Annamalai University
(Accredited with _A' Grade by NAAC)

DOCTOR OF PHILOSOPHY IN BUSINESS ADMINISTRATION

Regulations & Curriculum-2019

Department of Business Administration

Doctor of Philosophy (PH.D.)

Provisions of the Annamalai University Act 2013

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.

PREAMBLE

The Ph.D. programme aims at training professionals and teachers in the skills and competencies related to the systematic investigation of various issues and problems in the area of their study. Annamalai University awards Ph.D. degree to a candidate who, in accordance with the following regulations, has undergone a course work, has submitted a thesis based on original independent research work done by him/her in any discipline or more than one discipline, has had the thesis adjudicated and approved by a panel of suitably constituted examiners, and has defended the thesis in the presence of experts and the public.

The following guidelines are based on the UGC (Minimum Standards and Procedures for the Award of Ph.D. Degree) Regulations, 2016.

FACULTIES/DEPARTMENTS OFFERING Ph.D. PROGRAMMES

Facilities exist for research leading to the award of Ph.D. Programme in the following Faculties:

Faculty	Ph.D. Programmes
Arts	English, History, Political Science, Public Administration, Economics, Sociology, Social Work, Commerce, Population Studies, Business Administration, Rural Development, Rural Studies, Library & Information Science, Philosophy, Law.
Science	Mathematics, Statistics, Physics, Chemistry, Botany, Plant Biology & Plant Biotechnology, Zoology, Environmental Biotechnology, Bioinformatics, Microbiology, Geology, Applied Geology, Geoinformatics, Biochemistry, Biotechnology, Computer Science, Computer Applications, Sports Biochemisty, 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, Indian Diaspora and Migration Studies.
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.

Faculty	Ph.D. Programmes
Education	Education, Psychology, Physical Education, Yoga.
Fine Arts	Music.
Agriculture	Agronomy, Agricultural Entomology, Plant Pathology, Microbiology, Soil Science & Agricultural Chemistry, Agricultural Botany, Genetics & Plant Breeding, Seed Science & Technology, Agricultural Biotechnology, Horticulture, Agricultural Economics, Agri. Business Management, Agricultural Extension.
Medicine	Physiology, Biochemistry, Pharmacology, Pathology, Microbiology, Community Medicine, General Medicine, Paediatrics, DVL, Psychiatry, General Surgery, ENT, Ophthalmology, Obstetrics & Gynaecology, Orthopaedics, Radio-Diagnosis, Physical Medicine & Rehabilitation, Anaesthesiology, Cardiology, Nursing.
Dentistry	Oral and Maxillofacial Pathology and Oral Microbiology, Oral & Maxillofacial Surgery, Periodontology, Paediatric Dentistry, Orthodontics and Dentofacial Orthopaedics, Prosthodontics and Crown & Bridge, Conservative Dentistry & Endodontics, Oral Medicine and Radiology.

III. ELIGIBILITY CRITERIA

General Eligibility

For admission to the Ph.D. programme, a candidate has to **fulfill** the following minimum qualifications:

Faculties of Arts, Science, Marine Sciences, Indian Languages, Engineering & Technology, Education, Fine Arts, Medicine (Nursing & Physiotherapy only)

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

Faculties of Medicine and Dentistry (except Nursing & Physiotherapy)

A Pass in Master's Degree with 50% of marks in the concerned subject.

Candidates who have passed Master's Degree through Open University system are not eligible to apply; however, candidates who have secured their Master's Degree under (11+1) or (10+2) + 3 + 2 / (10+2)+4+2 / (10+3)+3+2 / (10+2) + 5 pattern of programmes of study are eligible.

3.3.1 A relaxation of 5% of marks from 55% to 50% or an equivalent relaxation of grade, may be allowed for those belonging to SC/ST/OBC (non-creamy layer) / differently abled or for those who obtained their Master's degree prior to 16th September, 1991 in the Faculties of Arts, Science, Marine Sciences, Indian

Languages, Education & Fine Arts. The eligibility marks of 55% (or an equivalent grade in a point scale wherever grading system is followed) and the relaxation of 5% to the categories mentioned above are permissible based only on the qualifying marks without including the grace mark procedures.

4.3.2 Candidates who have cleared the M.Phil. course work examination with at least 55% marks in aggregate or its equivalent grade 'B' in the UGC 7-point scale (or an equivalent grade in a point scale wherever grading system is following) and successfully completed the M.Phil. Degree programme shall be eligible to proceed to do research work leading to the Ph.D. Degree in the same Institution in an integrated programme. A relaxation of 5% of marks, from 55% to 50%, or an equivalent relaxation of grade, may be allowed for these belonging to SC/ST/OBC (non-creamy layer)/differently abled and other categories of candidates as per the decision of the Commission from time to time.

Preference will be given to candidates who have passed the UGC JRF / NET / SET (SLET) / Lectureship / GATE / CSIR / ICAR / ICSSR or other fellowship related examinations.

While granting admission to Ph.D. Programmes, due attention shall be paid to the State Reservation Policy.

Discipline-wise Eligibility
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 / History & Heritage Management / Ancient History & Archaeology / History & Tourism Management 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 Information System/Accounting & Finance/ International Banking /International Business, Banking and Insurance/Business Intelligence/ Financial Services / Business Studies / Co-operative Management / M.Com. Five Year Integrated Programme/ M.A. Co-operation / Corporate Secretaryship / Master of Bank Management / Master of Business Studies / Master of Financial Services / International Business/Master of Financial Management and Master of Financial Control with a minimum of 55% of aggregate 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.

Law

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

For Part-time External in addition to the above, they should possess the following requirements.

