



(A State University Accredited with 'A' Grade by NAAC)

Ph.D. Programmes

Prospectus — 2021-22

(Information & Instructions to Candidates)



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Annamalai University

In the early 1920s, to serve the downtrodden and to promote Tamil Literature, Rajah Sir S. R. M. Annamalai Chettiar founded Sri Minakshi College, Sri Minakshi Tamil College and Sri Minakshi Sanskrit College in a rural setup at Chidambaram. In 1928, Rajah Sir S. R. M. Annamalai Chettiar agreed with the local Government to handover the above said institution for establishing a University. Thus, on 01.01.1929 Annamalai University was established as per Annamalai University Act 1928 (Tamil Nadu Act 1 of 1929).

Annamalai University Act 2013

The Annamalai University Act, 1928 has been repealed and replaced by the Annamalai University Act 2013 (Tamil Nadu Act 20 of 2013). Honourable Governor of Tamil Nadu is the Chancellor of the University.

Accolades

Annamalai University, accredited with 'A' Grade by **NAAC** in 2014, is one of India's largest public residential universities with 10 Faculties and 49 departments of study. Sprawling over 950 Acres of land, the University does yeoman service in taking education to the doorsteps of the people who are otherwise far from access to centres of higher learning. The University has initiated several innovative teaching programmes over the years and has been a pioneer in distance education.

"**The NIRF-2020**" by the Ministry of Human Resource Development (MHRD) has ranked the University in the band 101 - 150 in the University Category. In the Pharmacy Category the ranking is 12th in India. In the Medical Category the ranking is 35th.

"**The Times Higher Education World University Ranking - 2021**" has ranked Annamalai University in 1000+ for Overall category. In the Subject category Ranking, 2021, the University is ranked in the band of 501-600 for Life Sciences and 600+ for Pre-clinical, clinical & Health Subjects. 800+ in the Physical Sciences and Engineering subject.

"**The QS World University Ranking - 2021**" has ranked Annamalai University in the band of 291 - 300 in Asia Ranking, and 39 in India Ranking.

"**The CWTS Leiden Ranking 2019**", on scientific impact of universities and on universities' involvement in scientific collaboration & scientific performance, has ranked the University at 23rd based on the number of publications and 7th based on the proportion of publications that, compared with other publications in the same field and in the same year, belong to the top 10% most frequently cited.

"**The SCImago Institutional Ranking**" (2019) has ranked 9th in Tamil Nadu and 29th among the top 212 ranked institutions for Higher Education in India.

International Comparative Performance of India's Research Base (2009-14), a report published by Elsevier in April, 2016, prepared in collaboration with the Department of Science and Technology, Ministry of Science, Government of India has rated the University as the top Indian Institute in Pharmacology, 17th among the top 30 Indian Universities in Publications with highest subject area Publication Count in Pharmacology.

As far as the Global Exposure, Indian Science Ascending, a Springer Nature report, done in conjunction with Confederation of Indian Industries, has ranked the University as 11th among the top 20 Indian Institutions in International Collaborations.

The University has participated in the Southern (Antarctic) Ocean Expeditions (SOE) organized by National Centre for Antarctic Ocean Research 2011 - 12 onwards.

Research & Partnership

Annamalai University has a commendable track record in projects and publications and has been awarded the PURSE Programme by the Department of Science and Technology. Ten departments are supported by UGC-SAP, Ten by DST-FIST and two departments have attained the status of Centre of Advanced Study. Annamalai University has joint research and innovation partnerships with 24 institutions across the USA, Europe, Australia, Japan, and the UK. The list of partners includes prestigious institutes like Karolinska Institute, John Hopkins University and University of Michigan amongst others.

Two of the most notable international collaborations in which Annamalai University is the Co-ordinating Institute include the Indo- EU FUNCFOOD Project and the 21st Century Indo-US Knowledge Initiative. There are several ongoing research projects with international foundations and industrial players like Bayer, CavinKare, Dow Agrosiences, Bill & Melinda Gates Foundation, HCL, L&T, Accenture, and Huawei.

MoUs & Patents

To its credit, the University has obtained **15** Patents and has **40** MoUs with research partners like FAO, IRRI & USDA.

Institutional Social Responsibility Activities

The ISR activities of the University include, Hospital on Wheels, Free Medical and Dental Camps in Villages, Lifestyle & Hygiene Awareness, Rural & Urban Health Centres through the Faculties of Medicine and Dentistry which are attached with a 1400 bedded hospital. The Faculty of Agriculture carries out extension activities like Agripreneurship Development Programme, Sustainable Livelihood Projects for Tsunami affected people and Training Farmers in Integrated Farming.

Directorate of Academic Research (DARE)

A separate Centre called **DIRECTORATE OF ACADEMIC RESEARCH (DARE)** was created and a Director has been appointed to look after the admission of Ph.D. and M.Phil. student's registration, constitution of Research Advisory Committee (RAC) for each Ph.D. student, monitoring the progress and quality of publication and minor problems faced by scholars, question paper setting, arrangement to conduct Ph.D. and M.Phil. course work Examinations, evaluation etc., This centre will also take care of expediting the process of thesis evaluation, conduct of Viva-Voce Examination and award of degree.

Infrastructure Facilities

The University has excellent infrastructural facilities including adequate classrooms, air conditioned high-tech seminar halls with interactive boards for classroom teaching, spacious examination and valuation centres, auditoria, well equipped research laboratories, and computer labs with internet facilities. The Central Instrumentation Laboratory has facilities for advanced research work. The General Library provides access to JSTOR for the Social Sciences and Science Direct and PROQUEST for the physical and natural sciences. The library staffs also impart training to students in the use of e-resources.

The campus has a Sports pavilion with gymnasium, 18 hostels, Internet browsing facility, canteens and waiting rooms for women. The University has a well-furnished and comfortable Guest House with a seminar hall. A 24x7 Hospital with 1400 beds, advanced equipment and facilities such as CT Scan, Trauma, ICU and emergency units caters the healthcare needs of students and faculty. The University has 24 hours uninterrupted power supply and additional generators in various faculties. The campus has its own water supply system, including reverse osmosis water plants.

The University has invested substantially over the last few years to improve the classroom and laboratory infrastructure, books and journals and online resources for teaching, learning and research. Recent additions to infrastructure include an Emergency Medicine Block, a 24x7 Pharmacy, a rapid access Cardiac Wing, hostel for international students, the Innovation Centre and four new canteens.

Student Support Systems

During their stay, students can avail of a number of support systems and services. The Information Desk in the Administrative Block provides necessary information for students on all aspects of campus life. The academic calendar and handbook give information on the academic schedule and curriculum. All departments have associations

under the auspices of which, students can interact with eminent academicians and scientists. Students can make use of both the Central and departmental libraries for reference work and computer and internet services for browsing. Coaching classes are organized to prepare students for NET, SET and civil services examinations. The Placement Cell arranges for campus recruitment. The scholarship section provides information on various financial support schemes. The Equal Opportunities Cell caters the welfare of SC/ST students, including dissemination of information about financial support and provision of scholarships for socio-economically weaker students.

Other support services include redressal of Students Grievances through SMS, in-house language laboratories, the Yoga Centre and Alumni Associations. Girl students can address their grievances to the Women's Grievance Cell. Students in need of counseling have access to professional counselors. Medical treatment in the University hospital is free for students. A medical insurance scheme has been introduced for the benefit of students. The Music College is a boon for music lovers and for those who aspire to learn music as a pastime. The Physical Education department with the gymnasium, impressive courts and tracks provide avenues for sports and games. Students trained by the Political Science Faculty regularly participate in Youth Parliament and have won prizes too. Students actively participate in extension activities through NCC, NSS and Youth Red Cross.



The University Library, named after the eminent scholar, statesman and former Vice-Chancellor, Dr. C.P. Ramaswami Aiyar, serves as knowledge hub for the students and the staff. Quite a good number of journals can be accessed through the Infonet facility. Science-Direct and Proquest are subscribed for accessing e-journals.





The sports complex of the University, spread over several acres, houses facilities for sports and games. Tennis court complex, basketball complex, volleyball complex, athletic standard track, cricket field & nets, football field, hockey field and a wooden floored indoor stadium are a few worth mentioning.



Research Facilities



SEM Lab



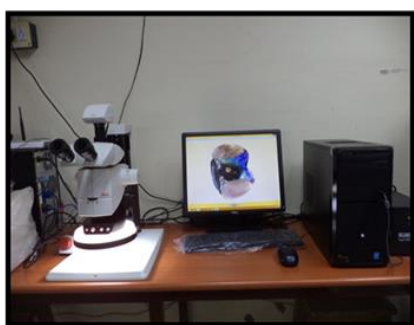
Instruments Laboratory



Biotech Laboratory



TRINOCULAR STEREOSCOPIC ZOOM MICROSCOPE



LEICA Stereo zoom microscope



Potter's tower



ROTARY VACUUM FLASH EVAPORATOR



BALL MILL

Instruments at Faculty of Agriculture



Single Crystal XRD (Bruker)



Atomic Force Microscope (AFM)



Scanning Electron Microscope - EDS (SEM-EDS)

Flow Cytometer Cell Sorter (FACS)



ICP



Simultaneous Thermal Analyser (STA)

Laser Scanning Confocal Microscope (LSCM)



Instruments Lab - Marine Sciences



Marine Museum



Instrumentation Lab

CHAPTER I ACT PROVISIONS

In accordance with the provisions of Section 31(b) of the Annamalai University Act 2013, the following Annamalai University Ordinance Governing the Award of the Degree of Doctor of Philosophy is prepared with the approval of the Syndicate.

CHAPTER II REGULATIONS FOR DOCTOR OF PHILOSOPHY – 2021

DEFINITIONS AND NOMENCLATURE

In the Regulations, unless the context otherwise requires

- i. “University” means Annamalai University, Annamalainagar - 608002.
- ii. “Departmental Research Committee” means the Committee duly constituted by the Vice-Chancellor of the University for Effective Coordination of the research activities of the department.
- iii. “Programme” means Doctoral Programme leading to the award of Ph.D. degree in Arts, Science, Marine Sciences, Indian Languages, Engineering & Technology, Education, Fine Arts and Agriculture.
- iv. “Supervisor” means any faculty member of the University who has been recognized by the University to guide the research scholars.
- v. “Co-supervisor” means a recognized supervisor to guide the scholars in interdisciplinary research that requires more than one expert to guide the research scholars, and to guide part-time (external) candidates who are working permanently in institutions where PG/UG departments are not available.
- vi. “Head of the Department” means Head of the Department of the supervisor.
- vii. “Place of Research” for the scholars shall be the Department where the supervisor is working.
- viii. “Research Advisory Committee” means a committee constituted by the Vice-Chancellor for each Scholar, to monitor the progress of his/her research work.
- ix. “Research scholar” means any candidate admitted by the University under Full time, Part time (Internal) and Part Time (External) category pursuing research for the award of Ph.D. degree of the University.
- x. “Course Work” means theory course(s) / (subject(s)) / practical course/theory cum practical course that is/are prescribed by the Research Advisory Committee for the scholar to undergo as a part of the programme requirement.
- xi. “Grade Point” means the total marks in percentage divided by ten and rounded off to two decimal points.
- xii. “Credit Point” means the grade point multiplied by the corresponding credit hours.

- xiii. “Grade Point average (GPA)” means the total credit points secured in a semester divided by the total credit hours registered in a semester.
- xiv. “Cumulative Grade Point Average (CGPA) or Overall Grade Point Average (OGPA)” means the total credit points secured by a research scholar for all the semesters divided by the total credit hours of the courses registered and rounded off to two decimals.
- xv. “Publication” means full length research articles reporting new research findings in respective fields which comprise presentations on new concepts, the development of innovative methods that include figures, tables and references; the results of which have a general impact and contribute to the advancement of the particular field, and are always peer reviewed.

1. PREAMBLE

Doctor of Philosophy (Ph.D.) is the Highest Academic Degree which requires in-depth study and extensive intellectual effort. The Doctor of Philosophy (Ph.D.) Degree is awarded to a candidate who, as per these regulations, has submitted a thesis on the basis of original research either in any particular subject/discipline or involving more than one discipline(inter-disciplinary) that makes a contribution to the advancement of knowledge, which is approved by Board of Examiners as required. The Ph.D. Regulations-2021 of Annamalai University from the admission to the award of “Degree of Doctor of Philosophy” is based on the **UGC (Minimum Standards and Procedure for award of Ph.D. Degree) Regulations dated 5th May 2016 and subsequent amendments made during 2018.**

2. GENERAL ELIGIBILITY

- 2.1 Master’s Degree from UGC recognized University or any other qualification recognized as equivalent thereto in the fields of study notified from time to time by the University. Specific educational qualifications are given in Clause 4.
- 2.2 A minimum of 55% marks or CGPA 5.50 on a 10 point scale in the qualifying examination for Faculties of Arts, Science, Marine Sciences, Indian Languages, Engineering & Technology, Education, Fine Arts. In the case of SC/ST/OBC (Non-creamy layer)/Differently-abled candidates, 50% marks or CGPA of 5.0 on a 10 point scale in the Master’s degree.
- 2.3 A minimum of OGPA or CGPA 7.00 on a 10 point scale in the qualifying examination for the Faculty of Agriculture.
- 2.4 Candidates who have secured their Master’s Degree under 11+1+3+2 (or) 10+2+3+2 (or) 10+2+4+2 (or) 10+3+3+2 (or) 11+1+4+2 (or) 10+2+5 pattern of programmes of study are eligible. Candidates who have passed Master’s Degree through Open University system are not eligible.

3. FACULTIES/DEPARTMENTS OFFERING Ph.D. PROGRAMMES

The following faculties offer research programmes leading to the award of Ph.D. Degree:

Faculty	Ph.D. Programmes
Arts	English, History, Political Science, Public Administration, Economics, Sociology, Social Work, Commerce, Population Studies, Business Administration, Rural Development, Library & Information Science, Philosophy.
Science	Mathematics, Statistics, Physics, Chemistry, Botany, Zoology, Bioinformatics, Microbiology, Geology, Applied Geology, Geoinformatics, Biochemistry, Biotechnology, Computer Science, Computer Applications, Sports Biochemistry, Sports Biomechanics, Exercise Physiology, Sports Nutrition, Sports Psychology, Strength & Conditioning.
Marine Sciences	Marine Biotechnology, Marine Microbiology, Marine Food Technology, Marine Biology & Oceanography, Coastal Aquaculture, Ocean Science & Technology.
Indian Languages	Tamil, Hindi, Linguistics.
Engineering & Technology	Chemical, Chemical Engineering - Biotechnology, Chemical Engineering - Food Technology, Chemical Engineering - Industrial Safety, Civil, Civil & Structural, Computer Science & Engineering, Electrical & Electronics, Electronics & Communication, Electronics & Instrumentation, Information Technology, Mechanical, Manufacturing, Pharmacy.
Education	Education, Psychology, Physical Education, Yoga.
Fine Arts	Music
Agriculture	Agronomy, Agricultural Entomology, Plant Pathology, Agricultural Microbiology, Soil Science & Agricultural Chemistry, Genetics & Plant Breeding, Seed Science & Technology, Plant Molecular Biology & Biotechnology, Horticulture, Agricultural Economics, Agri. Business Management, Agricultural Extension, Animal Husbandry.

4. EDUCATIONAL QUALIFICATION

4.1. FACULTY OF ARTS

English

A pass in Master's Degree in English / English & Comparative Literature / English & Communication / English & Functional English / English & English Language Teaching / American Studies / English Language and Literature / English with Computer Applications / English Studies with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

History

A pass in Master's Degree in History and any other Masters Degree relevant to the field of History with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Political Science

A pass in Master's Degree in Political Science / International Relations / Human Rights with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Public Administration

A pass in Master's Degree in Public Administration/ Social Welfare Administration /Police Administration / Development Administration with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Economics

A pass in Master's Degree in Economics / Applied Economics / Mathematical Economics / Econometrics / Business Economics / Environmental Economics / Development Studies / Rural Economics / Rural Development / Women Studies / Gender Studies / Business Studies / Disaster Management / Rural Management / Environmental Management with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Rural Development

A pass in Master's Degree in any field of study with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Sociology

A pass in Master's Degree in Sociology/Social Work (MSW) with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Social Work

A pass in Master's Degree in Social Work (MSW) with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Commerce

A pass in Master's degree (M.Com) in Commerce/Accounting & Finance/ International Banking / Financial Services / Business Studies / Co-operative Management and International Business / M.Com. Five Year Integrated Programme/ M.A. Co-operation / M.A. Corporate Secretaryship / Master of Bank Management / Master of Business Studies / Master of Financial Services / Master of Financial Management / Master of Financial Control with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Population Studies

A pass in Master's degree in Population Studies or other interdisciplinary Programmes viz. Hospital Administration / Hospital Management / Project Management / Sociology / Economics / Commerce / Management / Psychology / Geography / Statistics / Social Work / Rural Development / Anthropology / Medicine / Nursing / Public Health / Education / Adult Education Mathematics / Actuarial Science / Population & Development / Master of Health Social Sciences (MHSS) with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised equivalent thereto.

