Engineering will receive a Ph.D. degree under the *Faculty of Engineering.*

2. UNIVERSITY-WIDE POLICIES AND PROCEDURES

2.1 Admission Procedure

Applications for the Ph.D. Programme will be solicited through the university website (www.amrita.edu) and other means of advertisement, and admissions shall take place twice a year on dates that are announced well in advance.

The PGP Chair shall authorize a Department/Centre or a group of Departments/Centres to form a *Selection Committee* taking into account the number of available openings, the number of applications received and the research interests of the applicants. The Selection Committee will conduct a common *Entrance Test* for all applicants, followed by an *Interview*.

The Entrance Test will examine fundamental concepts and the syllabus of the Test will be made known to the applicants in advance. The Interview examines the applicant's

interests, aptitude, and background. The Selection Committee may request additional evidence, such as copies of claimed publications, at the Interview.

Based upon the Entrance Test and Interview performance, and prior academic record, the Committee shall give its recommendation to the PGP Chair who will finalize the admission and notify the selected applicants of the date of joining.

All prospective Thesis Advisors are invited to participate in the selection process and their consent obtained before being appointed as Thesis Advisor for any applicant.

2.2 Thesis Advisor and Doctoral Committee

Soon upon admission to the Ph.D. Programme, every student shall be assigned a *Thesis Advisor* and a *Doctoral Committee* by the PGP Chair taking into account the student's interests and available faculty.

The Thesis Advisor must be a regular or emeritus faculty member of the University with a Ph.D. degree and an established research record. The Thesis Advisor is primarily responsible for guiding the doctoral student's research and ensuring that the student makes satisfactory and timely progress towards the Ph.D. degree.

A Thesis Advisor may not advise more than five doctoral students at a time, and, in exceptional cases, not more than eight students at a time. Junior faculty of the university, especially first-time advisors, may serve as Thesis Advisor provided a senior faculty member is associated as a *Co-Advisor*. Adjunct faculty members of the University may serve only as Co-Advisors.

A faculty member from one campus of the University may serve as Thesis Advisor for a doctoral student in another campus. In such cases, the faculty member should keep his or her Department Chair informed of the arrangement. Occasionally, when it is desirable to have an external expert as Co-Advisor, the PGP Chair shall recommend (to Vice chancellor) that the expert be appointed as an Adjunct faculty of the University, and, subsequent to that appointment, shall appoint him or her to the Doctoral Committee.

The Doctoral Committee consists of the Thesis Advisor, the Co-Advisor (where applicable), a *Convener*, and one or two experts from within the University in the candidate's research area. The doctoral committee shall have a total of four to five members. (In Schools with a small number of PhD-holding faculty, the Doctoral Committee may have three members.) Each member of the Doctoral Committee must have a Ph.D. The Doctoral Committee is responsible for all academic matters connected with the doctoral student, including prescribing the course-work, monitoring research progress, and conducting appropriate examinations.

Changes in Thesis Advisor and/or Doctoral Committee are permitted after the doctoral student passes the Comprehensive Examination (see section 2.3.4). Under special circumstances, such changes may be permitted at any stage. If the request is due to a change in research topic, the (new) Doctoral Committee shall ensure that the student

acquires adequate knowledge to proceed with the research programme. Such changes are to be approved by the PGP Chair.

2.3 Ph.D. Degree Requirements

2.3.1 Course Work

The course-work for a doctoral student is proposed by the Thesis Advisor taking into account the student's background and preparation. The proposed course-work must be endorsed by the Doctoral Committee and approved by the PGP Chair.

All courses shall be University-approved courses. The student is expected to maintain an average grade of "B" across all courses. In addition to regular courses offered by the University, three additional types of courses are permitted: *transfer courses, on-line courses,* and *independent-study courses*.

- A *transfer course* is one that the student has completed in the recent past at the University (prior to admission) or at another reputed institution. A course completed for the award of another degree is not eligible for transfer.

- An *on-line course* is one that is offered in distance-learning mode by another educational institution or a reputable education-technology company such as Coursera, EdX, and Udacity. Such courses require prior approval by the student's Doctoral Committee. It requires registration in a 'Special Studies' course at the University, completion of 45 hours of on-line lectures, and obtaining a pass grade on a final examination set by the Doctoral Committee and administered by the Controller of Examinations. The evaluation of on-line courses shall be similar to other courses.

- An *independent-study course* is developed specifically for the Ph.D. student and may involve a combination of self-study and one-to-one instruction by a professor. Such a course should not have substantial overlap with a regular lecture course offered by the University. A student taking an independent-study course must complete a publishable Scopus-indexed conference or journal paper for successful completion of the course.