1) In the case of Judges, who have put in not less than 5 years of regular service as Judicial Officers and attended 2 National Seminar and presented at least published 2 research papers in a reputed Law Journal.

2) In the case of teachers who have put in 1 year of full-time regular service in the University or any of the Law Colleges and published two research papers in reputed law journal.

3) In the case of lawyers and others those who are working in the Research Institutions/Research Departments connected with Law, should have put in at least 5 years professional experience and attended at least two national seminars and Published two research papers in reputed Law journal.

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 / Herbal Science with a minimum of 55% marks or equivalent Grade Point Average (GPA) or in an examination recognised as equivalent thereto.

Plant Biology and Plant Biotechnology

A pass in Master's Degree in Plant Biology and Plant Biotechnology / Botany / Plant Sciences / Biotechnology / Molecular Biology / Microbiology / Biochemistry / Genetics / Pharmacology 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.

Environmental Biotechnology

A pass in Master's Degree in Environmental Biology 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.

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 / 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 & Costal 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 / Biochemistry 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.

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.

(or)

தமிழ்   அல்லாத   பி   மநாழி   டொடல்   பிவு கழிப்   முது‌இலப்   டட்டந   மப்ப்த்   தகுத இ யுலடன   வி‍‌ணை‍ண‍்தாபபக‍்   55% வி‍ழுககாடல்   நத‍ி‍மப்   ‍ண‍்   ‍‍   வி‍ண‍ை‍ண‍ர பிக‍்கல‍ாந‍் .

குறிகு   ௦:

‍   முலையப்   டட்டந   மறுந   இயய‍ானையாங‍‍கி   இக‍்க‍்வித‍்தகுத இலன ‍லயத‍்து   எதிபகா‍ர்‍த‍்தி ‍ல‍   ‍னிப‍ிஎ   ‍தவி   உன‍ப   ப‍ொ‍்ப‍ய‍்லப‍்லப்‍மப்   இகக‍்   ‍வி‍த‍தக‍த   ஏ‍்ப‍ுலடனத‍ு   ஆகாத‍ு.

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).

Indian Diaspora and Migration Studies

A pass in Master's Degree in Indian Diaspora and Migration Studies or other interdisciplinary programmes in Arts or Social Sciences or Humanities or Language with a minimum of 55% marks or in an examination recognized as equivalent thereto.

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.

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.

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.

FACULTY OF AGRICULTURE

1. Candidates with two year Master's degree programmes 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 Agribusiness
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.)
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. Agricultural Biotechnology	M.Sc. (Ag.) in Genetics and Plant Breeding M.Sc. (Ag.) in Agricultural Biotechnology

Faculty of Medicine

Master's Degree with 50% of marks in the concerned subject is the minimum qualification for admission to the Ph.D. Programme for the Faculty of Medicine **(Except Nursing and Physiotherapy)**.

Nursing & Physiotherapy

Masters Degree with 55% of marks in Nursing and Physiotherapy is the minimum qualification for admission to Ph.D. Programme in Nursing and Physiotherapy.

Faculty of Dentistry

Master's Degree with 50% of marks in the concerned subject is the minimum qualification for admission to the Ph.D. Programme for the Faculty of Dentistry.

IV. CATEGORIES OF ADMISSION

There shall be four categories of Ph.D. candidates:

a. Full-time Scholars, On-campus

b. Part-time - Internal

c. Part-time - External (India & Overseas))

Full-Time Ph.D. Candidates, On Campus

Research Scholars of this category are those who pursue their doctoral research under the guidance of a Research Supervisor in this University campus itself.

Part-Time Candidates (Internal), On Campus

Research Scholars within this category are those who are presently employed on regular basis in this University at the time of applying for the Ph.D. programme.

Those who have joined as Assistant Professors with M.Phil./M.E./M.Tech./ M.Pharm./M.Sc.(Agri.)/M.D./M.S./M.D.S. are permitted to register for Ph.D. Programme after one year from the date of joining in the post.

Faculty who do not have an M.Phil. Degree shall register for the Ph.D. Programme after two years from the date of joining in the post, provided they fulfil the eligibility conditions for registration of the Ph.D. Programme as Part-time candidates.

The Regular Non-Teaching Staff shall register for the Ph.D. Programme after five years from the date of joining in the post, provided they fulfil the eligibility conditions for registration of the Ph.D. Programme as Part-time candidates. The normal office work 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.

The in-service candidates who register for Ph.D. programme on part-time basis in the Faculties of Medicine and Dentistry shall execute a bond to serve the University for a minimum period of three years after the award of the Ph.D. Degree.

Part-time External (India & Overseas)

The number of candidates considered for registration in this category would depend upon the availability of **research supervisors**. The University reserves full rights for the selection.

The candidate shall register under a Research Supervisor who is a member of the **Teaching** Faculty of this University.

The candidates should be employed as Assistant Professor / Associate Professor/Professor in a recognized college/University where facilities for carrying out research work are available and have Postgraduate Departments for Science, Marine Sciences, Engineering, Medical / Dental and Agriculture subjects or Undergraduate Departments for Arts, Fine Arts, Education and Indian Languages subjects, or employed as Research Scientists or similar cadre in private or Government Institutions/Industrial Units with Research and Development facilities, or Librarians working in Colleges/University or Physical Director working in Colleges/University and who **fulfill** the eligibility conditions. Such candidates can directly register for Ph.D. under suitable supervisor in Annamalai University and they do not require a co-supervisor.

All other eligible candidates whether employed or unemployed shall have a recognized co-supervisor. The co-supervisor may be from college / institution located from the same or nearby town of the candidate.