Business Administration

A pass in Master's Degree in Business Administration or a pass in PG programme in Management (their area of research will be restricted to their specialization in their PG degree) with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Library & Information Science

A pass in Master's Degree in Library & Information Science with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Philosophy

A pass in Master's Degree in M.A.(History / Political Science / Sociology) / M.S.W.(Master of Social Work) or any other Master's Degree relevant to the field of Philosophy & Religion with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

4.2 FACULTY OF SCIENCE**Mathematics**

A pass in Master's Degree in Mathematics with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Statistics

A pass in Master's Degree in Statistics with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Physics

A pass in Master's Degree in Physics with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Chemistry

A pass in Master's Degree in Chemistry with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Botany

A pass in Master's Degree in Botany or its equivalent programmes with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Zoology

A pass in Master's Degree in Zoology with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Bioinformatics

A pass in Master's Degree in Bioinformatics with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Microbiology

A pass in Master's Degree in Microbiology with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Geology / Applied Geology

A pass in Master's Degree in Geology / Applied Geology / Marine Geology / Geo-Physics / Geo-Chemistry with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Geoinformatics

A pass in Master's Degree in Geoinformatics / Geology / Applied Geology / Marine Geology / Geo-Physics / Geo-Chemistry with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Biochemistry

A pass in Master's Degree in Biochemistry / Life Sciences / Molecular Biology / Nutrition and Dietetics (equivalent thereto) / Biochemical Technology / Genomics with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Biotechnology

A pass in M.Sc./M.Tech. Degree in Biotechnology (Industrial, Plant, Animal, Nano, Medical, Environmental and Microbiology) / Molecular Biology / Biochemistry / Microbiology / Genetics (Plant, Animal, Human and Biomedical Genetics) / Life Sciences / Biomedical Technology / Genomics with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Computer Science / Computer Applications

A pass in M.Sc. (Computer Science / Information Technology / Information Science / Software Engineering / Computer Technology) / MCA with a minimum of 55% or its equivalent grade point average in the relevant discipline of this University or any other University accepted by the Syndicate as equivalent thereto.

Sports Biochemistry

A pass in Master's Degree in Sports Biochemistry with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Sports Biomechanics

A pass in Master's Degree in Sports Biomechanics with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Exercise Physiology

A pass in Master's Degree in Exercise Physiology / Sports Physiology / Sports Science with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Sports Nutrition

A pass in Master's Degree in Sports Nutrition with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Sports Psychology

A pass in Master's Degree in Sports Psychology with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Strength & Conditioning

A pass in Master's Degree in Strength & Conditioning / Sports Physiotherapy / Physical Education with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

4.3 FACULTY OF MARINE SCIENCES**Marine Biology & Oceanography**

A pass in Master's Degree in Marine Biology & Oceanography/Biotechnology/Zoology/Botany/Animal Science & Biotechnology/Plant Science & Biotechnology/Biochemistry/Human Genetics/Applied Genetics/Molecular Biology / Microbiology / Industrial Microbiology / Agriculture Microbiology / Pharmacology / Marine Sciences / Conservation of Marine Environment / Forestry / Oceanography & CAS / marine Biology / Environmental Sciences / Marine Studies & Coastal Resource Management / Marine Biology & Fisheries with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Coastal Aquaculture

A pass in Master's Degree in Coastal Aquaculture / Biotechnology / Zoology / Botany / Animal Science & Biotechnology / Plant Science & Biotechnology / Biochemistry / Human Genetics / Applied Genetics / Molecular Biology / Microbiology / Industrial Microbiology / Agriculture Microbiology / Pharmacology / Coastal Aquaculture and Marine Biotechnology / Applied Fisheries & Coastal Aquaculture with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Marine Biotechnology

A pass in Master's Degree in Marine Biotechnology / Biotechnology / Zoology / Botany / Animal Science & Biotechnology / Plant Science & Biotechnology / Biochemistry / Human Genetics / Applied Genetics / Molecular Biology / Microbiology / Industrial Microbiology / Agriculture Microbiology / Pharmacology / Chemistry with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Marine Microbiology

A pass in Master's Degree in Marine Microbiology / Marine Biotechnology / Biotechnology / Zoology / Botany / Animal Science & Biotechnology / Plant Science & Biotechnology / Biochemistry / Microbiology / Industrial Microbiology / Agriculture Microbiology / Applied Microbiology / Conservation of Marine Environment with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Marine Food Technology

A pass in Master's Degree in Botany / Zoology / Aquaculture / Biochemistry / Biotechnology / Microbiology / Fishery Science / Animal Science & Biotechnology / Plant Science & Biotechnology with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Ocean Science & Technology

A pass in Master's Degree in Ocean Science & Technology / Geology / Applied Geology / Geoinformatics / Environmental Sciences / Environmental Engineering / Mathematics / Physics / M.E. Energy Engineering and Management / M.E. Disaster Management and Engineering / M.E./M.Tech. Remote Sensing & GIS / M.Tech. Coastal Management / M.E./M.Tech. Environmental Engineering with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

4.4. FACULTY OF INDIAN LANGUAGES**Tamil**

A pass in Master's Degree in Tamil with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Hindi

A pass in Master's Degree in Hindi with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Linguistics

A pass in Master's Degree in Linguistics / Translation Studies / any language with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

(or)

A pass in any Master's degree other than the above with 55% of marks with a condition that the candidate should complete his/her Master's Degree in Linguistics/Translation Studies (through DDE) or post-graduate Diploma in

Linguistics/Natural Language Processing before submitting the dissertation. For those candidates the degree will be awarded as Ph.D. in Linguistics (Interdisciplinary).

4.5. FACULTY OF ENGINEERING & TECHNOLOGY

Chemical Engineering

A pass in Master's Degree offered / Master's degree notified by AIU as equivalent of any University and recognized as specialization of the Department of Chemical Engineering with a minimum of 55% marks or equivalent Grade Point Average (GPA).

Chemical Engineering - Biotechnology

A pass in Master's Degree offered / Master's degree notified by AIU as equivalent of any University and recognized as specialization of the Department of Chemical Engineering with a minimum of 55% marks or equivalent Grade Point Average (GPA).

Chemical Engineering - Food Technology

A pass in Master's Degree offered / Master's degree notified by AIU as equivalent of any University and recognized as specialization of the Department of Chemical Engineering with a minimum of 55% marks or equivalent Grade Point Average (GPA).

Chemical Engineering - Industrial Safety

A pass in Master's Degree offered / Master's degree notified by AIU as equivalent of any University and recognized as specialization of the Department of Chemical Engineering with a minimum of 55% marks or equivalent Grade Point Average (GPA).

Civil Engineering

A pass in Master's Degree offered / Master's degree notified by AIU as equivalent of any University and recognized as specialization of the Department of Civil Engineering with a minimum of 55% marks or equivalent Grade Point Average (GPA).

Civil & Structural Engineering

A pass in Master's Degree offered / Master's degree notified by AIU as equivalent of any University and recognized as specialization of the Department of Civil and Structural Engineering with a minimum of 55% marks or equivalent Grade Point Average (GPA).

Computer Science & Engineering

A pass in Master's Degree offered / Master's degree notified by AIU as equivalent of any University and recognized as specialization of the Department of Computer Science and Engineering with a minimum of 55% marks or equivalent Grade Point Average (GPA).

Electrical & Electronics Engineering

A pass in Master's Degree offered / Master's degree notified by AIU as equivalent of any University and recognized as specialization of the Department of Electrical and Electronics Engineering with a minimum of 55% marks or equivalent Grade Point Average (GPA).

Electronics & Communication Engineering

A pass in Master's Degree offered / Master's degree notified by AIU as equivalent of any University and recognized as specialization of the Department of Electronics

and Communication Engineering with a minimum of 55% marks or equivalent Grade Point Average (GPA).

Electronics & Instrumentation Engineering

A pass in Master's Degree offered / Master's degree notified by AIU as equivalent of any University and recognized as specialization of the Department of Electronics and Instrumentation Engineering with a minimum of 55% marks or equivalent Grade Point Average (GPA).

Information Technology

A pass in Master's Degree offered / Master's degree notified by AIU as equivalent of any University and recognized as specialization of the Department of Information Technology with a minimum of 55% marks or equivalent Grade Point Average (GPA).

Mechanical Engineering

A pass in Master's Degree offered / Master's degree notified by AIU as equivalent of any University and recognized as specialization of the Department of Mechanical Engineering with a minimum of 55% marks or equivalent Grade Point Average (GPA).

Manufacturing Engineering

A pass in Master's Degree offered / Master's degree notified by AIU as equivalent of any University and recognized as specialization of the Department of Manufacturing Engineering with a minimum of 55% marks or equivalent Grade Point Average (GPA).

Pharmacy

A pass in Master's Degree in Pharmacy / Pharm.D. / any other degree consider as equivalent to Master's degree in Pharmacy with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

4.6. FACULTY OF EDUCATION

Education

A pass in Master's Degree in Education (M.Ed. / M.A.Education) with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Psychology

A pass in Master's Degree in Psychology or other specialization in Psychology (Applied Psychology / Clinical Psychology / Guidance and Counselling / Organizational Behaviour etc.). with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Physical Education

A pass in Master's Degree (M.P.Ed. / M.P.E. / M.P.E.S.) with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Yoga

A pass in M.Sc. Yoga with minimum of 55% of marks under 10+2+3+ (P.G.Diploma in Yoga + M.Sc. Yoga (Lateral Entry) / M.Sc. Yoga or equivalent Grade Point Average (GPA) or in an examination as equivalent thereto.

4.7. FACULTY OF FINE ARTS

Music

A pass in Master's Degree in Music / Dance of this University with 55% of marks or equivalent Grade Point Average (GPA) or in an examination as equivalent thereto or any Master's degree with 10 years of established proficiency in Music/Dance.

4.8. FACULTY OF AGRICULTURE

1. Candidates with two year Master's degree programmes in Agriculture from Universities recognized by Annamalai University are eligible to apply for Ph.D. programmes of the university.
2. Candidates who have undergone the programme under conventional system should possess not less than a second class Master's degree. The candidates under trimester system should possess a minimum OGPA of 3.00 out of 4.00. For those under semester system 7.00 out of 10.00 is required for various Doctoral programmes. However, this will not applicable to SC/ ST candidates, nominees of State Government / Annamalai university / ICAR / and Government of India to whom a pass in the concerned degree is sufficient.

Table – 1: Eligibility Criteria

Doctoral Degree Programmes	Eligibility
1. Agrl. Business Management	MBA in Agri business
2. Agrl. Economics	M.Sc.(Ag.) in Agrl. Economics/ Agrl. Marketing Management.
3. Agrl. Entomology	M.Sc.(Ag.) in Entomology
4. Agrl. Extension	M.Sc.(Ag.) in Agrl. Extension
5. Agrl. Microbiology	M.Sc.(Ag.) in Agrl. Microbiology
6. Agronomy	M.Sc.(Ag.) in Agronomy
7. Genetics and Plant Breeding	M.Sc.(Ag.) in Genetics and Plant Breeding
8. Horticulture	M.Sc (Ag.) Hort. / M.Sc. (Hort.) / M.Sc. (Hort.) in Fruit Science / Vegetable Science / Floriculture and Landscape Gardening or Architecture / Plantation, Spices, Medicinal and Aromatic Crops
9. Plant Pathology	M.Sc.(Ag.) in Plant Pathology
10. Seed Science & Technology	M.Sc.(Ag.) in Seed Science & Technology
11. Soil Science and Agrl. Chemistry	M.Sc. (Ag.) in Soil Science and Agrl. Chemistry
12. Plant Molecular Biology & Biotechnology	M.Sc. (Ag.) in Genetics and Plant Breeding M.Sc. (Ag.) in Plant Molecular Biology & Biotechnology
13. Animal Husbandry	Any Master' s Degree (M.V.Sc.) in Veterinary or Animal Sciences

5. Ph.D. PROGRAMME

Ph.D. Programme is available in the following three categories:

- a) Full-time
- b) Part-time – Internal
- c) Part-time – External

Candidates who satisfy the eligibility criteria as in Clauses 2.0&4.0 are eligible to apply for Ph.D. Programme.

5.1 Full-Time Ph.D. Programme

- 5.1.1 Candidates under Full-time mode shall do research work in the University campus only. The Full-time Ph.D. scholars shall report daily in the department at least during the office hours of the University and they should sign every day in the attendance register at the respective place of research.
- 5.1.2 Project staff/fellow working in a sponsored project which at least two/three years experience tenure from Govt. of India/Industries/Govt. of Tamil Nadu can also register under full time mode.
- 5.1.3 Candidates in employment, who want to pursue Full-time study, should be sponsored by their employer and should avail leave for the minimum duration of the programme and should be formally relieved from their duty to join the research programme.
- 5.1.4 Candidates who are selected under the National level Fellowship programmes or by any recognized bodies and who satisfy the eligibility conditions as per the regulations shall apply for Full-time category in the respective discipline.
- 5.1.5 **Admission of Foreign Students to Ph.D. Programme (Full-time)**
Foreign students who are selected under various scholarship schemes, either by the Ministry of Education and Culture or by the Ministry of External Affairs, will be given admission as Full-time scholar on the recommendation / sponsorship of the respective Ministry of Government of India. The other foreign students who seek admission for Full-time should possess a Research VISA issued by the Indian Embassies abroad and produce a “No Objection Certificate” from the Ministry of Human Resource Development, Government of India, after clearance from the Ministry of External Affairs. They should also show proof for financial capability for staying/pursuing Ph.D. Programme for 3 years.

5.2 Part-Time (Internal)

- Research Scholars under this category are those who are presently employed on regular basis in this University at the time of applying for the Ph.D. programme.
- 5.2.1 Those who have joined as Assistant Professors with M.Phil./ M.E./ M.Tech./ M.Pharm./M.Sc.(Agri.)/M.Sc. (Hort) are permitted to register for Ph.D. Programme after one year from the date of joining in the post.
- 5.2.2 Faculty members who do not have an M.Phil. Degree shall be allowed to register for the Ph.D. Programme after two years from the date of joining in the post, provided they fulfil the eligibility conditions as given in clause 2.0 for registration as Part-time candidates.
- 5.2.3 The Regular Non-Teaching Staff shall be allowed to register for Ph.D. Programme after five years from the date of joining in the post, provided they fulfil the eligibility conditions for registration as Part-time candidates.
- 5.2.4 The normal work of teaching/non-teaching staff shall not be affected at any cost, if they are selected for the Ph.D. programme. Their selection for the Ph.D. Programme is subject to the final discretion of the Vice-Chancellor. Further, those who acquired Ph.D. (teaching & non-teaching) cannot claim promotion/change of designation/change of cadre.

- 5.2.5 Staff members of Annamalai University who apply for Ph.D. programme should submit no objection certificate from the employer along with application form.