Up to 50% of a student's course-work may consist of the above three types of courses.

2.3.2 Thesis Work

In addition to course-work, the doctoral student is expected to carry out creative and scholarly research leading up to the completion of a written Ph.D. Thesis. Doctoral research must result in original and substantial contributions to the chosen specialized field of study. This requires mastery of the literature in the specialized field, and critical thinking and judgment. The student should also relate the field of study to the broader discipline within which the research falls.

In recognition of the substantial nature of Ph.D. thesis work, it will carry 60 credits. Full-time doctoral students shall register for 10-15 credits per semester, while part-time

students may register for 6-10 credits each semester. Satisfactory progress in thesis work will result in an 'O' grade (for ongoing) and unsatisfactory progress will result in an 'I' grade (for incomplete), which is to be made up within one semester. Satisfactory progress will be judged by the Doctoral Committee on the basis of semester wise progress reports submitted by the doctoral student (see section 2.3.11) and/or the completion of publishable papers (see section 2.3.5). A student is not permitted to obtain 'I' grades in two consecutive semesters.

2.3.3 Residency Requirement

Every doctoral student must fulfill a minimum residency period of one academic year in the University including the time spent on course work.

Part-time students who are employed external to the University must also fulfill the one-year residency requirement. However, this can be met through multiple (up to a maximum of five) visits, with at least one semester/trimester of continuous stay at the campus. It is recommended that such students undertake course-work for at least one semester/trimester at the University.

2.3.4 Comprehensive Examination

All doctoral students must take a *Comprehensive Examination* after completion of all course-work. This is normally done by full-time /part-time students within two/ three years after registration in the Ph.D. Programme. The Comprehensive Examination is an oral (in some Schools, a written-cum-oral) examination administered by the Doctoral Committee and examines the course work undergone by the candidate.

The Doctoral Committee frames the syllabus for the examination and may invite an additional expert from within the University who, together with the Doctoral Committee, form the Comprehensive Examination Committee. The Convener of the Doctoral Committee will be the Convener of the Comprehensive Examination Committee. No external examiner is required for the Comprehensive Examination.

If a doctoral student fails in the first attempt, he or she will be given a second chance to take the examination after a period of three months, but within six months. Extra time may be recommended by the Doctoral Committee and granted by the PGP Chair when the student needs to complete additional course-work before re-taking the examination. In special cases, the Doctoral Committee and PGP Chair may grant a third and final examination, failing which the student is required to leave the Ph.D. Programme.

2.3.5 Publications

After completion of the Comprehensive Examination, every doctoral student is expected to publish one refereed paper a year. These papers should be in a Scopus-indexed journal or conference proceedings. Prior to the submission of a paper to any conference or journal, a written consent should be obtained from the Chair of the Department in which the student is registered.

All publications based upon the thesis research should list the name of the Thesis Advisor and Co-Advisor, with their consent, in addition to the doctoral student's name. The format for writing one's affiliation in conference/journal papers is as follows:

Names of Authors
Name of Department/Centre/School
Name of Campus
Amrita Vishwa Vidyapeetham (University)

Conference publications should appear in the proceedings produced by reputed international professional bodies. The PGP Chair, in consultation with the experts in the area, will decide whether the publications are of the required quality.

Before submission of the Thesis Synopsis (see section 2.3.8), every doctoral student is also expected to have at least one paper accepted for publication in a Scopus-indexed *journal* on the topic of the thesis research.

2.3.6 Qualifying Examination and Thesis Proposal

All doctoral students must take a *Qualifying Examination*. This is normally done by full-time /part-time students within one year/ two years after passing the Comprehensive Examination and after the completion of one conference/journal paper. In preparation for the Qualifying Examination, a doctoral student must submit a written *Thesis Proposal* to the Doctoral Committee. After approval by the committee, the student may take the Qualifying Examination, wherein he or she presents and defends the proposal.

The Qualifying Examination is an oral examination administered by a Qualifying Examination Committee consisting of the Doctoral Committee together with an external expert from a reputed academic or R&D institution in India. The Convener of the Doctoral Committee will be the Convener of the Qualifying Examination Committee.

The Thesis Proposal is a 12-15 page document outlining the doctoral student's plan of research. It should include:

(a) the research problem and its significance;
(b) background and related literature;
(c) objectives, approach, and results obtained to date;
(d) remaining research and timeline for completion;
(e) expected contributions to the field;
(f) references cited

If a doctoral student fails the Qualifying Examination in the first attempt, he or she will be given a second and final chance to take the examination after a period of time as stipulated by the Doctoral Committee and approved by the PGP Chair. A student who passes the Qualifying Examination "advances to candidacy," i.e., becomes a *Candidate* for the Ph.D. degree; otherwise, the student is required to leave the Programme.