The co-supervisor should be approved by the University. Generally facilities for research should be **made** available at the place of work of the Candidate. In case where such facility does not exist, the research facility at the place of work of Co-supervisor should be available to the candidate. Otherwise the facilities available in Annamalai University in the respective Faculties shall be extended to the candidates.

The candidate has to produce one month attendance per academic year which will be issued by Supervisor/Co-supervisor.

The following certificates shall be attached with the application:

 i) No Objection Certificate from the employer if employed. **(Annexure-1)**

 ii) Acceptance letter from the Co-supervisor. **(Annexure-2)**

Note: Provision exists for conversion of Full-Time to Part-Time and vice-versa provided the residency and attendance requirements are satisfied.

4.4 Admission of Foreign Students

Students who are selected under various Scholarship schemes, either by the Ministry of Education and Culture or the Ministry of External Affairs, will be given admission on the recommendations/sponsorship of the respective Ministry of Government of India. Self-supporting foreign students seeking admission should possess a Research VISA issued by the Indian Embassies abroad and produce a No Objection Certificate from the Ministry of Education, Government of India, after clearance from the Ministry of External Affairs.

Scholarships / Fellowship

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

 ii. UGC-NET-JRF.

 iii. UGC-BSR Research Fellowship in Sciences for meritorious students in the various faculties (applicable to all Department of Sciences, Marine Sciences, Agricultural Sciences, Engineering Sciences).

iv. Indian Council of Medical Research (ICMR), Indian Council of Social Science Research (ICSSR), Council of Scientific and Industrial Research (CSIR) Fellowships, New Delhi.

v. DST-Inspire Programme – Ministry of Science and Technology, New Delhi.

vi. Indian Council of Historical Research (ICHR) – History Ph.D. Scholars.

vii. Central Institute of Classical in Tamil Chennai (CICT) (Tamil and Linguistics Ph.D. students).

viii. The Post-Metric 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 ` 2,50,000/-.

ix. Research Incentive will be granted to SC/ST students doing full time Ph.D. Programme at a rate of ` 50,000/- p.a for 4 years only by Adi Dravidar and Tribal Welfare Department, Chennai.

x. DST—PURSE Fellowships.

xi. The students of Annamalai University can avail the Government Scholarships subject to eligibility.

Scholarships Sanctioned by the Government of Tamil Nadu

Application Fee Concession to SC/ST and Converted Christian Students: Entrance/Programme Application fees concession is granted to students belonging to SC/ST Community and Converted Christian by the Government Tamil Nadu (G.O. No.111. 22.09.1998).

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 Parent's/Guardian's income from all sources should not exceed ` 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 Northern Eastern Region Students.

Minority Scholarship: Minority Scholarship award on the basis of merit cum means for minority community students.

Higher Education Special Scholarship: In addition to the Post Metric 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 from all sources should not **exceed ` 2, 50,000/- per annum.**

BC/MBC/DNC Scholarship: The Scholarship will be awarded to the Students belonging to BC/MBC/DNC communities whose Parent's/Guardian's income from all sources should not exceed ` 2, 50,000/- per annum.

Fellowship / Scholarship sanctioned by various Funding Agencies:

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

2) Post Graduate Indira Gandhi Scholarship for single girl Child: This is only for the Candidate who happens to be a single Girl child of the family (having no brother or sister) and who has taken admission in regular full time Master's Degree programme in recognised University or a Post Graduate College in conventional basic subject.

> **Note:** For all Scholarships, Income Certificate taken after April, 2019 should be produced.

University Research Studentship

The University Research Studentship is awarded for certain Ph.D. Scholars every year based on the seniority, research progress work, 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.

VI. DEPARTMENTAL RESEARCH COMMITTEE

Departmental Research Committees shall be constituted **at the commencement of every academic year** for effective coordination of the research activities of the departments. The total number of members of the committee shall not exceed six.

The following is the constitution of the Departmental Research Committee (hereafter referred to as DRC):

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

The DRC will have the following functions:

- ✓ Selection of candidates for admission to the Ph.D. programme.
- ✓ Allotment of Research Supervisors for students enrolled for the Ph.D. programme **based on the students' preference**.
- ✓ Framing the syllabus for course work.
- ✓ Maintenance of the quality of research.

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

VII. ADMISSION PROCEDURE

The selection of candidates for provisional admission shall be based on the following procedure:

The Entrance Test for the Ph.D. programme **(Full time, Part time - Internal, Part time - External (India and Overseas)** will be conducted for all. The process will be coordinated by the Director, Centre for Academic Research (CARE).

The selection shall be based on marks obtained in the qualifying Degree, Entrance test and an Interview.

The weightage for Qualifying **Degree** Examinations will be given for 50 marks. The Entrance test shall comprise objective type questions to examine the research aptitude, grasp of the subject, intellectual ability and general knowledge of the prospective candidates. The question paper for the Entrance test shall be prepared for one hour duration. Question papers will be **set** and evaluated by the DRC members for 25 marks. The interview will be conducted for 25 marks.

The cut off marks for the selection shall be fixed as 50%, provided that a relaxation of 5% of marks (from 50% to 45%) shall be allowed for the candidates belonging to SC/ST/OBC (non-Creamy layers)/Differently-abled category in the entrance test.

Candidates with M.Phil. Degree from an approved University, UGC-JRF/NET/ SLET/GATE/CSIR/ICAR/ICSSR qualified candidates and teacher fellowship holders are exempted from the Entrance test but they have to appear for the interview.

The Interview will be conducted by different departments simultaneously following the **written test on the same day**. At the time of interview, the candidates are expected to indicate their choice of area of Research and the Research supervisor.