5.3 Part-Time (External)

- 5.3.1 The University reserves full rights for admitting candidates under part-time external category.
- 5.3.2 The part-time candidate shall register under a research supervisor who is a full time teaching faculty of this University.
- 5.3.3 The Part-time candidate should be employed as Assistant Professor / Associate Professor / Professor in a recognized College / University where facilities for carrying out research work are available. Further, such candidates should possess minimum qualifications for applying for Ph.D. programme. The Institution where the candidate is employed should have postgraduate Department in Science, Marine Sciences, Engineering & Technology/ Undergraduate Departments for Arts, Fine Arts, Education and Indian Languages. **The Faculty of Agriculture is not offering Part-time (External) Ph.D. Programme.**
- 5.3.4 Librarians and Physical Directors working in Colleges/Universities who fulfil the eligibility conditions can apply for Ph.D. programme with a suitable supervisor in Annamalai University and they do not require a co-supervisor. The candidates shall undergo the regular procedure for admission to Ph.D. programme.
- 5.3.5 Research Scientists or similar cadre in private or Government Institutions/ Industrial Units with Research and Development facilities are also eligible to apply for part-time Ph.D. programme with a supervisor from Annamalai University.
- 5.3.6 All eligible candidates as in 5.3.3. but not having PG/UG departments shall have a recognized co-supervisor. The co-supervisor may be from a College / Institution located from the same or nearby town of the candidate.
- 5.3.7 The co-supervisor should apply for supervisor recognition provided they possess eligible qualifications. Generally facilities for research should be made available at the place of work of the external candidate. In case where such facilities do not exist, the research facility at the place of work of co-supervisor should be made available to the candidate. Otherwise the facilities available in Annamalai University in the respective Faculties shall be extended to the candidates.
- 5.3.8 **Part-time external scholars should sign in the attendance register at least one month per academic year (a spell of at least five days minimum) in the respective department of Annamalai University.**
- 5.3.9 The following certificates should be attached along with the application for Ph.D. admission
- i. No Objection Certificate from the employer (Annexure-1).
 - ii. Acceptance letter from the co-supervisor (Annexure-2), if applicable.

5.4 Change of Category

Provision exists for change of category from full-time to part-time and vice-versa provided the residency and attendance requirements are satisfied. The change of category shall be approved by the Vice-Chancellor only once during the tenure, subject to written request letter along with submission of necessary documents with the recommendation of the supervisor, Head of the department, Dean of the faculty concerned and the scholar. Change of category more than once may be considered only under extraordinary circumstances, if deemed fit. Change of category is permitted only for the scholars who had completed the confirmation of provisional registration. In case of change from full-time to part-time or vice-versa, minimum period shall be accounted as whichever is high. If the request is approved, official communication shall be issued to the effect.

6. MODE OF SELECTION

- 6.1 University shall issue notification for Ph.D. admission twice every year, one in the month of June/July and another in the month of December.
- 6.2 The candidates desirous of registering for Ph.D. Programme under any one of the above categories shall apply by filling all the relevant details mentioned in the online application form posted in the University website and submit the completed application online before the due date as indicated in the notification issued from time to time.
- 6.3 Incomplete applications and applications with false information in any respect shall be summarily rejected without any intimation to the candidate.
- 6.4 The Directorate of Academic Research (DARE) shall screen the applications as per the eligibility norms and the Directorate shall conduct the written test only for eligible candidates. Candidates appearing for the written test should obtain minimum marks as specified by the University to qualify for the interview process.
- 6.5 The admission of Ph.D. students shall be based on the following criteria besides General Eligibility:
 - i. An entrance test at Post-Graduate level for 70 marks [70 multiple choice questions (MCQs), each question carrying one mark and the duration of the test is 90 minutes] followed by an interview that will have a weightage of 30 marks.
 - ii. The candidates who secure 50% marks in entrance test and interview put together are eligible for admission.
 - iii. A relaxation of 5% marks (from 50% to 45%) shall be allowed for the candidates belonging to SC/ST/OBC (Non-Creamy layer)/Differently abled category.
 - iv. Candidates with M.Phil. Degree from an approved University, UGC-JRF/ NET / SLET / SET / GATE / CSIR / ICHR / ICPR / ICSSR qualified candidates and teacher fellowship holders are exempted from the Entrance test but they have to appear for the interview.

6.6 Departmental Research Committee

The following is the constitution of the Departmental Research Committee (hereafter referred to as DRC). The members other than Head of the department and the coordinator of DDE shall serve only for one academic year.

Designation	Members
The Head of the Department	Convener
The respective Coordinator of DDE, if exists	Member
Two Professors/Senior Faculty members nominated by the Vice-Chancellor (in rotation)	Members
One Associate Professor (in rotation)	Member
One Assistant Professor (in rotation)	Member

6.7 The DRC has the following functions:

- ✓ Selection of candidates for admission to the Ph.D. programme.
- ✓ Allotment of Research Supervisors to students enrolled for the Ph.D. programme.
- ✓ Facilitating research facilities in the department.
- ✓ Framing the syllabus for course work.
- ✓ Maintenance of research quality and quality of publications.
- ✓ Sorting out any other research related issue of the department.

6.8 If there is any dispute either in the constitution or functioning of the DRC, it shall be brought to the notice of the Director-DARE and the decision of the Vice-Chancellor shall be final.

6.9 The minutes of the DRC together with the list of candidates and their research supervisors along with recommendations of the Dean of the respective faculty will be placed before the Vice-Chancellor for approval.

7. ADMISSION

7.1 The selected candidates shall be issued admission cards and they will be admitted to Ph.D. programme in the respective department based on his/her PG qualification. The candidates should join before the last date mentioned in the selection order by paying the prescribed fees, failing which they will forfeit the seats.

7.2 The provisional registration order for Ph.D., shall be issued either in January or July of the year in which the candidate is admitted.

7.3 The scholar, supervisor, co-supervisor, Research Advisory Committee (RAC) members and examiners shall not be relatives to one another.

8. TUITION FEES & OTHER FEES

- 8.1 The selected candidates shall pay the prescribed fees before the last date mentioned in the selection order, failing which they will forfeit the seats.
- 8.2 The yearly fees shall be paid by the scholars within the prescribed date till the scholars submit the thesis. Late payment of fees will attract fine as per the university norms. The supervisors should monitor the regular payment of yearly fees by those scholars who are working under them.
- 8.3 The registration is liable for cancellation if the research scholar has not paid the yearly fees within the stipulated time.
- 8.4 Non-payment of yearly fees is a serious lapse on the part of scholars. Explanation for non-payment of yearly fees shall be called for from the supervisors.

Ph.D. Full-time / Part-time (Internal – External)

Sl. No.	Faculty / Department / Discipline	Full-Time (Rs.) per annum	Part-Time (Internal) (Rs.) per annum	Part-Time External (Rs.) per annum
1.	Arts, Indian Languages, Fine Arts, Education, Mathematics & Statistics	26,010	28,010	33,410
2.	Physics, Botany, Zoology, Bioinformatics, Microbiology, Geology, Applied Geology & Geoinformatics	39,410	43,510	52,010
3.	Chemistry, Biochemistry, Marine Sciences (except Marine Biology & Oceanography)	46,010	52,510	62,810
4.	Sports Biomechanics, Exercise Physiology, Sports Nutrition, Strength and Conditioning.	38,410	30,410	51,010
5.	Sports Biochemistry	45,010	35,010	61,810
6.	Sports Psychology	33,410	29,410	51,010
7.	Marine Biology & Oceanography / Biotechnology	46,010	41,060	62,810
8.	Computer Science, Computer Applications (Faculty of Science)	52,510	65,510	78,410
9.	Engineering & Technology/ Agriculture	52,510	65,510	78,410

Ph.D. Full-Time : On-Campus (for International Students)

Sl. No.	Faculty / Department / Discipline	Fee (Rs.) per annum
1.	Arts, Indian Languages, Fine Arts & Education	51,010
2.	Mathematics & Statistics	66,010
3.	Physics, Chemistry, Botany, Zoology, Microbiology, Bioinformatics, Geology, Geoinformatics, Applied Geology, Biochemistry, Biotechnology & Marine Sciences	76,010
4.	Sports Biomechanics, Exercise Physiology, Sports Nutrition, Strength and Conditioning.	75,010
5.	Sports Biochemistry	75,010
6.	Sports Psychology	75,010
7.	Engineering & Technology, Agriculture Computer Science, Computer Applications (Faculty of Science)	1,26,010

8.5 Hostel Fee

- Stay in Hostel is compulsory.
- Admission to the hostel will be strictly restricted to actual accommodation available and no associate will be allowed.
- A Ph.D. student may be allowed to stay in the hostel for a maximum of five years from the date of admission to the Ph.D. Programme.
- The details of charges for accommodation in different hostels are as given below.

Sl. No.	Programme	Name of the Hostel	Fee Particulars (Rs. per annum)
1.	Ph.D. Students	Pothigai Illam (Men) Thamarai Illam (Women)	50,000/- *
2.	Ph.D. Students (International)	K.R.M. Hostel Annex	47,000/- #
3.	SC/ST Students	Above Hostels	24,000/- ##

* Inclusive of Admission fees, Establishments, Room Rent, Electrical, Mess charges and Misc. Charges.

K.R.M. Hostel Annex - Establishments, Room Rent and Misc. Charges only.

The fee has to be paid by the students at the time of joining the hostel and exclusively cover the Admission fees, Establishment, Room rent, Electrical and Misc. charges only. Mess charges (Lump sum Mess charge of Rs. 22,000/- per annum) will be adjusted from their Scholarship amount.

8.6 Scholarships / Fellowship

- UGC: Rajiv Gandhi National Fellowship (RGNF) for SC/ST students doing Research work for the award of M.Phil./Ph.D.
- UGC-NET-JRF.

- iii. UGC-BSR Research Fellowship in Sciences for meritorious students in various faculties (applicable to all Department of Sciences, Marine Sciences, Agricultural Sciences, Engineering Sciences).
- iv. KSCSTE – Kerala State Council for Science & Technology Environmental Post Doctoral Fellowship for those who were awarded Ph.D. in Science subjects to do individual original research work.
- v. Indian Council of Medical Research (ICMR), Indian Council of Social Science Research (ICSSR), Council of Scientific and Industrial Research (CSIR) Fellowships, New Delhi.
- vi. DST-Inspire Programme – Ministry of Science and Technology, New Delhi.
- vii. Indian Council of Historical Research (ICHR) – Ph.D. Scholars of Department of History.
- viii. Central Institute of Classical Tamil, Chennai (CICT) (Tamil and Linguistics Ph.D. students).
- ix. The Post-Matric Scholarship will be awarded to the students studying Ph.D. Programme including self finance programmes those who belong to SC/ST community and also converted students whose parents/guardians annual income from all sources does not exceed from Rs. 2,50,000/-.
- x. Research Incentive will be granted to SC/ST students doing full time Ph.D. Programme at a rate of Rs. 50,000/- p.a for 4 years only by Adi Dravidar and Tribal Welfare Department, Chennai.
- xi. DST—PURSE Fellowships.

Scholarships Sanctioned by the Government of Tamil Nadu

Tuition Fee Concession to SC/ST and Converted Christian Students:

Full Tuition fee concession is granted to students belonging to SC/ST community and converted Christian under the rule 92 of Tamil Nadu Education Rules by the Government of Tamil Nadu [92-TNER].

SC/ST Communities and Converted Christian (converted from SC/ST) whose parents/guardians annual income from all sources should not exceed **Rs. 2,50,000/-**.

Other State Scholarships for SC/ST/BC/OBC/EBC students.

Puducherry State Scholarships only for Puducherry SC/ST Students.

“ISHAN UDAY” Scholarship for North Eastern Region Students.

Minority Scholarship: (Apply through National Scholarship Portal) Minority Scholarship award on the basis of merit cum means for minority community students.

Higher Education Special Scholarship: In addition to the Post Matric Scholarship, Higher Education Special Scholarship is awarded to the hostel students belonging to SC/ST and Converted Christian community and the number of scholarship is limited by the Government. The Annual income of parents/guardians from all sources should not **exceed Rs. 2,50,000/-**.

BC/MBC/DNC Scholarship: The Scholarship will be awarded to the Students belonging to BC/MBC/DNC communities whose parents/guardians income from all sources should not exceed **Rs. 2,00,000/-** per annum.

Fellowship / Scholarship sanctioned by various Funding Agencies:

UGC Scheme for award of Post Graduate Scholarship for professional courses for SC/ST candidates.

Note: For all Scholarships, Income Certificate taken after April, 2021 should be produced.

8.7 University Research Studentship

The University Research Studentship is awarded for certain Ph.D. Scholars every year based on the seniority, research progress, conduct and attendance. Those who have been availing/availed the studentship once are not eligible for renewal. Preference will be given to M.Phil. Degree holders.

9. SUPERVISOR RECOGNITION

- 9.1 The applicant for supervisor recognition should possess Ph.D. degree from UGC recognized university in the relevant area of research in which he/she has carried out research.
- 9.2 The applicant should have published a minimum of FIVE publications in SCI/SSCI/UGC listed journals which is mandatory for supervisor recognition.
- 9.3 The eligible candidates can apply in the prescribed application for supervisor recognition.
- 9.4 The regular full-time teaching faculty members after completing one year of service in the University are eligible to apply for supervisorship.
- 9.5 The supervisorship will be awarded in the same faculty in which his/her Ph.D. Degree was awarded.
- 9.6 Supervisor recognition orders shall be issued officially only to eligible applicants as mentioned above.
- 9.7 A research supervisor will be permitted to register candidates till two years prior to his/her retirement. Research scholars will be permitted to continue to work and submit their theses under the guidance of a retired person only for a maximum period of one year from the date of retirement. If the candidate is unable to submit his/her thesis within this time, the Head of the department concerned will suggest a research supervisor in consultation with the Research Advisory Committee and Dean.
- 9.8 A research supervisor is normally eligible to guide only in his/her basic subject/discipline. However, he/she may be permitted to guide in a related subject in which he/she has at least two publications in professionally recognized national/international journals, or authored a book, after getting approval of the expert in the discipline concerned nominated by the Vice-Chancellor. If there is any dispute in this regard, the decision of the Vice-Chancellor shall be final.

- 9.9 A research supervisor shall not be allowed to register a candidate for Ph.D. if the candidate is a blood relative to the supervisor.
- 9.10 A faculty member who accepts an administrative position such as Controller of Examinations, Registrar or Vice-Chancellor shall not function as a research supervisor. However, he/she may be allowed to complete the theses of candidates registered with him/her and after that he/she cannot register fresh candidates.
- 9.11 The Vice-Chancellor shall be empowered to summarily withdraw the research supervisorship on the following grounds:
- Moral turpitude/Sexual harassment
 - Plagiarism
 - Fraudulent academic claims
 - Any act prejudicial to the reputation of the University without assigning any reason thereof.
- 9.12 **Change of Supervisor:**
Change of research supervisor shall not be permitted as a routine. In exceptional cases, such change may be permitted, if valid reasons are provided by the candidate. The committee headed by the Vice-Chancellor shall look into the request of the petitioner, if there is any conflict between the scholar and the research supervisor. The research supervisor under whom the scholar has originally registered shall give a “No Objection Certificate” and the new proposed research supervisor should give a “Certificate of Willingness” to guide the candidate. However, the Vice-Chancellor, on the recommendation of the Department Research Committee, has the right to assign a new research supervisor to the research scholar, and change of supervisor order shall be issued officially by Director, DARE.
- 9.12.1 When the change of research supervisor is approved, the candidate shall work for a minimum of one year with the new research supervisor before submitting the synopsis provided he/she fulfils the attendance requirements. However, based on the merit of the request of the scholar, the decision of the Vice-Chancellor is final.
- 9.12.2 The research supervisor who wishes to avail leave/lien/deputation beyond a period of SIX MONTHS shall propose a co-supervisor in the subject concerned for the candidates registered with him/her, and the fact may be intimated to the University well in advance. The final approval of the proposal rests with the Vice-Chancellor.

10. NUMBER OF SCHOLARS

A Professor who is a recognized supervisor shall guide only a maximum of **8** Ph.D. scholars as supervisor/co-supervisor at any time. An Associate Professor who is a recognized supervisor shall guide only a maximum of **6** Ph.D. scholars as supervisor/co-supervisor and an Assistant Professor who is a recognized supervisor shall guide only a maximum of **4** Ph.D. scholars as supervisor/co-supervisor at any time.