2.3.7 Open Seminars

After advancement to candidacy, all doctoral candidates are required to present two research seminars. The two seminars should be at least six months apart, with the second seminar being held immediately before the submission of the Synopsis (see section 2.3.8). These seminars should be attended by the Thesis Advisor and Doctoral committee. The open seminars should be advertized in all departments at least a week in advance (electronically and by hardcopy) and a copy sent to the PGP Chair. Feedback and comments on the research obtained from these seminars may be suitably incorporated in the thesis.

2.3.8 Thesis Synopsis

Once the Thesis Advisor and Doctoral Committee are satisfied that the doctoral candidate has completed the required research for the award of the Ph.D. degree and the candidate has published (or has an acceptance of) a refereed Scopus-indexed journal paper and has also given the second Open Seminar (see section 2.3.7), the candidate is required to submit a written *Synopsis* to the Doctoral Committee for approval. The Synopsis should include the motivation, significance and main objectives of the research, along with a brief literature survey and a detailed report on the thesis research. The main conclusions and results should be highlighted, and important figures and references should be provided. The Synopsis should be about 12 pages; the exact format of the Synopsis may be obtained from the Office of the PGP Chair.

The Thesis Advisor should forward to the PGP Chair an electronic and hardcopy of the Synopsis along with the name, designation, area of interest, email ids and communication address of at least eight experts who are qualified to evaluate the Thesis. Four of these experts should be from leading academic/R&D institutions in India and four from leading academic/R&D institutions from outside the country. From this list as well as other experts qualified to evaluate the thesis, the PGP Chair should obtain the consent of one expert from India and one expert from outside the country who will evaluate the thesis.

2.3.9 Thesis Submission and Evaluation

The doctoral candidate should submit the *Ph.D. Thesis* to the Doctoral Committee normally within six weeks from the date of submission of the Synopsis. The exact format of the submission may be obtained from the Office of the PGP Chair. After approval by the Doctoral Committee, the Thesis Advisor forwards an electronic and hardcopy of the Ph.D. Thesis to the PGP Chair who will send it to the external examiners. The Thesis Advisor and Co-Advisor are also invited to provide a formal evaluation of the thesis. All examiners will be given eight weeks to provide their evaluation.

Each examiner can give one of three recommendations: (i) Accept, (ii) Accept with Modifications, or (iii) Reject. If neither of the external examiners recommends a Reject, the candidate is permitted to proceed to the Thesis Defense. If both external examiners recommend a Reject, the thesis is rejected and the candidate is required to leave the

Ph.D Programme. If only one of the external examiners recommends a Reject, the thesis is sent to a third external examiner whose evaluation decides whether or not the candidate is permitted to proceed with the Thesis Defense. Prior to the Defense, the candidate must submit a revised Thesis taking into account the comments and suggestions made by all examiners.

2.3.10 Thesis Defense and Final Recommendation

The *Thesis Defense* is a public presentation made by the doctoral candidate on the research reported in the thesis. The date, time, venue and title of the defense should be announced widely and well in advance to enable all interested parties to attend. The Thesis Defense Committee, which includes at least one external examiner and the doctoral committee members, must be present at the defense.

The Thesis Defense Committee consists of the Doctoral Committee and at least one of the external experts who evaluated the thesis. The Convener of the Doctoral Committee serves as the Convener of this Committee. If none of the external examiners can be present, the PGP Chair may nominate a substitute examiner.

The public defense will be followed by an *in-camera* (closed-door) oral examination during which the candidate is required to answer queries raised by the thesis examiners. For this purpose, all examiners' reports will be made available to all members of the Thesis Defense Committee, who may cover the general background of the subject in the light of the requirements for the thesis. Where part of the work has been undertaken jointly with others, the examiners should satisfy themselves as to the adequacy of the candidate's own contribution.

A pass in the in-camera oral examination is compulsory. If a candidate fails this examination in the first instance, he/she may be allowed a second and final chance after a lapse of three months, but not later than six months from the date of first appearance.
If the candidate passes the oral examination, the Thesis Defense Committee shall consolidate the recommendation for the award of the PhD Degree based on the report of the examiners who evaluated the thesis as well as an evaluation of the candidate's performance in the oral examination. The Convener forwards the consolidated recommendation to the PGP Chair who forwards the same to the PGP Dean with the required enclosures (see Annexure 2). The PGP Dean forwards the final recommendation to the Vice Chancellor for his approval. After the Vice Chancellor's approval, the PGP Dean issues the Provisional Certificate.