The allocation of the Research Supervisor for a selected student will depend upon the vacancy, the number of students per faculty member permitted by the University, the available specializations among the faculty supervisors and the research interest of the student as indicated during the interview.

For candidates who wish to undertake interdisciplinary research, there will be two Supervisors – a Research Supervisor in the Department where he/she is registering and a Co-Supervisor in the relevant discipline.

The ‖Minutes of the DRC‖ shall indicate the chosen guide and the research area of the candidate.

The Minutes of the DRC together with the **recommendation** will be placed before the Vice-Chancellor, who in consultation with the Head of the Department and the Dean of the Faculty will select and approve the list of students for the Ph.D. programme and Research Supervisor(s).

A candidate provisionally selected for admission for the Ph.D. programme shall join on or before the specified date after paying the prescribed fees and verification of certificates of the qualifying examination(s).

A full time Scholar **admitted** for the Ph.D. degree may be allowed to pursue any one programme at any given time offered by DDE of Annamalai University only.

A full time Scholar shall not undertake any employment either part-time or full time **anywhere**.

VIII. DURATION OF RESEARCH

For full-time Scholars, the minimum duration of Ph.D. is three years for those who join after completing Master's degree and two years for those with M.Phil. For part- time Scholars, the minimum duration of Ph.D. is four years for those who join after completing Master's degree and three years for those with M.Phil.

Full-time: A candidate with M.Phil. / Without M.Phil. Can submit his/her thesis after the completion of two years / three years and requires on or before completion of five years from the date of joining.

Part-time Internal/External: A candidate with M.Phil. / Without M.Phil. Can submit his/her thesis after the completion of three years / four years and requires on or before completion of five years from the date of joining.

Extension for submission of Ph.D. Thesis

A Ph.D. researcher may be granted two extensions of one year each with the recommendation of the Research Advisory Committee and Deans Committee with the approval of the Vice-Chancellor. However, in special cases (eg. Maternity Leave), women candidates are eligible for three extensions of one year each.

IX. EXTENSION OF TIME & RE-REGISTRATION

Extension of Time

Scholars who do not submit the thesis within the stipulated period as mentioned in Section 8 (2) shall apply for extension of time, 3 months before the completion of the maximum period for submission. Extension of time and the fees to be paid will be considered by the Deans Committee, if the extension is duly recommended by the **RAC**, Head of the Department, and the Dean of the Faculty. Such candidates will be eligible for extension of time for a maximum period of 3 years.

The scholar shall enrol as a fresh candidate if he/she fails to submit the thesis within the maximum extension period of 3 years.

If a scholar requires a few more months after the expiry of the maximum extension period for the submission of the thesis as per the evaluation of the **Research** Supervisor, duly recommended by the Head of the Department, **RAC** and the Dean of the Faculty, as an exceptional case, the Deans Committee may consider to enable the Scholar to submit the thesis with a penalty. In any case, the time granted shall not exceed 6 months.

Re-registration

If a candidate has made significant progress in his/her work but has not completed his/her thesis even after the expiry of the maximum period and two extensions, he/she will be considered for re-registration with the same topic on

the recommendation of the **RAC**, Head of the Department and the Deans Committee and on the basis of his/her published/documented work. He/she has to pay all the prescribed fees.

Note: The candidates will be permitted to submit their thesis only after 6 months from the date of re-registration but before the expiry of 36 months. These candidates are not eligible for any extension **further**.

X. DE-REGISTRATION

The registration of a scholar which exceeded the maximum period stipulated for the programme shall stand cancelled automatically.

The registration is liable for cancellation if:

- The scholar has not paid the fees within the stipulated time mentioned in Section 5.4 above
- **Two consecutive progress reports are not submitted**
- The performance is not deemed satisfactory by the Research Advisory Committee and cancellation of registration has been recommended.
- The candidate has not submitted the thesis within the maximum period of registration and exhaustion of extensions.
- The candidate is found guilty of plagiarism.
- The candidate contacts the examiner who is the evaluator of the thesis.
- The candidate violates the rules and regulations of the Ph.D. Programme.
- The candidate involves in criminal activity.

In case the student requests cancellation of his/her registration, **a service charge of ` 1000/- will be charged** for refund of fee and return of original certificates, provided the candidate withdraws from the programme immediately after admission and has NOT attended any of the classes or marked attendance in the department.

Students who have joined the Ph.D. programme and wish to discontinue need not pay the tuition fees for the subsequent years, but should have paid the fees in full upto the year of study.

No certificate will be issued unless the candidate has cleared all the arrears of fees, etc., due to the University.

With regard to any dispute, related to admissions, examinations, remittance of fees, etc., the place of jurisdiction for the purpose of filing a suit or preferring a complaint or taking any legal proceedings against Annamalai University, will be Chidambaram Town only and not any other place.

XI. RESIDENTIAL & ATTENDANCE REQUIREMENTS

The Research Supervisor concerned will decide what constitutes -residence‖ and where the residential requirement is to be fulfilled, considering the nature of the study and its requirements.

A Ph.D. scholar may be allowed to stay in the Hostel for a maximum of five years from the date of admission to the Ph.D. programme.

Full-time scholar will sign the attendance register maintained in the Department on all working days. He/She is expected to put in a minimum of 80% attendance both for the course work examination, and submission of thesis, failing which the scholar will not be permitted to write the course work examination and to submit the thesis.

A Ph.D Full-time scholar may be permitted to reside outside Annamalai University for the purpose of collecting material / conducting experiments / learning techniques for his/her thesis for a period not exceeding six months during the entire tenure of Ph.D., which shall count as residence at Annamalai University.