11. DURATION OF THE PROGRAMME

- 11.1 The duration of the programme and the time for submission of thesis are counted from the date of provisional registration.
- 11.2 The minimum duration of the programme is three years for those who join after completing Master's degree and two years for those with M.Phil. degree for Full-time scholars. For part-time scholars, the minimum duration is four years for those who join after completing Master's degree and three years for those with M.Phil. Degree.
- 11.3 The minimum duration of the programme is three years for full-time and four years for part-time for M.E./M.Tech./M.Sc.(Agri)/M.Sc.(Hort.) candidates.
- 11.4 The Director, DARE shall permit if deemed fit for reasons, break of study for the scholar under extraordinary circumstances such as medical grounds and other compelling reasons which warrant his/her absence from the programme. However, the break of study period shall not be counted for the minimum duration of the programme.
- 11.5 Break of study shall be granted upto a maximum period of one year. Such request shall be made in writing by the scholar with the recommendation of the supervisor, Head of the Department and Dean of the Faculty, and it should reach the Director, DARE prior to availing the break of study. The orders for break of study shall be issued by the Director after assessing the need. If prior permission is not sought and obtained, it will be considered as a case of discontinuation and action will be taken to cancel the registration of such scholars. Break of study period will be counted for the maximum duration of the programme (Clause 11.6). The scholar should remit the yearly fees during the break of study period also.
- 11.6 **The maximum duration of the programme shall be six years for full-time and part-time scholars of all the Faculties.**
- 11.7 Women candidates (who availed maternity leave) and persons with disability (more than 40% disability) are allowed a relaxation of two years. Thus, the maximum duration for such scholars shall be eight years.

12. EXTENSION OF DURATION

- 12.1 Scholars who do not submit the thesis within the maximum duration of the programme (six years) shall apply for extension of time three months prior to the completion of six years in the prescribed format (Annexure-3) with the recommendation of Supervisor, Head of the Department and Dean of the Faculty. In such cases a maximum grace period of one year, beyond the normal maximum period of six years shall be granted by the Director, DARE with the approval of Vice-Chancellor.
- 12.2 If the scholar fails to submit the thesis within seven years from the date of joining the programme, the registration shall be cancelled without any further notice.

13. RESEARCH ADVISORY COMMITTEE (RAC)

- 13.1 There shall be a Research Advisory Committee (RAC) for every scholar to monitor the progress of research work.
- 13.2 The Research Advisory Committee (RAC) shall consist of the Head of the Department as Chairperson, the research supervisor as the convener, co-supervisor if applicable and two experts in the field of research of the scholars.
- 13.3 For the selection of two experts for RAC, the research supervisor should suggest three names within the department and another three names from other departments, who have some expertise in the area of research of the scholar. The Vice-Chancellor will select one expert from the department of the scholar and the other expert from any other department.
- 13.4 The Research Advisory Committee will meet once in six months.
- 13.5 The first RAC meeting shall be convened within two months from the receipt of provisional registration orders. The research topic and the courses to be undertaken by the scholar shall be decided in the meeting and the minutes of the first RAC meeting in the prescribed format (Annexure-4) should be forwarded to the Director, DARE.
- 13.6 The other RAC meetings shall be convened periodically during the second week of July and December every year to review the research progress of the Scholars and to offer suggestions/modifications.
- 13.7 The Research Advisory Committee shall have the following functions:
 - i. Advise and recommend on all matters connected with the candidate's research from admission till the submission of the thesis.
 - ii. Approve the topic of research.
 - iii. Scrutinize the research proposal submitted by the candidate.
 - iv. Recommend the course(s) that the candidate has to undergo.
 - v. Assess and approve the progress reports of Ph.D. scholars in the prescribed format and report on the fitness or otherwise of the candidate to proceed with his/her research work.
 - vi. If necessary, recommend and approve change of title of thesis, change of supervisor and change of status of researcher (full time to part time and vice-versa).
 - vii. Review and endorse the research progress of the candidate periodically.
 - viii. Supervise the presentation by the candidate of the final draft of his/her proposed thesis for approval before the submission of synopsis of the thesis to the Director, DARE and sign a certificate to this effect to be submitted along with the synopsis.
 - ix. Assess the conduct/validity of experiments/field work, peruse laboratory observation notebooks, data recording and analysis and publications.

- x. Assess the quality and quantum of research work for submission of synopsis.
 - xi. Verify the two mandatory publications in SCI/ SSCI/UGC listed journals to permit the scholar to submit the synopsis.
 - xii. Approve the synopsis of the thesis.
 - xiii. Approve the panel of Foreign and Indian Examiners.
 - xiv. Finalize and approve the title of the thesis.
 - xv. Monitor the corrections carried out, if any pointed out by the thesis evaluation examiners.
- 13.8 The convener will convene the Research Advisory Committee meetings with intimation to the Director, Directorate of Academic Research (DARE).

14. PROGRAMME STRUCTURE (Course Work)

- 14.1 All research scholars (full-time and part-time) shall undergo a minimum of three/four courses of six credits each as stipulated by the UGC. The course work shall include a course on research methodology which is mandatory. The other courses may involve advanced topics, latest developments in the chosen field of research, and courses related to the research problem.
- 14.2 While the minimum number of courses is three/four, there can be a great degree of flexibility in the number of courses that a research scholar can undertake based on the discipline and the area of research.
- 14.3 Scholars who opted for interdisciplinary research can take an additional course work relevant to the topic as prescribed by the RAC.
- 14.4 Candidates already holding M.Phil. Degree and admitted to the Ph.D. programme in the same area of M.Phil. research, may be exempted from Ph.D. course work. All other M.Phil. candidates admitted to the Ph.D. programme shall undergo Ph.D. course work as prescribed by the RAC/Ph.D. regulation.
- 14.5 A course on “Research and Publication Ethics” (RPE) is compulsory for all Ph.D. scholars, besides other courses as prescribed by RAC.
- 14.6 The total marks for each course in the final examination will be 100. The candidate shall secure minimum 50%, (for Ph.D. in the Faculty of Agriculture, a minimum of 60% marks separately in the theory and practical and an aggregate of 70%) in the course work examination, failing which he/she has to reappear for the same course work examination in the next semester. If a candidate does not pass the course work examination in three appearances, his/her registration will be cancelled.
- 14.7 The research scholars shall be required to complete the course work within a period of eighteen months from the date of provisional registration in order to pursue further with their research work. For those who fail to complete the course work within the stipulated time, the RAC may recommend an extension of six months, if the RAC is convinced of their performance. If not, the RAC may recommend the cancellation of Ph.D. registration.

- 14.8 A scholar is deemed to have cleared the course(s) only if he/she has more than 80% attendance, appeared for the examination and secured a minimum of 50% marks (for Ph.D. in the Faculty of Agriculture, a minimum of 60% marks separately in the theory and practical and an aggregate of 70%) in the course(s).
- 14.9 The performance of a scholar in each course is evaluated in terms of percentage of marks with a provision for conversion to Grade Point (GP). The sum total performance in each semester will be rated by Grade Point Average (GPA), while the continuous performance will be rated by Cumulative/ Overall Grade Point Average (CGPA/OGPA).

14.10 Faculty of Agriculture

(As per Indian Council of Agricultural Research (ICAR) norms)

- 14.10.1 A student enrolled for Doctoral program in the departments of Faculty of Agriculture shall be eligible for the degree, provided he/she has completed 75 credits including 45 credits of research as detailed below.

	Details	Credit Hours
I.	Major Courses	15
II.	Minor Courses	8
III.	Supporting Courses	5
IV.	Seminar	2
V.	Research	45
	Total	75

- 14.10.2 A full time Ph.D. scholar can register for a maximum of 15 credits excluding research in a semester. However, the research credits registered should not exceed 12 per semester. Semester wise distribution of credits is given in the respective Ph.D. programme. The total research credits for Part-time (Internal) should be distributed in all the eight semesters. The Ph.D. scholars [full-time/part-time (Internal)] should complete their course work within two semesters in the first year.
- 14.10.3 Requirements for Ph.D. programme shall also include successful completion of research in the major field of study and submission of thesis thereon.

14.11 Confirmation of provisional registration:

- After the successful completion of course work(s) and comprehensive examination, the RAC meeting shall be convened to verify the course work completion, and assess the progress of research work. Upon satisfaction with the performance, the RAC recommends the confirmation of provisional registration in the prescribed format (Annexure-5) as minutes of RAC along with check list for confirmation of Ph.D. scholar registration (Annexure-6).
- 14.12 The scholar shall be issued confirmation of provisional registration by the Director, DARE upon completion of all the courses prescribed by RAC in its first meeting and satisfactory progress in research. The provisional registration shall be cancelled for those scholars who do not fulfil the requirements within two years from the date of provisional registration.

15. RESEARCH OUTSIDE THE UNIVERSITY

- 15.1 The research scholar shall be permitted to carry out his/her research in an institution or National Laboratory or R&D centre outside the university for a maximum period of one year only after the confirmation of the provisional registration. Such request from the scholar shall be approved by the Director, DARE, only if the request of the scholar has been recommended by the supervisor and forwarded by the Head of the Department and Dean of the Faculty of the supervisor.
- 15.2 The scholars who carried out research outside the university shall submit the synopsis only after a minimum period of two months on his/her return. The papers published during such period of outside assignment should be relevant to the area of research and should carry the scholar's supervisor name as one of the authors.
- 15.3 The scholars who obtain permission to work outside the University for a specific period as in Clause 15.1, on return to the University, should submit a certificate from the Organization stating the period of work and a brief research report.
- 15.4 If the scholar continues to stay outside the university beyond the approved period without prior permission, the registration of the scholar shall stand cancelled automatically.

16. MONITORING THE PROGRESS OF THE SCHOLAR

- 16.1 The research scholars, both full-time and part-time, shall submit Research Progress Reports in the prescribed format (Annexure-7) duly endorsed by the Research Advisory Committee once in six months to the Director, DARE until they submit their synopsis.
- 16.2 Failure to submit the progress reports periodically shall result in the automatic cancellation of registration.
- 16.3 The minutes of the meeting of the Research Advisory Committee along with enclosures will be sent to the Director, DARE.
- 16.4 The RAC meeting may also be conducted through video conferencing or internet chat if the candidate or the Research Supervisor is in a foreign country.
- 16.5 The pre-synopsis presentation before the RAC is a mandatory requirement to assess the quality and quantum of research in addition to the incorporation of the suggestions offered by RAC members.
- 16.6 The presentation shall be arranged before the submission of the synopsis in the presence of RAC, faculty members, research scholars, M.Phil. and P.G. students.
- 16.7 The participants may suggest new ideas/references/suggestions to improve the work and so on.
- 16.8 A report on this event along with an attendance sheet shall be forwarded by the research supervisor with the endorsement of the RAC and HOD to the Director, DARE, during the submission of synopsis.

17. SUBMISSION OF SYNOPSIS

- 17.1 The scholar shall be permitted to submit the synopsis 3 months before the completion of minimum duration of the programme as per Clauses 11.2 and 11.3, provided the scholar has published/accepted for publications **two research articles in SCI/SCI-E/SSCI/UGC listed journals and recommended by RAC.**
- 17.2 A certificate in the prescribed format signed by the supervisor, co-supervisor, if applicable and Head of the Department stating that the scholar has completed the minimum duration of the programme.
- 17.3 The Ph.D. scholars other than from the Departments of Tamil, Hindi and Music have to publish two research articles in Scopus/Web of Science indexed Journals (either published or accepted for publication), which are mandatory prior to the submission of their synopsis; otherwise the synopsis shall not be accepted for submission.
- 17.4 The Ph.D. scholars in the Departments of Tamil, Hindi and Music have to publish two research articles in the UGC-CARE listed Journals (either published or accepted for publication), which are mandatory prior to the submission of their synopsis; otherwise the synopsis shall not be accepted for submission.
- 17.5 The research scholar shall submit one copy of the synopsis approved by the Research Advisory Committee along with a soft copy to the Director, DARE through the research supervisor, HOD and Dean of the respective Faculty. The guidelines for the preparation of synopsis are given in Appendix-I.
- 17.6 The RAC meeting should be conducted just before the submission of synopsis to assess the quality and quantum of research, contents of synopsis, verify the two publications and approve the panel of Indian and foreign examiners. All these shall be presented as minutes of RAC meeting while submitting the synopsis (Annexure-8) along with certificate for submission of synopsis (Annexure-9), attendance certificate for pre-synopsis presentation (Annexure-10), proforma for submission of synopsis (Annexure-11) and checklist (Annexure-12).
- 17.7 The research supervisor shall mandatorily submit the panel of examiners (Indian and Foreign) duly approved by RAC, along with the synopsis through proper channel to the Director, DARE in the prescribed format (Annexures-13 & 14). A panel of ten examiners (five from foreign countries and five from India) shall be provided by the supervisor. The examiners shall be from reputed Universities/Institutes/Organizations.
- 17.8 For Indian Languages such as Tamil, Linguistics (Tamil version), Hindi and Fine Arts, the panel shall consist of five members within Tamil Nadu and five members outside Tamil Nadu.
- 17.9 The proposed Indian Examiners should hold a Ph.D. Degree with not less than 10 years experience at the post-graduate level with publications at national/international level journals in the same or related research area of the thesis to their credit.

- 17.10 If the research scholar has carried out part of his/her work in another institution, the panel should not include the names of the Scientists/ Professors with whom he/she has worked for a short duration.
- 17.11 If the Vice-Chancellor observes that the panel of examiners is not from reputed Institutions, he/she shall call for fresh panel or suggest examiners (both Indian and Foreign) of his/her choice.
- 17.12 The Vice-Chancellor will select one Indian and one overseas examiner from the panel and will also indicate the order of priority of examiners from 1 to 5 from the panel of Indian and foreign examiners submitted.
- 17.18 Once the Vice-Chancellor has approved the panel of examiners and assigned the priority (order of preference), the Director, DARE shall forward/dispatch the synopsis to the first examiner in both the panels and seek their acceptance for evaluation of the thesis.
- 17.19 Once an examiner accepts the invitation and agrees to evaluate the thesis, the Director, DARE shall arrange to send the thesis for evaluation along with the associated formats, guidelines and procedure for assessment. The covering letter of the Director, DARE to examiners shall insist on the confidentiality of the appointment, and request the examiners not to reveal the appointment to the supervisor/scholar/anybody.
- 17.20 If any examiner declines to accept the invitation to evaluate the thesis, the synopsis shall be sent to the next examiner in the list.
- 17.21 If there is no response from the examiner three weeks after dispatching the synopsis, the Director, DARE shall send the synopsis to the next examiner in the same order of priority in the respective panel.
- 17.22 If the acceptance to evaluate the thesis is not received from the first panel of examiners, the Director, CARE shall call for a fresh panel from the research supervisor.

18. SUBMISSION OF THESIS

- 18.1 The thesis should be reported, in an organised and scholarly fashion, an account of original research work of the scholar leading to the discovery of new facts or techniques or correlation of facts already known (analytical, experimental, hardware oriented, etc.) and demonstrate a quality contribution to the advancement of knowledge as well as the scholar's ability to undertake sustained research.
- 18.2 The thesis shall be prepared in accordance with the prescribed format and specification as given in Appendix II. **Five hardcopies of the thesis with soft copy in CD (PDF format) in each copy of the thesis** along with proforma for submission of thesis (Annexure-15) and checklist (Annexure-16) shall be submitted after the completion of the stipulated period to the Director, DARE.
- 18.3 The thesis shall include a declaration from the scholar, and a certificate from the supervisor and co-supervisor (if applicable) as prescribed, to the effect that the thesis is a record of original research work carried out by the scholar and the work reported in the thesis is not copied from other sources/not submitted elsewhere for a degree or diploma.