2.3.11 Progress Reports

The doctoral student shall submit half-yearly reports to the Doctoral Committee who in turn will forward these reports along with their evaluation to the PGP Chair. The Office of the PGP Chair will maintain the format of the progress report.

The PGP Chair may conduct periodic reviews of all doctoral students, especially those who are not making satisfactory progress, in a meeting with their Thesis Advisors and selected additional members present. Continued unsatisfactory progress, as determined by the PGP Chair, may be sufficient grounds for discontinuation of any fellowship or

assistantship that has been previously awarded to the student and also dismissal from the Ph.D. Programme.

2.3.12 Award of the Ph.D. Degree

Upon approval by the Vice Chancellor and subsequent ratification by the Academic Council and the Board of Management of the University, the doctoral student will be presented to the Chancellor (or Chancellor's nominee) for award of the Ph.D. Degree at the next Convocation of the University.

ANNEXURE 1

CY800 RESEARCH METHODOLOGY 1-0-0-1

(1-credit course)

Research: Meaning, Purpose, Types of Research, Steps in Research, Identification, Selection and Formulation of Research Problem, Research Questions, Research Design, Formulation of Hypothesis, Review of Literature. Internet as a source in identifying gap areas from literature reviews and emerging trends .Sampling Technique: Types of Sampling, Steps in Sampling, Sample Size, Advantages and Limitations of Sampling.

Data for Research: Primary Data, Collection Methods, Observation, Interview, Questionnaire, Pretest-Pilot test, Experimental and Case Studies, Secondary Data, Relevance, Limitations and Cautions. Processing Data: Checking, Editing, Coding, Transcriptions and Tabulation. Data Analysis- Meaning and Methods- Quantitative and Qualitative Analysis. Statistical Tables, Diagrams and Graphs, Measures of Averages, Measures of Dispersion, Correlation Analysis and Regression Analysis.

Research Tools. Familiarization of Spreadsheet Tools, Presentation Tools and Writing Tools,Structuring the Report, Pagination, Identification, Presenting Footnotes, Abbreviations, Presentation of Tables and Figures- Referencing- Use and Format of Appendices, Indexing.

Research Report: Types of Reports- Styles of Reporting- Steps in Drafting Reports- Editing and Evaluating the Final Draft.Developing a Proposal and Working in a Research Team.Critical Appraisal of Published Research: Guidelines for Appraisal.

Ethical Issues, Copyright, Royalty, Intellectual Property Rights and Patent Law, Reproduction of Published Material, Citation and Acknowledgement

Text Books/References:

1. CR Kothari, "*Research Methodology-Methods and Techniques*", New Age International Publishers, 2004

2. Jacques Barzun and Henry F. Graff, "*The Modern Researcher*", Sixth Edition, Wadsworth Inc Fulfillment, 2003

3. Carlo Lastrucci, "*The Scientific Approach: Basic Principles of the Scientific Method*", Cambridge, Mass. Schenkman, 1967

MATHEMATICAL FOUNDATIONS FOR ENGINEERS

(non-credit course)

Matrices: Determinant of a square matrix, properties of determinants, minors, cofactors and applications of determinants in finding the area of a triangle. Adjoint and inverse of a square matrix. Inverse of a matrix, Computation of inverses, solution of system of linear equations by matrix inversion method and Cramer's rule. Elementary transformation on a matrix. Rank of a Matrix, Linear dependence. Solutions of Linear Systems: Existence and Uniqueness.

Vector Algebra: Vectors and scalars, magnitude and direction of a vector. Direction cosines and direction ratios of vectors. Scalar Product – Angle between two vectors, properties of scalar product, and applications of dot products. Vector Product − Right handed and left handed systems, properties of vector product and applications of cross product. Vector and Scalar Functions, Derivatives, Curves, Tangents, Arc Length, Curves in Mechanics, Velocity and Acceleration.

Coordinate Geometry: Slope of a line and angle between two lines. Various forms of equations of a line: parallel to axes, point-slope form, slope-intercept form, two point form, intercept form and normal form. General equation of a line. Distance of a point from a line.

Sections of a cone: circle, ellipse, parabola, hyperbola, a point, a straight line and pair of intersecting lines as a degenerated case of a conic section. Standard equations and simple properties of parabola, ellipse and hyperbola. Standard equation of a circle.