Further, in special cases, a Ph. D. Full-time scholar may be permitted to reside outside Annamalai University for the purpose of his / her research for the Ph.D. programme for durations it deems fit, on the recommendation of the Research Advisory Committee and approved by the Vice-Chancellor; and this period too shall count as period spent in residence at Annamalai University. The student shall however produce an attendance certificate from the institution where he/she undertook research during that period.

An employee of the University admitted to the programme leading to the Ph.D. Degree as a part-time internal candidate in accordance with these Ordinances shall be required to work for a minimum of **30** days per annum during the period of research. They shall carry out research work without affecting their regular duty.

Part time - External Scholars including those with an M.Phil. Degree are required to mark attendance maintained by the supervisor/co-supervisor for a minimum compulsory period of 30 days per annum during their period of research.

Part time - **External** scholars are required to visit Annamalai University campus on a specified date to appear before **the Research Advisory Committee (RAC)** for review of the progress of their research work.

The attendance certificate signed by the Research Supervisor/ Co-Research Supervisor shall be sent to the Director, Centre for Academic Research through the respective Head of the Department and the Dean at the time of submission of the Synopsis.

XII. LEAVE RULES

Leave for a maximum period of 30 days in a year in addition to public holidays may be availed by Ph.D. students with the approval of the Research Supervisor. However, **they are not entitled to any other vacation**.

The women candidates and Persons with Disability (more than 40% disability) may be allowed a relaxation of two years of Ph.D. in the maximum duration. In addition, the women candidates may be provided Maternity Leave/Child Care Leave once in the entire duration of Ph.D. for up to 240 days.

XIII. RESEARCH SUPERVISORS

Eligibility for Research Supervision

Ph.D. degree holders working as teachers on regular basis in the Departments of Annamalai University and who have completed a minimum of **one year** of service in **this University.**

Faculty of Medicine: Teaching staff members with a P.G. Degree are eligible to function as Research Supervisors for Ph.D. **scholars in their respective Faculties**. Members of the Teaching staff who do not find qualified **research supervisors** in these faculties may be permitted to register under the guidance of the Head of the Department/Division with Co-Supervision by a faculty, specialized in the field from another Department/Division within the University or other recognized **Institutions/Universities**.

Faculty of Dentistry:

i. Faculty members possessing Ph.D. qualification - the Ph.D. qualified faculties who have minimum of 5 years of Post Graduate Teaching Experience and published 3 research articles in an indexed journal (Pubmed/Web of Science) in National/ International level as author or co-author are eligible.

ii. Faculty members not possessing Ph.D. qualification - M.D.S qualified faculties who have minimum of 10 years of Post Graduate Teaching Experience and published 6 research articles in an indexed journal (Pubmed/Web of Science) in National/International level as author or co-author are eligible.

A Research Supervisor will be permitted to register candidates with M.Phil. Degree for Ph.D. guidance **two years prior to their retirement**. Research Scholars will be permitted to continue to work and submit their thesis 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 suggests a Research Supervisor in consultation with the Research Advisory Committee and Dean.

A research Supervisor/Co-supervisor who is a Professor, at any given point of time, cannot guide more than Eight (8) Ph.D. Scholars. An Associate Professor as Research Supervisor can guide up to a maximum of Six (6) Ph.D. scholars. And an Assistant Professor as Research Supervisor can guide up to a maximum of four (4) Ph.D. Scholars.

There shall be no compulsion on or by the Supervisors to hold the full complement of research scholars all the time.

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 concerned discipline nominated by the Vice-Chancellor. If there is any dispute in this regard, then the matter shall be referred to the University Administration and the decision of the Vice- Chancellor shall be final in the matter.

A **Research Supervisor** shall not be allowed to register a candidate for Ph.D. if the Researcher is blood related to him/her.

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.

The Vice-Chancellor shall be empowered to summarily withdraw the **research** supervisor ship of a teacher on grounds of

- Moral turpitude/Sexual Harassment
- Plagiarism
- Fraudulent academic claims
- Any act prejudicial to the reputation of the University without assigning any reason thereof.

Change of Supervisors and Transfer of Scholars

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 give a

-Certificate of Willingness‖ to guide the candidate. The final decision will rest with the University. However, the Vice-Chancellor, on the recommendation of the Department Research Committee and Deans Committee, has the right to assign a new research supervisor to the research scholar.

When the change of Research Supervisor is approved, the candidate shall work for a minimum of one year with the new Research Supervisor if the topic of his/her research is different under the new supervisor, provided he/she fulfils the attendance requirements.

The research supervisors who wish to avail leave/lien/deputation beyond a period of SIX MONTHS shall propose a Co-supervisor in the concerned subject for the candidates registered with them, and the fact may be

intimated to the University well in advance. The final approval of the proposal rests with the Vice-Chancellor.

XIV. RESEARCH ADVISORY COMMITTEE (RAC)

A Research Advisory Committee shall be constituted with the approval of the University for each candidate [Full-time, Part-time Internal and Part time - External] separately, immediately after his/her admission. The purpose of the Research Advisory Committee is to provide expert opinion on frontline research.

The Research Advisory Committee shall consist of the Head of the Department as Chairperson, the Research Supervisor as the Convener and two experts in the field of the Research Scholar (one intra departmental member and another inter departmental member).

The Research Advisory Committee shall have the following functions:

1. Discuss, advice, and recommend on all matters connected with the candidate's research from admission till the submission of the thesis.
2. Approve the topic of research and the synopsis.
3. Assess and approve the progress reports of Ph.D. students in the prescribed format and to report to the University on the fitness or otherwise of the candidate to proceed with his/her research work for the Ph.D.
4. If necessary, recommend and approve change of title of dissertation / Thesis, change of Supervisor and status of Researcher (full time to part time and vice-versa).
5. Conduct and 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 University and to give a certificate to this effect to be submitted along with the synopsis.