- 18.4 The research papers shall be attached to the Ph.D. thesis.
- 18.5 The RAC shall certify the quality and authenticity of the publications and ensure that both the candidate and the research supervisor are listed as first and corresponding authors respectively in the articles with the correct affiliations.
- 18.6 Fees shall be paid by the scholars every year during the notified period till the submission of the thesis. Any other fees as applicable shall be paid as notified from time to time. In case, any scholar has not paid the tuition fees and other notified fees, then the processing of synopsis and thesis shall not be processed until all the fees are paid. No dues certificate (Annexure-17) should be submitted while submitting the thesis.
- 18.7 The thesis shall comply with the following conditions to merit the award of Ph.D. degree:
 - i. It should be a piece of research work characterized either by finding of new facts or by a fresh approach towards interpretation of facts and theories.
 - ii. It should reflect the candidate's capacity for critical examination and judgment.
 - iii. It should be satisfactory in terms of presentation and adhering to proper methodology of thesis writing.
- 18.8 The thesis shall not exceed 300 pages excluding the bibliography, Appendices, etc. If it exceeds the specified number of pages, the research supervisor should write to the Director, DARE with the reasons and get prior approval from the Director, DARE. The thesis should be in A4 size. The specifications for the preparation of the thesis and a model cover page of the thesis are given in Appendix II.
- 18.9 The thesis shall be typed on both sides of the page in order to save paper and postage.
- 18.10 The thesis shall contain a certificate from the supervisor specifying that the thesis submitted is a record of research work done by the candidate during the period of study under him/her, and that the thesis has not previously formed the basis for the award of any Degree, Diploma, Associateship, Fellowship or similar title. A statement from the supervisor indicating the extent to which the thesis represents independent work on the part of the candidate should also be made including free from plagiarism.
- 18.11 The thesis shall also contain a declaration by the candidate that the work reported in the thesis has been carried out by the candidate himself/herself and that the material from other sources, if any, is duly acknowledged and no part of the thesis is plagiarised.
- 18.12 The Ph.D. thesis in the field of Tamil, Linguistics, History and Fine Arts may be submitted in Tamil Language, and for other language subjects, the thesis must be in the respective language.

19. THESIS EVALUATION

- 19.1 The thesis shall be referred to two examiners (one from India and another from abroad) nominated by the Vice-Chancellor from the panel of examiners recommended by the RAC. The Vice-Chancellor if deems it necessary may also nominate examiners from outside the panel.
- 19.2 The examiners appointed shall evaluate the thesis and report on the merit of the thesis for the award of the Ph.D. degree. Each examiner is expected to give a detailed report on the thesis, apart from a duly filled in proforma for evaluation sent by the Director, DARE.
- 19.3 The examiners shall be requested to send his/her report within 45 days from the date of receipt of the thesis to the Director, DARE. The reports sent by e-mail shall be accepted provided the email ID is the official email ID of the examiners.
- 19.4 If an examiner fails to send the report within the stipulated time, the Director, DARE shall send a reminder to him/her immediately after the expiry of the deadline and request him/her to send the report within the next thirty days. If the examiner concerned does not comply even after the extended period, the Director, DARE shall cancel the appointment forthwith and invite the next examiner from the approved panel to evaluate the thesis.
- 19.5 In the event of a request from the examiner(s) for more time for evaluation or receipt of the report after the appointment has been cancelled or postal delay or loss of report, etc. appropriate decision will be taken based on the facts in consultation with the Vice-Chancellor.
- 19.6 The two examiners shall send the individual detailed reports along with the duly filled in proforma to the Director, DARE. The Director will forward the reports to the research supervisor of the scholar.
- 19.7 The supervisor (convener) shall prepare a consolidated report, bringing out the salient points made in the individual reports of the examiners, and place the consolidated report and the examiners' reports before the RAC. After approval of the RAC members, the minutes shall be forwarded to the Director, DARE.
- 19.8 If both examiners unanimously recommend the award of the degree, the candidate will be asked to appear for a public Viva-voce examination.
- 19.9 If both examiners give definite recommendation against the award of the degree, the thesis will be rejected.
- 19.10 If one of the examiners recommends the thesis for the award of the degree and the other examiner rejects the thesis, the thesis shall be referred to a third examiner belonging to the same category (i.e., Indian or foreign) for evaluation.
- 19.11 The third examiner will not be provided with the report of the other two examiners. If the third examiner recommends the award of the degree, the candidate will be asked to appear for a public Viva-voce examination. If the third examiner also does not recommend the award of the degree, the thesis will be rejected.

- 19.12 If the examiner(s) recommends suggestions /corrections/ modifications/ alterations and does not insist on resubmission, asking the candidate to carry out the corrections/modifications in the thesis, then the candidate will be informed accordingly through the research supervisor. The candidate shall carry out the corrections suggested by the examiners. The supervisor shall furnish a certificate stating that all corrections have been carried out, which shall be endorsed by the RAC, HOD and the Dean. The corrected thesis along with the certificate shall be sent to the Director, DARE, before the Viva-voce examination.
- 19.13 If the examiner(s) recommends revision and resubmission, by one or both the points of revision shall be indicated clearly in the report(s). The necessary corrections shall be carried out by the scholar and the revised version shall be submitted along with the Minutes of RAC meeting for resubmission of thesis (Annexure-18) to the Director, DARE, who will in turn send the corrected thesis to the examiner(s) concerned. If the examiner(s) is/are still not satisfied with the revised version, the thesis will be sent to another examiner. If the revision is accepted by the examiners, the Viva-voce examination will be conducted.

20. PUBLIC VIVA-VOCE EXAMINATION

- 20.1 The reports of the examiners shall be made available to the convener (research supervisor) of the Viva-voce board, and the co-research supervisor (if any). The reports shall be placed in the RAC and obtain the approval for the conduct of Viva-voce examination.
- 20.2 The Viva-voce Board shall consist of the research supervisor, co-supervisor, if applicable, the Indian examiner (External Examiner) who evaluated the thesis and the Head of the Department (Internal Member). The research supervisor shall be the convener of the Viva-voce Board. The research supervisor shall consolidate the results of the Viva-voce Examination and communicate to the Director, DARE.
- 20.3 If the Indian (External) Examiner, who evaluated the thesis, is unable/unavailable to conduct the Viva-voce examination, one of the examiners from the panel of Indian examiners submitted shall be appointed by the Vice-Chancellor to conduct the Viva-voce examination.
- 20.4 The Viva-voce examination shall be conducted within two months from the date of receipt of the reports by the examiner. The Viva-voce should not be conducted on Saturday, Sunday and public holidays. The date of Viva-voce examination shall be finalized in consultation with the external examiner and Head of the Department at least 15 days prior to Viva-voce date and the same shall be communicated to the Director, DARE. The circular for viva-voce (Annexure-19) shall be communicated to the Director, DARE, other departments, other Institutions, faculty members and research scholars, at least two weeks prior to the viva-voce examinations. A minimum of **25** members excluding the viva-voce board members shall be present for the Viva-voce examination.

- 20.5 If the Head of the Department happens to be the research supervisor, one of the senior faculty members in the department shall be recommended by the Head of the Department as an Internal Examiner and the same has to be forwarded to the Director, DARE for approval.
- 20.6 A copy of the thesis will be kept in the Department Library for perusal by those interested in the thesis for at least 15 days preceding the conduct of the public Viva-voce examination.
- 20.7 The purpose of the Viva-voce examination is to test the understanding of the scholar on the subject matter of the thesis and the competence in the general field of study. The scholar shall be asked to make a brief presentation before the audience and answer the questions raised by the examiners and the audience.
- 20.8 The Viva-voce examination shall be held in all seriousness befitting the solemnity of an examination and no attempt shall be made to treat it as a mere formality. The candidate and the supervisor shall not indulge in any action that may be perceived as influencing the external examiner.
- 20.9 The minutes of Viva-voce shall contain a comprehensive report including the performance of the candidate, the answers furnished by the candidate to the questions raised by the Indian and Foreign examiners in their reports, the Viva-voce board of examiners as well as by the audience. The proceedings of Viva-voce along with a list of participants with their signature, designation and address and checklist should be submitted to the Director, DARE immediately after the Viva-voce examination on the same day.
- 20.10 A candidate who is successful in the public Viva-voce Examination shall be recommended for the award of the Ph.D. degree by the Viva-voce Board of examiners.
- 20.11 If a candidate fails to defend his/her thesis satisfactorily in the Viva-voce examination, the candidate may be permitted to reappear for the Viva-voce after a period of three months.
- 20.12 The Viva-voce board shall recommend one of the following:
- i. that the degree be awarded
 - ii. that the candidate be re-examined in a second Viva-voce examination. (This will be done after a period of 3 months).
 - iii. that the degree be not awarded and the thesis be rejected.
- 20.13 The consolidated recommendation will be placed before the Syndicate for its approval from the date of Viva-voce examination and the Degree for the approved candidates will be awarded in the convocation in person or in absentia.

21. AWARD OF Ph.D. DEGREE

- 21.1 After the thesis is approved by the Syndicate, prior to the actual award of the degree in the Convocation, a certificate of completion of Viva-voce and Provisional Certificate shall be issued on written request from the scholar to the effect that the Degree has been awarded in accordance with the provisions of UGC Regulations, 2016.

- 21.2 The Ph.D. Degree Certificate shall contain the name of the scholar, photo of the scholar and also the title of the thesis along with the name(s) of the Faculty/Faculties and discipline(s). Further, the degree certificate shall also contain the statement "The degree is awarded in compliance with the University Grants Commission Regulations, 2016".
- 21.3 In the case of the award of the Ph.D. Degree for inter-disciplinary research, the Degree Certificate shall bear the subject of the candidate's postgraduate degree and the discipline of the department(s) in which the candidate has conducted his/her doctoral research mentioning them as "inter-disciplinary."

22. CANCELLATION OF REGISTRATION

- 22.1 The registration of a scholar who has not submitted his/her thesis before the end of the maximum duration including the extension period for the programme as in Clauses 11.1 and 11.2 shall stand cancelled automatically.
- 22.2 The registration is liable for cancellation, if
- i. The scholar has not paid the yearly fees within the stipulated time.
 - ii. Two successive progress reports are not submitted or not satisfactory.
 - iii. If the scholar fails to complete the confirmation of provisional registration within two years from the date of registration for the Ph.D. programme.
 - iv. Prior permission not obtained for break of study from the Director, DARE.
 - v. Does not complete the course work(s) within the stipulated time.
 - vi. The scholar misbehaves in the University campus and acts against the rules and regulations of the University.
 - vii. The scholar wishes to withdraw from the programme and requests to cancel his/her registration.
 - viii. Extension of time (beyond six years) not obtained as in clause 11.2.
 - ix. Submission of thesis beyond three months from the date of approval of synopsis by the RAC without prior permission.
 - x. Submission of revised thesis incorporating the suggestions of any examiner beyond six months.
 - xi. The act of plagiarism involved in the research article/ synopsis/thesis.
 - xii. Communicating with the thesis examiners in any form by the scholar/ supervisor/ co-supervisor, if applicable/anybody.
 - xiii. Any violation of the rules and regulations of Ph.D. programme.

23. PUBLICATION OF THE THESIS

- 23.1 The thesis, once submitted, becomes the property of the University.
- 23.2 In case the research comes under the "classified" category, it shall not be published without prior approval of the Syndicate.
- 23.3 The Syndicate may grant permission for publishing the results/findings based on a written request from the candidate through the research supervisor.
- 23.4 In case the thesis does not fall under the "classified" category, the research scholar may publish his/her thesis results after obtaining necessary permission from the Vice-Chancellor.
- 23.5 Two copies of the thesis in its published form must be submitted to the office of the Director, DARE.

24. THE ACT OF PLAGIARISM

- 24.1 In the case of scholars who have committed the act of plagiarism in the Synopsis/Thesis/Journal Publication, he/she shall be called for enquiry at the DARE and shall be advised to rectify the plagiarism and resubmit the documents with appropriate penalty. If the scholar fails to rectify the plagiarism in the documents, the Thesis/Degree shall be forfeited and his/her research registration shall be cancelled and also he/she shall be debarred to register for any other programme in the University.
- 24.2 For the abetment of the above such action, the recognition of his/her supervisor shall be withdrawn for a period of five years and he/she shall be debarred from guiding the scholars for any research programme in the University till the end of the period.
- 24.3 If any scholar has committed an act of self-plagiarism in the publications and ascertained by the committee constituted by the Vice-Chancellor, such work shall not be allowed in his/her thesis and the scholar shall be fined upto Rs. 50,000/- with a warning to the supervisor. The Synopsis/Thesis of such scholar shall be accepted only based on a new publication in a refereed Journal (as applicable). If plagiarism is detected in the Publication/Thesis of any other scholar under the same supervisor, the recognition of his/her Supervisorship shall be withdrawn for a period of five years and he/she shall be debarred from guiding the scholars for any research programme in the University till the period is over.
- 24.4 If a plagiarism is observed in the later stage at any point of time, the Ph.D. Degree awarded to the scholar shall be withdrawn.

25. REPOSITORY OF THE THESIS

Following the successful completion of the evaluation process and before the announcement of the award of the Ph.D. Degree, the Institution concerned shall upload the electronic version of Ph.D. thesis to the Shodhganga - INFLIBNET, so as to make it accessible to all Institutions/Colleges and one copy of the thesis should be submitted to the department library and another copy of the thesis should be submitted to the University General library.

26. ETHICAL & LEGAL REQUIREMENTS

- 26.1 All research involving use of all data and material relating to human subjects as well as laboratory animals must be approved by the appropriate Ethical Committee constituted by the University. In practice this means that no research in this line can be undertaken until all the required approvals and authorisations have been given from the Appropriate Ethical committees.
- 26.2 It is the responsibility of the research supervisor and the research scholar to obtain approval from the relevant committee before initiating the research work.
- 26.3 The research supervisors and scholars shall follow the regulations stipulated by appropriate bodies for undertaking research. Annamalai University has constituted Institutional Committees to scrutinize and approve research proposals.

- 26.3.1 Institutional Psychology Research Ethics Committee (IPREC) for research in Psychology and Institutional Humanities and Social Sciences Research Committee (IHSSRC) for research in Arts, Humanities and Social Sciences or cognate areas shall scrutinize research proposals to ensure that the dignity, human rights, health, safety and privacy of research participants are protected, that valid consent has been obtained and that the information gained by the research is not outweighed by any costs to the subject in time, effort, discomfort or potential risk. These Committees will also explore potential ethical issues that may arise as a result of the proposed research work.
- 26.3.2 Institutional Technology Ethics Committee (ITEC) will address ethical issues specific to new and emerging technologies in terms of impact on the environment and human well-being.
- 26.4 **Regulations for Studies on Plants:** All research works carried out on transgenic plants shall follow the guidelines laid down by the Department of Biotechnology([http://dbtindia.nic.in/guidelines_98 .pdf](http://dbtindia.nic.in/guidelines_98.pdf)).
- 26.5 **Regulations for Field work:** Permission for field work shall be obtained from the Departments of Forests, Fisheries, National Biodiversity Authority, Wildlife, etc., as appropriate.
- 26.6 **Regulations for Studies on Laboratory Animals:** The Institutional Animal Ethics Committee (IAEC) shall examine proposals involving research on laboratory animals.
- The proposals shall be submitted to the IAEC for evaluation and approval in the prescribed format <http://envfor.nic.in/division/committee-purpose-control-and-supervision-experiments-animals-cpcsea-1#RF>.
 - The conduct of animal studies shall follow the rules for Good Laboratory Practice established by the Committee for the Purpose of Control and Supervision on Experiments on Animals (CPCSEA) under the guidance of an authorized Veterinarian.
 - Research scholars engaged in scientific experiments on animals shall act in conformation with the provisions of the Prevention of Cruelty to Animals Act, 1960 and breeding of and experiments on animals (Control and Supervision Rules, 1998 Act amended). These provisions are enforced by the CPCSEA.
- 26.7 **Regulations for Biosafety:** Biosafety rules encompass manufacture, import, export, and storage of micro-organisms, Genetically Modified Organisms (GMOs), and Gene-technology products as supplemented by the Biotechnology Safety Guidelines issued by the Department of Biotechnology (DBT).
- 26.8 **Regulations for Human Sampling:** The Institutional Human Ethics Committee (IHEC) will scrutinize the use of human volunteers and clinical samples for research. Sampling of human tissue and biological fluids shall conform to the Ethical guidelines for biomedical research on human participants issued by the Indian Council of Medical Research, New Delhi

(<http://www.icmr.nic.in/ethical.pdf>) (2006). With the burgeoning biomedical and pharmaceutical industry, there is a growing interest in obtaining human tissues for research, validation and commercial purposes. Researchers must be aware of the ethical and legal issues involved in using human tissues and comply with the Human Tissue Act (2004) and consent must be obtained.

- 26.9 Where research is conducted in collaboration with another institution outside the University, the ethics policies of those institutions should be appended to any proposal to be considered by the Research Ethics Committee of the University, provided the experiments are carried out in this University. If the experiments are carried out in the collaborating institution, the procedure may be reversed.