Differential Calculus: Derivative as a rate measure − rate of change − velocity − acceleration − related rates − Derivative as a measure of slope − tangent, normal and angle between curves. Maxima and Minima. Mean value theorem − Rolle's Theorem − Lagrange Mean Value Theorem − Taylor's and Maclaurin's series, l' Hôpital's Rule, stationary points − increasing, decreasing, maxima, minima, concavity convexity and points of inflexion.

Integral Calculus: Properties of definite integrals, Area, length, volume and surface area.

Differential Equations: Formation of differential equations, order and degree, solving differential equation − variable separable homogeneous, linear equations. Second order linear equations.

Statistics and Probability Theory: Measures of dispersion: Mean, median and mode, variance and standard deviation of ungrouped/grouped data. Probability, conditional probability, independent events, total probability and Baye's theorem. Random Variable, Probability density function, distribution function, mathematical expectation, variance, Discrete Distributions −Binomial, Poisson, Continuous Distribution − Normal distribution.

ANNEXURE 2

For Vice Chancellor's Approval

When the entire process for the award of Ph.D is complete, the PGP Chair of the Campus/School should submit to the PGP Dean (at the University Headquarters) the following:

THESIS DEFENSE REPORT

Name of the Candidate :
Degree Registered : Ph.D
Registration Number :
Date and Place of Oral Examination :

We Certify that the Thesis Defense Report Contains the Following:

1. Main Contributions made by the Candidate (~ one page)
2. Reviewers' Reports (original), categorized by each reviewer
3. Account of Open Oral Examination (~ one page)
4. Account of in-Camera Oral Examination (~ one page)
5. Statement regarding the acceptability of:
   (a) the candidate's written replies, if any, to the examiners' comments and queries;
   (b) the list of changes, if any, incorporated in the Thesis
6. Final Recommendation regarding the acceptability of the Thesis for the award of the Ph D Degree of the University, to read as shown below:

"Based on:

i. The contributions made in the thesis entitled _____,
ii. Reports of the examiners who evaluated the thesis,
iii. Satisfactory performance in the Open Oral Examination, and
iv. Satisfactory performance in the In-camera Oral Examination,

we recommend the acceptance of the thesis for the award of the PhD Degree of Amrita Vishwa Vidyapeetham to Mr/ Ms _____."

Name of the External Examiner Signature
Name of the Member, Doctoral Committee Signature
Name of the Thesis Advisor Signature
Name of the Convener, Doctoral Committee Signature

Note: All the documents are to be signed by the Thesis Advisor and, the same to be submitted to PGP Chair after completion of the defense.

Enclosures to Thesis Defense Report

1. The Ph.D. Candidate should submit:

(i) one corrected hardcopy of the Ph.D. Thesis (for the University Library);
(ii) one soft copy of the Thesis in a CD (for UGC); and
(iii) one soft copy of the Synopsis in another CD (for UGC).

The CD's should mention the Title of the Thesis, Name of the Student, Year of Registration, Name of the Department where Registered, Name of the Thesis Advisor

as well as the Co Advisor, if applicable, Name of the School and Name and Address of the University.

The month and year in the thesis (to be lodged with the University) should be the month and year of the Thesis Defense. The date of Declaration should be the date of the Thesis Defense.

The final *hardbound* Ph.D. Thesis may be produced after the Thesis Defense, incorporating any modifications that are necessitated in the light of the discussions and queries raised at the Defense. Prior to binding, a softcopy of the Thesis should be submitted to the PGP Dean's Office for approval of the format of the front pages.

The Hardbound Thesis should be submitted within one week after the Thesis Defense.

2. The PGP Chair should submit:

1. Date of receipt of Application and also a copy of the completed Application Form
2. Date of constituting the Selection Committee including the list of Members.
3. Date of Entrance Examination and Interview
4. Date of Admission offer letter
5. Date of Joining (i.e. the date on which the required fees was paid)
6. Register Number
7. Doctoral Committee Members list
8. Date of completion of course work and list of courses completed
9. Date of successful completion of the Comprehensive Examination including the list of Committee Members
10. Date of successful completion of the Qualifying Examination including the list of Committee Members
11. Dates of Two Seminars
12. Dates of Residency in University Campus (for part-time candidates who are not employed at Amrita)
13. Details of Publications for Independent Study Courses
14. Details of Yearly Publications past Comprehensive Examination. For each journal paper, provide the name of the journal and publisher, volume and page numbers, and year of publication; and, for each conference paper, provide the name, date, and location of the conference, publisher of the proceedings, page numbers, and the professional society sponsoring the conference.
15. Date of Synopsis Submission
16. Date of Thesis Submission
17. Date of Thesis Defense