The Research Advisory Committee will meet once in six months:

- to scrutinize the research proposal submitted by the candidate.
- to assess the conduct of experiments/field work, peruse laboratory observation notebooks, data recording and analysis and publication.
- to review and endorse the Research progress of the candidate periodically.
- to approve the synopsis of the thesis.

The Convener will convene the Research Advisory Committee meetings with intimation to the Director, Centre for Academic Research.

XV. COURSE WORK

All Research Scholars (Full-time and Part-time) shall undergo a minimum of three courses of six credits each for a minimum period of one semester as stipulated by the UGC. The course work shall include a course on research methodology. The other courses may involve advanced techniques, latest developments in the field of research, and subjects related to the research problem.

While the minimum number of courses is three, there can be a great degree of flexibility in the number of courses that a research student takes based on the discipline and the area of research.

Candidates already holding M.Phil. Degree and admitted to the Ph.D. Programme, may be exempted from Ph.D. course work, if the area of Research is the same. All other candidates admitted to the Ph.D. Programme shall complete the Ph.D. Course work as prescribed by the RAC / Ph.D. regulation.

The Candidates joined for Ph.D. with M.Phil. Degree, which is in different area/field of research, such candidates should undertake at least one course work in the chosen area of specialization of Ph.D. based on the recommendations of the Research Advisory Committee. (As per the UGC Gazette Notification No. 278 dated 05.07.2016 (Page No.10. Part III – Sec 4 Sl.No.7.6)

The total marks for each course will be 100. The candidate shall secure not less than 50% in the course work examination(s), failing which he/she has to apply within six months after the first appearance. If a candidate does not pass the course work examination in three appearances, his/her registration will be cancelled.

The research scholars shall be required to complete the course work within a period of eighteen months 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 for an extension of six months, if the RAC is convinced of their performance. If not, the RAC may recommend cancellation of registration.

A student is deemed to have cleared any course only if he/she has more than 80% attendance, appeared in the examination and secured a pass.

The performance of a student 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 Overall Grade Point Average (OGPA).

A student who has not secured a minimum of 50% of marks in a course is deemed to have failed in that course. A candidate who has scored a minimum of 50% or equivalent GPA in a course is deemed to have passed the course.

Scheme of Examinations

The Ph.D Research Scholars (Full–time and Part-time) with M.Com qualification, shall undergo a minimum of three courses of six credits each for a minimum period of one semester as stipulated by the UGC. The course work shall include a course on research methodology. The other courses will be as given below. For those with M.Phil qualification admitted in Ph.D, Course-III is compulsory if the candidate chooses a completely different field of specialization in Ph.D. The credit points and marks distributed are as follows:

Semester	Course	Credit	Total Marks
First	**Course -I:** Research Methodology **Course -II:** Business Management Application	 6 6	 100 100
Second	**Course-III:** Field of Specialisation	6	100
	1. Dissertation 2. Viva-Voce		Mandatory Mandatory

Course-I: RESEARCH METHODOLOGY (6 CREDITS)
   This is Common to all the students of the Department.
Course-II: BUSINESS MANAGEMENT APPLICATION
   This is common to all the students of the Department
Course-III: FIELD OF SPECIALIZATION (6 CREDITS)
   There are 8 areas of specialization and the candidate would select an appropriate course based on his/her area of research.
   Examination in Course I and II will be held at the end of the first semester and the examination for Course III will be held at the end of the second semester. The syllabus for each course will consist of 5 units.

XVI. TOPIC OF RESEARCH

A candidate shall specify the broad area of his/her research at the time of submission of application for Ph.D. admission.

Presentation of the Broad Area of Research

The scholars shall present their broad area of research and submit a proposal to the Research Advisory Committee within six months from the date of their admission.

Change of Topic of Research

Change of the specific area of research may be permitted within one year from the date of admission and request must be submitted with the

recommendations of the Research Advisory Committee. In such cases, the minutes of the RAC meeting must include whether the course work undertaken by the candidate is relevant to the new research area and the competence of the research supervisor in this field.

If the Research Advisory Committee is of the view that there is a major change in the specific area of research and is not relevant to the course work undertaken, the candidate will have to go through the process of fresh examination pertaining to the area of research.

XVII. TITLE OF Ph.D. THESIS

Candidates shall give the exact title of the Ph.D. thesis at the time of submission of the synopsis.

The title of the thesis shall clearly reflect the content and context of the research.

Once the synopsis is submitted, there shall be no provision for the change of title.

XVIII. TRAINING

It is mandatory for all Ph.D. scholars to undergo training in Research Methodology in order to adopt Good Research Practices (Section 34). Scholars registering for a research degree shall compulsorily attend these courses immediately after joining in order to inculcate best practices early in their research career.

XIX. PROGRESS REPORTS

The Research Scholars, both full time and part time, shall submit Progress Reports in the prescribed format (Annexure-3) duly endorsed by the Research Advisory Committee once in six months to the Director, CARE until they submit their synopsis.

Failure to submit the progress reports shall result in automatic cancellation of registration.

The minutes of the meeting of the Research Advisory Committee along with enclosures will be sent to the Director, CARE.

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.

Candidates who are recipients of fellowships such as JRF/SRF directly from any of the funding agencies/shall send the progress reports and the utilization certificates in the format prescribed by the respective funding agency through proper channel.