27. RESEARCH ETHICS

Annamalai University is committed to undertake research with impeccable scientific integrity and in conformity with the accepted code of conduct on Good Research Practices (GRP). GRP is concerned with the organizational process and the conditions under which academic research is planned, performed, monitored, recorded, archived and reported. This requires appropriate training and supervision to ensure the highest achievable standards for conducting research. All Research Scholars and Supervisors shall follow these guidelines while planning and executing research.

27.1 Scientific Integrity

All researchers shall maintain a very high degree of integrity with respect to all aspects of research including application for funding, designing and conducting experiments, analysing data, interpretation of results and publication of results.

27.2 Ethical and Legal Requirements

All researchers must be aware and comply with the ethical and legal requirements relating to human participants, animals disclosures of personal information, biological material transfer and testing, and biodiversity protection before undertaking research. All researchers are expected to follow the standard procedures for conducting research laid down by relevant scientific and professional bodies.

27.3 Conflict of Interest

A conflicting interest exists when professional judgement concerning a primary interest such as scientific knowledge may be influenced by a secondary interest such as financial gain, personal advancement or personal rivalry. Conflicts of interests may influence interpretation of results. Examples of potential conflicts of interest include employment, consultancies, stock ownership, honoraria, paid expert testimony, patent applications / registrations, and grants or other funding. All conflicts of interest, perceived, potential or actual, must be declared.

27.4 Safety

A researcher must be aware of the safety precautions and potential hazards of materials and equipment, use, storage and disposal of chemicals, how to deal with spills and accidents and requirement for vaccinations when dealing with biological samples. Equipment used to generate data should be calibrated and serviced regularly to ensure optimal and reproducible performance. A Standard Operating Procedure (SOP) and easily accessible instructions for safe shutdown in case of emergency should be maintained for each equipment.

27.5 Economy

All researchers shall exercise the principle of economy in the use of resources including infrastructure facilities, equipment and consumables. Regular review meetings shall be conducted by the Research Advisory Committee to assess the progress of research and to decide stop further experiments.

27.6 Documentation of Data

27.6.1 All data must be recorded promptly, accurately, legibly, indestructibly, and signed and dated by the Research Scholar and countersigned by the Supervisor. Confidentiality is important for data publication and protecting intellectual property.

27.6.2 All raw data, documents, protocols, specimens and reports shall be retained and archived by the research supervisor. Data must be retained intact for a period of at least 7 years from the date of any publication. Proper documentation of data will help in establishing ownership rights, and provide proof against charges of cheating or falsification.

27.7 Publication

Annamalai University encourages researchers to publish research data while emphasizing the paramount importance of quality over quantity. All researchers shall refrain from “fudging” and fabricating data. If an error is detected after publication, the corresponding author shall request the journal to publish an erratum. If there are concerns and serious doubts about the authenticity of the data, the authors shall retract the paper from the journal. Any deviation from GRP and indulgence in research misconduct will be dealt with severely as detailed in the ensuing section.

27.8 Dissemination

Results that are published may be disseminated, provided there is no infringement on any Intellectual Property Rights (IPR). However, researchers must exercise utmost caution in discussing work that is incomplete, unpublished, or pending patent application.

28. RESEARCH MISCONDUCT

28.1 Annamalai University policy on defining and dealing with research misconduct adheres to national and international conventions on the issue and the policy statement issued by the Govt. of India on addressing situations related to national integrity, which is the foundation of research.

- 28.2 Research or scientific misconduct is defined as fabrication, falsification and plagiarism, self-plagiarism, or deception in proposing, carrying out or reporting research results. However, honest error or differences of opinion cannot be classified as research misconduct.
- 28.2.1 Fabrication involves making up results and publishing them. A minor form of fabrication is where references are included to give arguments the appearance of widespread acceptance, but are actually fake, and/or do not support the argument.
- 28.2.2 Falsification refers to manipulation of research materials, equipment, or processes or changing or omitting data or results such that the research is not accurately represented in the research record.
- 28.2.3 Plagiarism involves the appropriation of another person's ideas, processes, results, or words without giving appropriate credit. Plagiarism also includes deliberate failure to appropriately credit prior work by others thereby giving a false impression of priority (citation plagiarism). Self-plagiarism is also considered as scientific misconduct.
- 28.2.4 Ghost-writing, the practice of commissioning an anonymous writer, is also regarded as a form of plagiarism, because it undermines the integrity of scientific publication system.
- 28.2.5 **Unacceptable Authorship**
Guest authorship refers to granting authorship out of respect for an individual, or because it will increase the likelihood of publication, credibility, or status of the work.
Gift authorship is credit offered from a sense of obligation, or anticipated benefit, to an individual who has not contributed to the work. Ghost authorship is denying authorship to an individual who has made substantial contributions to the research or writing of a manuscript.
- 28.2.6 Violation of ethical standards in human and animal experiments.
- 28.2.7 Suppression or failure to publish findings adverse to the researcher's interests.
- 28.2.8 Failure to follow established protocols if this failure results in unreasonable risk or harm to humans or the environment and facilitating of misconduct in research by collusion in, or concealment of, such actions by others.
- 28.2.9 Intentional, unauthorized use, disclosure or removal of, or damage to, research-related property of another, including apparatus, materials, writings, data, hardware or software or any other substances or devices used in or produced by the conduct of research.

29. INVESTIGATION OF RESEARCH MISCONDUCT

- 29.1 A committee duly constituted by the University will investigate the complaints of alleged research misconduct by the research scholars and/or supervisors.

- 29.2 The following is the composition of the committee to investigate the complaints of alleged research misconduct by the research scholars and/or supervisors.

Designation	Members
The Director, DARE	Convener
The Dean of the Faculty concerned	Member
Head of the Department or a senior Professor in the Department	Member
Head of the Department from the faculty concerned (other than the scholar department) (nominated by the Vice-Chancellor)	Member
One Lady Faculty member (nominated by the Vice-chancellor)	Member

- 29.3 Confidentiality will be maintained during the investigation including the identity of the individual registering the complaint (complainant).
- 29.4 If the misconduct is unintended, due to an error in interpretation, or the charges are baseless, the complaint will be dismissed. However, a report will be filed in the office.
- 29.5 If the complaint is credible, the committee, after informing the Ph.D. scholar and research supervisor against whom the complaint has been made (the subjects), will assess the authenticity of the charge, and the nature of the misconduct based on the material evidence available.
- 29.6 The person (scholar/supervisor) will be allowed to defend himself/herself. However, he/she shall provide the Committee access to reports, raw data, electronic records, manuscripts and any other material relevant to the investigation.
- 29.7 The committee shall complete its investigation and submit its report on the recommended course of action within a period of thirty days.
- 29.8 Annamalai University regards research misconduct as a serious offence and any member of staff/students may raise bonafide concerns confidentially and without fear of suffering a detriment. However, if the allegations prove to be made frivolously or with malicious intent, formal action against the complainant will be initiated.
- 29.9 If the charges of misconduct are proved, the subject(s) will be notified and disciplinary action initiated.

CHAPTER III : TRANSITORY PROVISIONS

30. AMENDMENTS TO THE ORDINANCE

This ordinance is subject to modifications or amendments as and when situation warrants from time to time by the Syndicate, based on the recommendations of the Academic council.

31. INTERPRETATION OF THE ORDINANCE

If any dispute arises in the interpretation of the ordinance, the decision of the Syndicate shall be final.

ANNEXURES

NO OBJECTION CERTIFICATE

Date:

From

To
The Registrar
Annamalai University
Annamalai Nagar

Sir,

Sub: No Objection Certificate from the employer to register for Ph.D.
Programme under Part time - External mode at Annamalai
University – Reg.

This is to certify that Mr. / Ms. _____ has been
working as _____ on regular basis from
_____ in our Organization / Institution / Industry and that he/she is
interested in pursuing Ph.D. Degree Programme at Annamalai University under Part-
time mode.

We do not have any objection to him/her pursuing Ph.D. Degree
Programme under Part-time mode at Annamalai University. The Organization is
willing to depute the employee to Annamalai University as and when he/she
undertakes course work and other related research work.

Signature and Seal of the
Authority Concerned


ANNAMALAI UNIVERSITY

(To be filled by co-supervisor (applicable for Part-time and Interdisciplinary research))

1.	Name of the Applicant			
2.	Name of the Co-supervisor			
3.	Date of Birth & Age			
4.	Designation & Place of Work			
5.	Contact Address with Phone/Mobile e-mail:			
6.	Qualifications			
	Name of Degree	Specialization (major)	College and University	Month & Year of Passing & Class
7.	Title of the Ph.D. thesis			
8.	No. of research papers published in accredited/ indexed journals (enclose full list)			
9.	No. of books published / invited chapters contributed (enclose list)			
10.	Total research experience (enclose details)			Years: Months:
11.	Positions held:			
	Name of Institution		From	To
12.	Subject / Discipline in which propose to guide the Ph.D. Scholar			
13.	Whether already recognized as Ph.D. supervisor by any other institution, if so, give details.			
14.	Total No. of candidates registered at present under you as co-supervisor at Annamalai University.			

Signature of Co-Supervisor (if applicable) Signature of the Head of Institution



**DIRECTORATE OF ACADEMIC RESEARCH
(DARE)**

**ANNAMALAI UNIVERSITY
ANNAMALAINAGAR – 608002**



REQUEST FOR EXTENSION OF TIME

Name of the Scholar :
 Roll No. :
 Programme : Ph.D.
 Category of Registration : Full-Time / Part-Time
 Faculty :
 Mobile No. :
 Email id :
 Date of Registration of the Programme :
 Supervisor Name & Address :

 Co-Supervisor Name & Address :
 (if applicable)
 Reason for Extension of time:
 Synopsis Submitted : Yes / No
 Extension of time : 1 year / months* from ... to

Signature of the Scholar

Signature of the Co-Supervisor
 (Name with Seal)
 (if applicable)

Signature of the Supervisor
 (Name with Seal)

**Signature of the
Head of the Department**
 (Name with Seal)

Signature of the Dean
 (Name with Seal)

Date :

Place :



DEPARTMENT OF _____
ANNAMALAI UNIVERSITY
ANNAMALAINAGAR – 608002



MINUTES OF THE FIRST RESEARCH ADVISORY COMMITTEE MEETING

The Research Advisory Committee Meeting of the Ph.D. Scholar, Mr./Ms. _____ (Roll No. _____) was held on _____ at 11 a.m.in the Department of Botany.

The following members were present.

1. _____ (Supervisor & Convener)
2. _____ (Co-Supervisor, if applicable)
3. _____ Head of the Department
4. _____ (Member)
5. _____ (Member)

Mr./Ms. _____ presented an overview of the proposed research work. The Research Advisory Committee approved the research topic as “.....”. The Committee has recommended the scholar to undertake the following course work examinations based on the qualification of the candidate and the proposed research area.

Course Code	Course Title	Credits	Core Course/ Elective/ Special Elective

Number of course works as applicable to the scholars

Member
(Signature with Name and Date)

Member
(Signature with Name and Date)

Co-Supervisor
(Signature with Name, Date and Seal)
(if applicable)

Supervisor
(Signature with Name, Date and Seal)

Signature of Head of the Department
(Name with Seal)

Date :

Place :



DEPARTMENT OF _____
ANNAMALAI UNIVERSITY
ANNAMALAINAGAR – 608002



**MINUTES OF THE RESEARCH ADVISORY COMMITTEE MEETING FOR
CONFIRMATION OF PROVISIONAL REGISTRATION**

The Research Advisory Committee Meeting of the Ph.D. Scholar, Ms. Janani. A (Roll.No. Ph.D./191XXYY001/Part-Time) was held on at a.m./p.m. in the Department of History. The following members were present:

Dr. Baskaran R	(Supervisor & Convener)
Dr. Kandasamy K	Co-Supervisor, if applicable
Dr. Abirami S	(Member)
Dr. Dhavachelvan P	(Member)
Dr. Jagadeesan R	Head of the Department

Mr./Ms. Janani. A has successfully completed the following course work examinations recommended by the Research Advisory Committee. He/She has obtained the following grades in the course work.

Sl. No	Course Code	Course Title	Credits	Category	Grade / Marks
1.				Core	
2.				Core	
3.				Elective	
4.					
5.					
6.					
7.					
8.					
				CGPA	
Comprehensive Examination: Pass / Fail *					

CoE signed result sheet of the course work duly attested by the Supervisor with seal should be enclosed along with this.

The scholar completed the first seminar presentation on _____ to the faculty members and research scholars. The attendees list is enclosed herewith. The committee also evaluated the research work carried out by the scholar and satisfied/not satisfied with the performance of the scholar. Hence, the Committee

recommends/does not recommend the confirmation of provisional registration of the scholar in the Faculty of Arts (Department of History), and permits/does not permit the scholar to proceed with his/her research work.

Member

(Signature with Name and Date)

Member

(Signature with Name and Date)

Co-Supervisor

(Signature with Name, Date and Seal)

(if applicable)

Supervisor

(Signature with Name, Date and Seal)

Head of the Department

(Signature with Name, Date and Seal)

Date :

Place :

* Strike off whichever is not applicable



DEPARTMENT OF _____
ANNAMALAI UNIVERSITY
ANNAMALAINAGAR – 608002



CHECKLIST FOR THE CONFIRMATION OF Ph.D. REGISTRATION

- | | |
|--|---------------|
| 1. Research Advisory Committee meeting Minutes and Research Performance Assessment signed by all the RAC members | YES/NO |
| 2. No. of Courses attended(not applicable for M.Phil. scholars) | YES/NO |
| 3. Photocopy of mark sheets of the course works signed by COE attested by the Supervisor | YES/NO |
| 4. Original copy of the certificate for the seminar presentation | YES/NO |
| 5. Attendance particulars for the seminar presentation
(Applicable to all scholars irrespective of year of registration) | YES/NO |
| 6. Comprehensive examination result mentioned in the RAC minutes | YES/NO |
| 7. Approval of Research Advisory Committee members for change of course work/ course code/course title | YES/NO |
| 8. For scholars with M.Phil. qualification, attested copy of M.Phil. degree certificate
Mode of completion of M.Phil. degree: Full-time/
Part-time/Distance mode | YES/NO |
| 9. Faculty for confirmation is same as that of Provisional Registration | YES/NO |

Checked and found Correct

Co-Supervisor

(Signature with Name, Date and Seal)
(if applicable)

Supervisor

(Signature with Name, Date and Seal)

Head of the Department

(Signature with Name, Date and Seal)



DEPARTMENT OF _____
ANNAMALAI UNIVERSITY
ANNAMALAINAGAR – 608002



Research Progress Report

(To be submitted every six months from date of Registration)

1.	Name and Roll No. of the Scholar	:	
2.	Programme	:	Ph.D. FT/PT (Internal /External)
3.	Title of research work	:	
4.	Date of previous RAC meeting	:	
5.	Brief report of the research work carried out between previous and present RAC meetings. Mention the objectives completed:		
6.	List research paper published/accepted for publication/communicated for publication / patents (National /International) filed / approved:		
7.	National / International Conference/Symposia attended (Give details such as Name of the Conference, venue, title, period):		
8.	Overall assessment and comments about the progress of the research scholar:		
Member (Signature with Name and Date)		Member (Signature with Name and Date)	
Co-Supervisor (Signature with Name, Date and Seal) (if applicable)		Supervisor (Signature with Name, Date and Seal)	
Head of the Department (Signature with Name, Date and Seal)			

Note: Research Performance Assessment restricted to maximum 2 pages should be submitted along with the minutes of RAC meeting duly signed by RAC members.



DEPARTMENT OF _____
ANNAMALAI UNIVERSITY
ANNAMALAINAGAR – 608002



**MINUTES OF THE RESEARCH ADVISORY COMMITTEE MEETING FOR
SUBMISSION OF SYNOPSIS**

The Research Advisory Committee Meeting of the Ph.D. Scholar, Mr./Ms. _____ (Roll No. _____) was held on _____ at a.m./p.m. in the Department of _____. The following members were present.

1. _____ (Supervisor & Convener)
2. _____ (Co-Supervisor, if applicable)
3. _____ Head of the Department
4. _____ (Member)
5. _____ (Member)

The Research Advisory Committee critically reviewed the research work entitled “.....” carried out by Mr./Ms. _____ and the contents of the draft Synopsis. The scholar completed the pre-synopsis presentation on to the faculty members and research scholars. The attendees list is enclosed herewith. The scholar has publications in the journals (SCI/UGC listed) from his/her research work.