XX. PUBLICATION OF RESEARCH PAPERS

The Ph.D. Scholars admitted from 2018-19 batch other than from the Department of Tamil, Hindi and Music have to publish two research articles in Scopus/Web of Science indexed Journals (either published or accepted for publication) is mandatory prior to the submission of their thesis work,

otherwise thesis shall not be accepted for submission.

The Ph.D. Scholars admitted from 2018-19 batch in the Department of Tamil, Hindi and Music have to publish two research articles in the UGC listed Journals (either published or accepted for publication) is mandatory prior to the submission of their thesis work, otherwise thesis shall not be accepted for submission.

The research papers shall be attached to the Ph.D. thesis.

The RAC shall certify the quality and authenticity of the publications and ensure that both the candidate and the Research Supervisor are listed as authors of the papers with the correct affiliations.

XXI. PRE-SUBMISSION PRESENTATION

The pre-submission presentation of the thesis is a requirement to enrich the scholar and to fine tune his / her research presentation.

This presentation shall be conducted before the submission of the synopsis in the presence of the RAC, Faculty members, Research Scholars, M.Phil. and/or P.G. Students.

The scholar is expected to present the first draft of the research work or explain the findings/problems faced.

The gathering may suggest ideas/references to be consulted/suggestions to improve the work and so on.

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, Centre for Academic Research.

XXII. SUBMISSION OF SYNOPSIS

The submission of synopsis may be permitted 3 months before the completion of required duration on successful completion of course work examinations.

The Research Scholar shall submit 3 copies of the synopsis approved by the Research Advisory Committee along with a soft copy to the Director, Centre for Academic Research through the Research Supervisor, the HOD and Dean of the respective Faculty. Guidelines for the preparation of the synopsis are appended in Annexure-4.

A model cover page for a synopsis is given in Annexure-5.

XXIII. PANEL OF EXAMINERS

Along with the synopsis, the Research Supervisor is advised to submit the panel of examiners for the candidate through proper channel to the Director, CARE in the prescribed format. A panel of ten examiners (five from foreign countries and five from India) shall be provided by the Supervisor to evaluate the thesis (Annexure -4).

Foreign Examiners may not be insisted upon for the disciplines of Indian Languages such as Tamil, Linguistics, Malayalam, Kannada, Telugu, Hindi and for Fine Arts. The panel may consist of five members within Tamil Nadu and five members outside Tamil Nadu.

In the case of Indian Examiners, the Faculty suggested for appointment as Examiner should hold a Ph.D. Degree with not less than 10 years experience at the Post-Graduate level with publications in National / International Journals in the same or related research area of the thesis to their credit

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 with whom he/she worked with.

The Vice-Chancellor will choose 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.

Once the Vice-Chancellor has approved the Panel of Examiners and assigned the priority (order of preference), the Director, CARE shall forward/dispatch the Synopsis to the first Examiner in both the panels and seek their acceptance for evaluation of the thesis.

Once an Examiner accepts the invitation and agrees to evaluate the thesis, the Director, CARE shall arrange to send the thesis for evaluation along with the associated formats, guidelines and framework of assessment.

If any Examiner declines to accept the invitation to evaluate the thesis, the synopsis shall be sent to the next Examiner in the list.

If there is no response from the Examiner two weeks after dispatching the synopsis, the Director, CARE shall send two reminders. If that effort also fails to get a response, the Director, CARE shall send the synopsis to the next Examiner in the respective panel.

If acceptance to adjudicate the thesis is not received from the first panel of examiners within 45 days, the Director, CARE shall call for an additional panel from the Research Supervisor.

XXIV. SUBMISSION OF THESIS

The candidate shall be allowed to submit his/her thesis after the completion of stipulated period. A grace period of 30 days may be allowed to submit the thesis after the prescribed duration. If the thesis is not submitted even after the grace period, the student shall pay the tuition fee for the year.

Five copies of the thesis (in the approved format) shall be submitted together with the submission fee not later than three months after the submission of the synopsis. No dues certificates from the Department and Central Library, Hostel, Stores, etc. must be submitted with the thesis copies. The Research Supervisor shall forward copies of the thesis with the enclosures to the Director, Centre for Academic Research through the HOD and the Dean. A soft copy of the thesis in PDF format as prescribed by Shodhganga, shall also be submitted.

The thesis shall comply with the following conditions to merit award for the 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 interpretations 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, adhering to proper methodology of thesis writing.

The thesis shall not exceed 250 pages excluding the Bibliography, Appendices, etc. If it exceeds the specified number of pages, the Research Supervisor should write to University with the reasons and get prior approval from the University. The candidate shall pay a penalty for the excess number of pages as decided by the Deans Committee. The thesis should be in A4 size. The specifications for the preparation of the thesis are given in Annexure-7. A model cover page for a thesis is given in Annexure-8.

The thesis shall be typed on both sides of the page in order to save paper and postage.

The thesis shall contain a Certificate from the guide Annexure-9 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, Associate ship, Fellowship or similar title. A statement from the guide indicating the extent to which the thesis represents independent work on the part of the candidate should also be made.

The thesis shall also contain a Declaration by the candidate Annexure-10 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.

The Ph.D. thesis in the field of Tamil, Linguistics, History and Fine Arts may be submitted in the Tamil Language and for other language subjects in the respective language also.

The title and the certificate for Ph.D. theses in Tamil, Hindi, and Malayalam shall be given in English, besides the respective languages.

XXV. ADJUDICATION OF THESIS

There shall be two Examiners out of whom one shall be from a foreign country and the other within India.

The Board of 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 adjudication supplied by the Director, CARE.

The two examiners shall send the individual reports together with the duly filled in proforma to the Director, CARE.