The scholar has the following publications in the listed journals.

1. (Accepted/Published)
2. (Accepted/Published)

It is also certified that the Paper/Papers mentioned above are within the scope of the Journal and the paper/papers is/are relevant to the Ph.D. work carried out by the scholar.

The Committee is satisfied with the research performance of the scholar, the quality and quantum of research work and approves the Synopsis submission. The Committee also recommends the panel of Indian and Foreign Examiners for the evaluation of the Thesis.

Member

(Signature with Name and Date)

Co-Supervisor

(Signature with Name, Date and Seal)
(if applicable)

Member

(Signature with Name and Date)

Supervisor

(Signature with Name, Date and Seal)

Head of the Department

(Signature with Name, Date and Seal)



DEPARTMENT OF _____
ANNAMALAI UNIVERSITY
ANNAMALAINAGAR – 608002



**CERTIFICATE FOR SUBMISSION OF SYNOPSIS
 AFTER COMPLETION OF MINIMUM DURATION**

1. Name of the Research Scholar :
2. Roll No. :
3. Date of Provisional Registration & Confirmation :
4. Faculty & Department :
5. Category of Registration : Full-Time / Part-Time
6. Date of RAC meeting for synopsis submission :
7. Break of study availed (if any) mention the period :
8. Duration of research period from the date of submission of synopsis excluding the break of study period : Year Month
9. Synopsis submitted within the minimum duration : Yes / No
10. If Yes, whether the scholar has two publications as per the Annamalai University norms : Yes / No

Co-Supervisor

(Signature with Name, Date and Seal)
 (if applicable)

Supervisor

(Signature with Name, Date and Seal)

Head of the Department

(Signature with Name, Date and Seal)



DEPARTMENT OF _____
ANNAMALAI UNIVERSITY
ANNAMALAINAGAR – 608002



List of attendees for the Pre-Synopsis seminar Presentation of **Mr. K. RATNAVELU, Department of Computer Science & Engineering**, held on 15.03.2021 at 10.00 a.m. in the Seminar Hall, Department of Electronics and Communication Engineering, Annamalai University, Annamalainagar – 608 002.

Sl.No.	Name	Designation & Address	Signature
1.	Dr. P. Aruna, RAC Member.	Professor and Head, Department of CS & E	
2.	Dr. S. Pasupathy, Supervisor.	Associate Professor, Department of CS & E	
3.	Dr. M. Balasubramanian, RAC Member.	Associate Professor, Department of CS & E	
4.	Dr. V. Srinivasan, RAC Member.	Professor, Department of Information Technology	
5.			
.			
.			
.			
24.			
25.			

Member

(Signature with Name and Date)

Member

(Signature with Name and Date)

Co-Supervisor

(Signature with Name, Date and Seal)

(if applicable)

Supervisor

(Signature with Name, Date and Seal)

Head of the Department

(Signature with Name, Date and Seal)



**DIRECTORATE OF ACADEMIC RESEARCH
(DARE)**



**ANNAMALAI UNIVERSITY
ANNAMALAINAGAR – 608002**

PROFORMA FOR SUBMISSION OF SYNOPSIS

I. Registration Details:

Name of the Scholar: Contact No.: Email ID:		Roll No.:	
Name of the Supervisor: Contact No.: Email ID:		Name of the Co-Supervisor: Contact No.: Email ID:	
Category at the time of Registration		Change of Category, if any	
Month and Year of Registration		Period of break of study granted, if any	
Date of Confirmation		Date of Completion of minimum period	
Faculty and Department as per the Provisional Registration Order			
Date of completion of maximum period		Extension of period approved (mention date)	upto:
Date of Research Advisory Committee meeting for approval of Synopsis		Date of submission of Synopsis	

II. Semester Fee Payment Details:

Month and Year									
Amount Paid									

III. Course Work Details:

Course Code	Course Title	Credits	Core Course/Elective/Special Elective	Grade/Marks
CGPA				
Comprehensive Examination				Pass/Fail

IV. Progress Report:

Period	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec
Date of Submission								

V. Proof for Confirmation & Change of Category (if any) :

VI. Proof for the Seminar Presentations (attach the Circular copies) :

VII. Publication Details:

Journal	Published
National	
International	

Enclose photo copy of the papers published.

VIII. Details of Synopsis Fee:

Amount (Rs.)	D.D. No.	D.D. Date	Name of the Bank	Branch

IX. Whether Synopsis submitted within the maximum duration: **YES/NO**

If No, copy of the Extension order should be enclosed:

Certify that the information furnished above is true and correct to the best of my knowledge.

**Signature of the
Research Scholar**

**Signature of the
Co-Supervisor**

Signature of the Supervisor

**Signature of the
Head of the
Department**

(Name with Seal)
(if applicable)

(Name with Seal)

(Name and Seal)

(for Office use only) Checked and Accepted

Dealing Hand



**DIRECTORATE OF ACADEMIC RESEARCH
(DARE)
ANNAMALAI UNIVERSITY
ANNAMALAINAGAR – 608002**



CHECKLIST WHILE SUBMITTING Ph.D. SYNOPSIS

- | | | |
|-----|---|---------------|
| 1. | Proforma for submission of Synopsis | YES/NO |
| 2. | Whether change of Supervisor is approved | |
| | a.) if yes, attach a copy of the letter | YES/NO |
| | b.) Whether the scholar has completed a minimum of one year with the new Supervisor | |
| 3. | One copy of the Synopsis with soft copy as per Annamalai University Regulations | YES/NO |
| 4. | Original Minutes of the Research Advisory Committee signed by all the members | YES/NO |
| 5. | Panel of Examiners (both Indian and Foreign) with complete and correct postal address including Phone No, Mobile No, Fax No and correct Official E-mail ID (typed only) in a closed cover | YES/NO |
| 6. | Recent publications list of all Foreign and Indian examiners in the last 5 years in a closed cover | YES/NO |
| 7. | The panel of Foreign Examiners should not be of Indian origin | YES/NO |
| 8. | Photocopy of the Provisional Registration Confirmation order | YES/NO |
| 9. | Photocopies of UG and PG Degree Certificates attested by HOD | YES/NO |
| 10. | Synopsis fee of Rs._____ may be paid in the University Cash Counter / Bank. | YES/NO |
| 11. | Photo copy of the Journal publications | YES/NO |
| 12. | Photo Copy of the fee challan for all the years till the submission of Synopsis | YES/NO |
| 13. | Certificate for submission of synopsis after the completion of minimum duration | YES/NO |
| 14. | a.) Whether the Synopsis is submitted within the maximum duration | YES/NO |
| | b.) If No, enclosed copy of the Extension order | |
| 15. | Photo Copy of the circular for the pre-synopsis presentation | YES/NO |
| 16. | Attendance particulars for the pre-synopsis presentation
(Applicable to all scholars irrespective of year of registration) | YES/NO |
| 17. | Report from “URKUND” Software attached for all Published / accepted Papers listed in Synopsis | YES/NO |

**Signature of the
Co-Supervisor**
(if applicable)

**Checked and found Correct
Signature of the Supervisor**

**Signature of the
Head of the Department**

Annexure – 13**PANEL OF INDIAN EXAMINERS FOR Ph.D. THESIS EVALUATION**

Name and Roll No. of the Scholar :
 Programme : Ph.D. FT/PT (Internal / External)
 Title of the Thesis :
 Faculty& Dept. as per PG Qualification :
 Name of the Supervisor :
 Name of the Co-Supervisor (if applicable) :

Sl. No.	Name with full postal address with pin code	Area of specialization
PANEL OF INDIAN EXAMINERS (Preferably from IITs, NITs, Universities and Government Institutions) (Not less than Associate Professor)		
1.	Name : Designation : Department : Address : Mobile : Official E-mail:	Area of specialization No. of Publications:
2.	Name : Designation : Department : Address : Mobile : Official E-mail:	Area of specialization No. of Publications:
3.	Name : Designation : Department : Address : Mobile : Official E-mail:	Area of specialization No. of Publications:
4.	Name : Designation : Department : Address : Mobile : Official E-mail:	Area of specialization No. of Publications:
5.	Name : Designation : Department : Address : Mobile : Official E-mail:	Area of specialization No. of Publications:

Note: For each expert, the list of publications in reputed Journals indexed with Scopus/Web of Science/Thomson Reuters/ISI with impact factor during the last five years to be enclosed.

Supervisor

(Signature with Name, Date and Seal)

Head of the Department

(Signature with Name, Date and Seal)

Dean

(Signature with Name, Date and Seal)

Annexure – 14**PANEL OF FOREIGN EXAMINERS FOR Ph.D. THESIS EVALUATION**

Name and Roll No. of the Scholar :
 Programme : Ph.D. FT/PT (Internal / External)
 Title of the Thesis :
 Faculty& Dept. as per PG Qualification :
 Name of the Supervisor :
 Name of the Co-Supervisor :
 (if applicable)

Sl. No.	Name with full postal address with zip code	Area of specialization
PANEL OF FOREIGN EXAMINERS		
1.	Name : Designation : Department : Address : Mobile : Official E-mail:	Area of specialization No. of Publications:
2.	Name : Designation : Department : Address : Mobile : Official E-mail:	Area of specialization No. of Publications:
3.	Name : Designation : Department : Address : Mobile : Official E-mail:	Area of specialization No. of Publications:
4.	Name : Designation : Department : Address : Mobile : Official E-mail:	Area of specialization No. of Publications:
5.	Name : Designation : Department : Address : Mobile : Official E-mail:	Area of specialization No. of Publications:

Note: For each expert, the list of publications in reputed Journals indexed with Scopus/Web of Science/Thomson Reuters/ISI with impact factor during the last five years to be enclosed.

Supervisor

(Signature with Name, Date and Seal)

Head of the Department

(Signature with Name, Date and Seal)

Dean

(Signature with Name, Date and Seal)

PROFORMA FOR SUBMISSION OF Ph.D. THESIS**I. Registration Details:**

Name of the Scholar: Contact No: Email ID:		Roll No:	
Name of the Supervisor: Contact No : Email ID :		Name of the Co-Supervisor: Contact No : Email ID :	
Category at the time of Registration		Change of category, if any	
Month and Year of Registration		Period of break of study granted, if any	
Date of confirmation		Date of completion of minimum period	
Date of completion of Maximum period		Extension of period approved (mention date)	upto:
Date of RAC meeting for Approval of synopsis		Date of submission of thesis	

II. Extension of time for thesis submission beyond 3 months after the submission of synopsis (if any):

Late fee details:

Amount (Rs.)	D.D. No.	D.D. Date	Name of the bank	Branch

III. Whether No Dues Certificate is enclosed:

Certified that the information furnished above is true and correct to the best of my knowledge.

Signature of the Scholar

Co-Supervisor

(Signature with Name, Date and Seal)
(if applicable)

Supervisor

(Signature with Name, Date and Seal)

Head of the Department

(Signature with Name, Date and Seal)

(For Office use only) Checked and Accepted

Dealing Hand



**DIRECTORATE OF ACADEMIC RESEARCH
(DARE)**

**ANNAMALAI UNIVERSITY
ANNAMALAINAGAR – 608002**



CHECK LIST WHILE SUBMITTING Ph.D. THESIS

1.	Five Copies of the Thesis (with soft copy of the Thesis in PDF format with each copy) prepared as per the guidelines of Annamalai University	YES/NO
2.	(a) Whether the thesis is submitted within the maximum duration	YES/NO
	(b) if no, enclose copy of the extension order	YES/NO
3.	Whether the thesis is submitted within three months from the synopsis meeting	YES/NO
4.	Proforma for submission of thesis	YES/NO
5.	No dues certificate (original)	YES/NO
6.	Checked for language and grammar	YES/NO
7.	Report from “URKUND” software attached	YES/NO

Synopsis and Thesis titles are the same.

Checked and found correct

Co-Supervisor

(Signature with Name, Date and Seal)
(if applicable)

Supervisor

(Signature with Name, Date and Seal)

Head of the Department

(Signature with Name, Date and Seal)



**DIRECTORATE OF ACADEMIC RESEARCH
(DARE)
ANNAMALAI UNIVERSITY
ANNAMALAINAGAR – 608002**



NO DUES CERTIFICATE

**(To be submitted along with Thesis to
the Director, DARE, Annamalai University, Annamalainagar)**

Name of the Scholar :
 Programme : Ph.D. FT/PT (Internal / External)
 Roll No :
 Department and Faculty :
 Month & Year of Submission of Thesis :

Sl. No.	Details	No Dues Certificate	Signature (Name with Seal)
1.	University Library		
2.	Department Library		
3.	D1- Section		
4.	Department of the Supervisor and Scholar		
5.	Department Store		
6.	Hostel Office		
7.	Project Section (G/CRD)		
8.	Scholarship Section (H)		
9.	Director, DARE (For Office use Only)		

* **Strike off whichever is not applicable**

Declaration

I hereby declare that in the event of any due from me found at a later date, I shall pay the same to the Institution.

Signature of the Scholar

Co-Supervisor

(Signature with Name, Date and Seal)
(if applicable)

Supervisor

(Signature with Name, Date and Seal)

Head of the Department

(Signature with Name, Date and Seal)



DEPARTMENT OF _____
ANNAMALAI UNIVERSITY
ANNAMALAINAGAR – 608002



**MINUTES OF THE RESEARCH ADVISORY COMMITTEE MEETING FOR
 RESUBMISSION OF THESIS**

The Research Advisory Committee Meeting of the Ph.D. Scholar, Mr./Ms. _____ (Roll No. _____) was held on _____ at _____ a.m./p.m. in the Department. of _____
 The following members were present:

1. _____ (Supervisor & Convener)
2. _____ (Co-Supervisor, if applicable)
3. _____ Head of the Department
4. _____ (Member)
5. _____ (Member)

The Comments given by the examiners have been reviewed by the Research Advisory Committee, and the committee certifies that the corrections were carried out by the scholar as suggested by the examiner(s).

He/She is permitted to resubmit the thesis.

Title of the Thesis “ _____ ”.

Member
 (Research Advisory Committee)

Member
 (Research Advisory Committee)

Co-Supervisor
 (Signature with Name, Date and Seal)
 (if applicable)

Supervisor
 (Signature with Name, Date and Seal)

Head of the Department
 (Signature with Name, Date and Seal)



DEPARTMENT OF _____
ANNAMALAI UNIVERSITY
ANNAMALAINAGAR – 608002



CIRCULAR

Ph.D. Public Viva-Voce Examination

Name of the Scholar :
 Roll Number :
 Category of Registration : Full-time/Part-time (Internal/External)
 Faculty & Department :
 Title of the Thesis :
 Date and Time of Viva-voce Examination :
 Venue :
 Name and address of the Supervisor :
 Name and address of the Indian Examiner :

All are cordially invited

Supervisor

(Signature with Name, Date and Seal)

Head of the Department

(Signature with Name, Date and Seal)

Copy to:

1. The Controller of Examinations.
2. The Deans of Faculties.
3. The Heads of Departments with request to display in the Department Notice Board.
4. The Director, Directorate of Academic Research (DARE).
5. The Director, Academic Affairs.
6. The Director, Directorate Research and Development (DRD).
7. The University Librarian.
8. The Heads of Departments of other Universities/Colleges/IIT/NIT/IIM with request to display in their Department Notice Board.
9. P.S to Vice-Chancellor.
10. P.A to Registrar.

**GUIDELINES FOR THE
PREPARATION OF
SYNOPSIS AND THESIS**

Appendix – I**GUIDELINES FOR THE PREPARATION OF SYNOPSIS**

Synopsis should outline the research problem, the methodology it and the summary and conclusion of the findings. The size of the Synopsis should not exceed 15 pages of typed matter reckoned from the first page to the last page including the list of references and list of publications of the scholar. The sequence in which the synopsis should be arranged is as follows with references and list of publications in separate pages.

- 1) Cover page and title page (as shown in the Annexure I)
- 2) Text divided into suitable headings (numbered consecutively)
- 3) References (not more than 12)
- 4) List of publications (those published/accepted for publications. Mention the impact factor of the journal- only Web of science or Scopus impact factor)

Standard A4 size (297 mm x 210 mm) bond paper may be used for preparing the synopsis. The synopsis should have the following page margins:

Top edge	:	30 to 35 mm
Bottom edge	:	25 to 30 mm
Left side	:	35 to 40 mm
Right side	:	20 to 25 mm

The synopsis should be prepared using good quality white paper preferably not lower than 80 GSM. One and half line spacing should be used for typing the general text. The general text shall be typed in Font Style Times New Roman and Font Size 13. One or two tables/figures may be included at appropriate places in the text of the synopsis and they should conform to the margin specification. All page numbers (Arabic numbers) should be typed without punctuation on the upper right hand corner 20 mm from top with the last digit in line with the right hand margin. Synopsis should be soft bound with black calico cloth and using flexible cover of thick white art paper. The cover should be printed in black letters and the text for printing should be identical to what has been prescribed for the title page. The references such as journals, books, E-books, conference proceedings, patents, etc should be typed following the International standard.

A typical Specimen of Cover page and Title Page

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A SYNOPSIS

Submitted by <Italic>

GOVINDARAJAN K R

***in partial fulfillment of the requirements for the award of
the degree of***

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DOCTOR OF PHILOSOPHY



DEPARTMENT OF CHEMICAL ENGINEERING

ANNAMALAI UNIVERSITY

ANNAMALAINAGAR 608 002 <1.5 line
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APRIL 2021

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APRIL 2021

GUIDELINES FOR THE PREPARATION OF THESIS

The scholars are expected to read the guidelines carefully, and meticulously follow them in the preparation of the thesis. Non-compliance with any of these instructions may lead to the rejection of the thesis submitted.

1. GENERAL

This Manual is intended to provide general guidelines to the research scholars in the preparation of the thesis. In general, the thesis shall report, in an organized and scholarly fashion, an account of original research work of the research scholar leading to the discovery of new facts or techniques or correlation of facts already known (analytical, experimental hardware oriented, etc.). Thesis shall demonstrate quality as to make a definite contribution to the advancement of knowledge and the research scholar's ability to undertake sustained research and present the findings in an appropriate manner with actual accomplishments of the work.

2. SIZE OF THE THESIS

The size of the thesis shall be normally between 100 and 300 pages of typed matter reckoned from the title page to the last page of thesis including the reference section.

3. ARRANGEMENT OF THE CONTENTS OF THE THESIS

The sequence in which the thesis material should be arranged and bound as follows:

- 1) Cover page and Title page (as shown in Annexure I)
- 2) Certificate (as shown in Annexure II)
- 3) Declaration by the Scholar (Annexure III)
- 4) Abstract
- 5) Acknowledgement (one page only)
- 6) Table of contents (Annexure IV)
- 7) List of Tables (Annexure V)
- 8) List of Figures (Annexure VI)
- 9) List of Abbreviations and Symbols (Annexure VII)
- 10) Chapters
- 11) Appendices (if applicable)
- 12) References
- 13) List of Publications

The Tables and Figures should be included subsequently after referring to them in the text of the thesis. The thesis starting from chapters should be printed on both sides.

4. QUALITY OF PAPER AND MARGIN SPECIFICATIONS

The thesis should be prepared using good quality white paper preferably not lower than 80 GSM. Standard A4 size bond paper may be used for preparing the thesis. The dimensions of the final bound thesis (5 copies) should be 290 mm x 205 mm.

The following page margins should be followed while preparing the thesis:

Top edge	:	30 to 35 mm
Bottom edge	:	25 to 30 mm
Left side	:	35 to 40 mm
Right side	:	20 to 25 mm

The Tables and figures should also conform to the margin specifications. Large size figures should be photographically or otherwise reduced to the appropriate size.

5. MANUSCRIPT PREPARATION

While preparing the thesis manuscript, attention should be paid to ensure that all textual matter is typewritten in the same format to the extent possible. Hence, some of the information required for the final typing of the thesis is presented in this section. The headings of all items from 2 to 12 listed in section 3 should be typed in upper case letters without punctuation and centered 50 mm below the top of the page. The text should start 4 spaces below the heading. The page numbering from 1 to 8 should be done using lower case Roman numerals and the pages from 9 to 12 should be numbered using Arabic numerals.

1.1 Cover Page and title Page

A specimen copy of the cover page and title page for the thesis is given in Annexure II.

1.2 Certificate

The certificate shall be typed in double line spacing using font style Times New Roman and Font size 12 as per the format shown in Annexure III. The certificate shall be signed by the Supervisor and shall be followed by the supervisor's name academic designation, department and full address of the institution where the supervisor has guided the scholar. Signature of the co-supervisor with details should be included wherever applicable.

1.3 Abstract

Abstract should be an essay type of description not exceeding four pages outlining the research problem, methodology used and summary of the findings. This shall be typed in one and a half line spacing using Font style Times New Roman and Font size 12.

1.4 Acknowledgement

It should be very brief and restricted to one page only when typed in one and a half line spacing. The scholar's signature shall be affixed at the bottom right end above the scholar's name typed in capitals.

1.5 Table of contents

The title page, certificate and acknowledgement will not find a place among the items listed in the Table of Contents, but the page numbers of which are in lower case Roman letters. One and a half line spacing should be adopted for typing the matter under this head. A specimen copy of the table of contents for the thesis is given in Annexure IV.

1.6 List of Tables

The list should use exactly the same captions as they are written above the tables in the text. One and a half line spacing should be used for typing under this heading.

1.7 List of Figures

The list should use exactly the same captions as they appear below the figures in the text. One and a half line spacing should be used for typing under this heading.

1.8 List of symbols and abbreviations

One and a half line spacing shall be used for typing the matter under this heading. Standard symbols, abbreviations, etc., shall be used.

1.9 Chapters

The chapters may be broadly classified into three parts: (i) introduction, (ii) the main theme of the thesis and (iii) results, discussion, summary and conclusion. The main chapters may be divided into several sections, divisions and sub-divisions. Each chapter should be given appropriate title. Titles and figures in a chapter should be placed in the immediate vicinity of the reference where they are cited.

1.10 Appendices

Appendices are provided to give supplementary information, which if included in the main text may serve as a distraction and spoil the central theme of the thesis. Appendices shall be numbered using Arabic numerals, e.g. Appendix 1, Appendix 2, etc. Tables and references in appendices should be numbered and referred at appropriate places just as in the case of chapters. Appendices shall carry the title of the work reported and the same title shall be included in the table of contents.

1.11 List of References

Any works of other researchers, if used either directly or indirectly, the origin of the material thus referred to should be indicated at appropriate places in the thesis. Such references in the form of research articles, monographs, books, review articles, patents and proceedings shall be cited in the thesis following the international standard. A citation should be placed wherever appropriate, preferably at the end of a sentence. All the citations shall be in the same font as the main text. The list of references should be typed 4 spaces below the heading "REFERENCES" in single line spacing using Font style Times New Roman and Font size 13.

1.12 List of Publications

The list of publications (those already published/accepted for publication in journals and papers presented in conferences/symposia) made by the research scholar during the period of research shall be reported in the table of contents.

1.13 Tables and Figures

Table means tabulated data in the body of the thesis as well as in the appendices. Others such as charts, graphs, maps, photographs and diagrams may be designated as figures. The table or figure including caption should be accommodated within the prescribed margin limits and should appear on the following page where their first reference is made. All tables and figures should be typed on the same quality paper used for the preparation of the text of the thesis. Two or more small tables or figures may be grouped and typed in a single page, if necessary. Wherever possible, the photograph(s) shall be reproduced on a full sheet of photographic paper or standard A4 size paper.

2. TYPING INSTRUCTIONS

2.1 General: The impressions on the typed/printed copies should be black in colour. One and a half line spacing should be used for typing the general text. The general text shall be typed in Font style Times New Roman and Font size 13. Long tables, long quotations, foot notes, multiline captions and references should be typed in single line spacing.

2.2 Chapters: The format for typing headings, division headings and sub-division headings are as follows

Chapter heading	CHAPTER 1 INTRODUCTION
Division heading	1.1 OUTLINE OF THESIS
Sub-division heading	1.1.1 Literature Review 1.1.1.1 Romanian views on archaeology

The word CHAPTER without punctuation should be centered 50 mm down from the top of the page. Two spaces below, the title of the chapter should be typed centrally in capital letters. The text should commence 4 spaces below this title, the first letter of the text starting 20 mm inside from the left hand margin.

The division and sub-division captions along with their numbering should be left justified. The typed material directly below division or sub-division heading should commence 2 spaces below it and should start typing 20 mm from the left hand margin. Within division or sub-division paragraphs are permitted and they should also commence 3 spaces below the last line of the preceding paragraph, with offset from the left hand margin by 20 mm.

3. NUMBERING INSTRUCTIONS

3.1 Page Numbering

All page numbers (whether it be in Roman or Arabic numbers) should be typed without punctuation on the upper right hand corner 20 mm from the top with the last digit in line with the right hand margin. The preliminary pages such as title page, acknowledgement, table of contents, etc. should be numbered in lower case Roman numerals. Pages of the main text starting with Chapter 1 should be consecutively numbered using Arabic numerals till the end of the thesis.

3.2 Numbering of Chapters, divisions and Sub-Divisions

The numbering of chapters, divisions and sub-divisions should be done using Arabic numerals only and further decimal notation should be used for numbering the divisions and sub-divisions within a chapter. For example sub-division 2 under division 4 belonging to chapter 3 should be numbered as 3.2.4. The caption for the sub-division should immediately follow the number assigned to it. Appendices, if any, should also be numbered in an identical manner starting with appendix 1.

3.3 Numbering of tables and figures

Tables and figures appearing anywhere in the thesis should have appropriate numbers. For example, if a Figure in Chapter 4 happens to be fifth, then assign 4.5 to that figure. Similar rules apply for tables. For example, if a table in chapter 3 happens to be second, then assign 3.2 to that table. If Figures or Tables appear in Appendices, then Table 3 in Appendix 1 will be designated as Table A1.3. Similarly for Figures.

3.4 Numbering of Equations

Equations appearing in each chapter or appendix should be numbered serially, the numbering should commence afresh for each chapter or appendix. Thus for example, an equation appearing in chapter 3, if it happens to be the fourth equation in that chapter should be numbered as (3.4) thus:

$$y' + a(t)y = b(t) \quad (3.4)$$

While referring to this equation in the body of the thesis it should be referred to as equation (3.4).

4. BINDING SPECIFICATIONS

Thesis side pinning/stitching, covered with wrapper printed on 300 GSM white art card and outer side gloss laminated, adhesive binding. The cover should be printed in black letters and the text for printing should be identical to what has been prescribed for the title page.

A typical Specimen of Cover page and Title Page

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**DEPARTMENT OF CHEMICAL ENGINEERING
ANNAMALAI UNIVERSITY
ANNAMALAINAGAR 608 002
APRIL 2021**



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Mobile : +91-9842998740
E-mail: venkatesalu@yahoo.com

CERTIFICATE

This is to certify that the thesis entitled “ISOLATION AND CHARACTERIZATION OF MOSQUITO LARVICIDAL COMPOUND(S) FROM SOME MEDICINAL PLANTS AGAINST *Aedes aegypti*, *Anopheles stephensi* and *Culex quinquefasciatus*” is a bona fide record of research work done by **Mr. SOFI IMTIYAZ ALI (Roll No. 1519030011)**, Research Scholar, Department of Botany, Annamalai University, Annamalainagar, under my guidance during the period **2015-2018**, and that this thesis has not previously formed the basis for the award of any degree, diploma, associateship, fellowship or other similar title to this candidate or any other candidate.

This is also to certify that the thesis represents the independent work of the candidate.

Place :
Date :

(Dr. V. VENKATESALU)
Research Supervisor

DECLARATION

I, **SOFI IMTIYAZ ALI**, Research Scholar in the Department of Botany, declare that the work embodied in this Ph.D. thesis entitled “ISOLATION AND CHARACTERIZATION OF MOSQUITO LARVICIDAL COMPOUND(S) FROM SOME MEDICINAL PLANTS AGAINST *Aedes aegypti*, *Anopheles stephensi* and *Culex quinquefasciatus*” is the result of my own bona fide work carried out with my personal effort and submitted by me under the supervision of **Dr. V. VENKATESALU**, Professor, Department of Botany, Annamalai University, Annamalainagar. The contents of this thesis have not formed the basis for the award of any Degree/Diploma/Fellowship/Titles in this University or any other University or similar Institutions of higher learning.

I declare that I have faithfully acknowledged and given credit and referred to the researchers wherever their works have been cited in the body of the thesis. I further declare that I have not willfully copied others' data/work/results, etc. reported in the journals, magazines, books, reports, dissertations, theses, Internet, etc. and claimed as my own work.

Place:

Date:

Signature of the Research Scholar

Roll No.: 1519030011

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LIST OF ABBREVIATIONS AND SYMBOLS**ABBREVIATIONS**

AES	–	Atomic Emission Spectroscopy
AIR	–	Air Injection Reactor
BET	–	Brunauer-Emmet-Teller
CFC	–	Chlorofluorocarbon
cm ³ /min	–	Cubic Centimetre per minute
cm ³ /g	–	Cubic Centimetre per gram
CNG	–	Compressed Natural Gas
DRS UV-Vis	–	Diffuse Reflectance Ultraviolet Visible
EDX	–	Energy Dispersive X-Ray
EPR	–	Electron Paramagnetic Resonance
FT-IR	–	Fourier Transform Infra-Red
GC	–	Gas Chromatography
IUPAC	–	International Union of Pure and Applied Chemistry
KHz	–	Kilo Hertz
LPG	–	Liquid Petroleum Gas
·m	–	Micrometre
nm	–	Nanometre
·C	–	Degree Celsius
RT	–	Retention Time
RH	–	Relative Humidity
PCR	–	Polymerase Chain Reaction
UNDP	–	United Nations Development Programme
WTO	–	World Trade Organisation
FRBM	–	Fiscal Responsibility and Budget Management
BE	–	Budget Estimate
RE	–	Revised Estimate

SYMBOLS

·	–	Absolute frequency
·	–	Density of the fluid
·	–	Direction of wave propagation
·	–	Frequency of the waves
·	–	Potential function
·	–	Alpha
Å	–	Angstrom
·	–	Beta
%	–	Percentage
·	–	Surface tension
·	–	Theta
·	–	Wavelength
·	–	Psi

INSTRUCTIONS FOR FILLING IN THE APPLICATION

Application

The registration of application is through online mode only.

University website: **www.annamalaiuniversity.ac.in/adm**

PROCEDURE FOR REGISTRATION OF ONLINE APPLICATION

General Instructions for Applicants

- i. Online Application Number is the Registration Number of the Annamalai University Ph.D. Admissions, 2021.
- ii. The candidates seeking admission should register and apply only through online by logging onto **www.annamalaiuniversity.ac.in/adm**
- iii. The guidelines for registration are available on the Annamalai University Website Portal.
- iv. The candidates are directed to upload the following certificates along with the online application:
 1. Xth / S.S.L.C. Marksheet
 2. H.Sc. or Diploma Marksheet
 3. U.G. Provisional (or) Degree Certificate
 4. P.G. Provisional (or) Degree Certificate
 5. M.Phil. Provisional (or) Degree Certificate (if applicable)
 6. N.O.C from employer (Part time - Internal & External)
 7. Co-Supervisor acceptance letter (External & Interdisciplinary)
 8. Transfer Certificate
 9. Community Certificate (if Applicable).

No need to send the hard copy of the application

At the time of interview, the candidates are directed to report and produce all the above certificates in original for verification.

This brochure-cum-prospectus is published for enlightening those who intend to apply for admission to **Doctor of Philosophy (Ph.D.)**, at Annamalai University during 2021-2022.

The contents covered are subject to change from time to time and the University may make such changes without notice.

The University will provide additional information in response to enquiries from individuals and institutions.

AT A GLANCE

Admission to the Doctor of Philosophy for the Year 2021-22.

IMPORTANT DATES

Online Registration Starts on	: 29.07.2021
Closing of Online Registration	: 31.08.2021
Date of Entrance Test & Interview	: will be intimated later

Online Application Form along with Prospectus will be available at the University Website <http://annamalaiuniversity.ac.in/adm>

Online Application Fee:- ₹ 1500/-

For details, Please refer our University website
www.annamalaiuniversity.ac.in

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