The Supervisor (Convener) will submit a consolidated report, bringing out the salient points made in the individual reports by the Examiners to the Director, CARE.

Each examiner shall be requested to send his/her report within 45 days

from the date of receipt of the thesis to the Director, CARE. The reports sent by e-mail shall be accepted provided the email ID is the same as that given in the panel.

If an examiner(s) fails to send the reports within the stipulated time, the Director, CARE shall send a reminder to him/her immediately after the expiry of the deadline and request him / her to send the report within thirty days. If the concerned Examiner fails to comply even within the extended period, the Director, CARE shall cancel the appointment forthwith and invite the next Examiner from the approved panel to evaluate the thesis.

In the event of a request for more time for the submission of a report or receipt of the report after the appointment has been cancelled or postal delay or loss of report etc. an appropriate decision will be taken based on facts. If both examiners unanimously recommend the award of the degree, the candidate will be asked to appear for a public Viva-voce examination.

If both examiners give definite recommendation against the award of the degree, the thesis will be rejected.

If one of the examiners recommends the thesis for the award of the degree and the other examiner rejects the thesis, the thesis will be referred to a third examiner belonging to the same category (i.e., Indian or foreign) for adjudication.

The third examiner will not be provided with the report of the other 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.

If any examiner has (in his/her report) made some comments and suggested corrections/modifications/alterations and does not insist on resubmission, asking the candidate to carry out the same in the thesis, then the candidate will be informed accordingly through the Research Supervisor (who is the convener of the Viva-voce board). The candidate shall carry out the corrections suggested by the examiners, before the public Viva-voce examination. The Supervisor shall furnish a certificate to this effect together with the list of corrections carried out, endorsed by the HOD and the Dean, to the Director, CARE before the Viva-voce examinations.

Such a thesis shall belong to the category *Recommended for Revision before Viva-voce Examinations.*

If the thesis is recommended to be revised and resubmitted by one or both the Examiners, the points of revision shall be indicated clearly in the report. The necessary corrections shall be carried out, and the revised version resubmitted to the concerned Examiner(s). 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.

XXVI. ON-LINE TRACKING SYSTEM

The **Centre for Academic Research (CARE)** shall complete all procedures with respect to thesis evaluation in a timely manner. A Ph.D. researcher after submitting the thesis can track the status of the evaluation of his/her thesis online.

XXVII. PUBLIC VIVA-VOCE / THESIS DEFENCE

If both the Examiners unanimously recommend the award of the degree, the candidate will be asked to appear for a public Viva-voce examination.

The Viva-voce Board shall consist of the Research Supervisor, one of the adjudicators (Indian Examiner - **External Examiner**) and the Head of the Department (Internal Member). The Research Supervisor shall be the Convener of the Viva-voce Board. 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). It is the duty of the **Research** Supervisor to consolidate the results of the Viva-voce Examination.

If the External Examiner so appointed is unable/unavailable to conduct the Viva-voce examinations, one of the Examiners from the Panel of Indian Examiners submitted shall be appointed by the Vice-chancellor to conduct the Viva-voce examination.

If the Head of the Department happens to be the Research Supervisor, one of the senior Faculty 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, CARE for approval.

The conduct of Ph.D. Viva-voce Examination shall be notified fifteen days before the date of the Viva-voce Examination.

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.

The viva-voce examination shall be held preferably on working days.

The purpose of the Viva-voce Examinations 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.

A candidate who is successful at the public Viva-voce Examination shall be recommended for the award of the Ph.D. degree by the Board of examiners to the Syndicate.

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.

The Viva-voce Board shall **decide** the award of the degree based on the candidate's defence of his/her thesis.

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/Supervisor shall not indulge in any action that may be perceived as influencing the External Examiner.

Minutes of the Viva-Voce Examination

The Supervisor shall submit a comprehensive report of the public Viva-voce examination to the Director, CARE duly endorsed by the External Examiner, together with a list of participants in the examination with their signature, designation and address.

The Minutes shall record the performance of the candidate, the answers furnished by the candidate to the questions posed by the Indian and Foreign Examiners **in their Report, Viva-voce board of examiners** as well as by the audience.

The 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.

The Research Supervisor shall then forward the consolidated recommendation to the Director, CARE, along with such other documents as may be required by the University for consideration. 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.

XXVIII. PROVISIONAL AND DEGREE CERTIFICATE

After the thesis is approved by the Syndicate, the candidate can apply for the provisional certificate. The provisional certificate shall state that the candidate has undergone course work examination.

The Ph.D. Degree Certificate shall incorporate the title of   the thesis along with the name(s) of the Faculty/Faculties and discipline(s).

In the case of the award   of   the   Ph.D. Degree   for   inter-disciplinary research, the Degree Certificate shall bear both the subjects of the candidate's post-graduate Degree and the discipline of the department in which   the   candidate   has   conducted   his/her   doctoral   research mentioning them as "inter-disciplinary."

XXIX. PUBLICATION OF THE THESIS

The thesis, once submitted, becomes the property of the University.

In case the research comes under the "classified" category, it shall not be published without the approval of the Syndicate.

The Syndicate may grant permission for publishing the results/findings based on a written request from the candidate through the Research Supervisor.

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.**

Two copies of the thesis in its published form must be submitted to the office of the Registrar.

XXX. REPOSITORY OF THE THESIS

30.1 Following the successful completion of the evaluation process and before the announcement of the award of the M.Phil./Ph.D. Degree(s), the Institution concerned shall submit an electronic copy of the M.Phil. Dissertation/ Ph.D. thesis to the Shodhganga - INFLIBNET, for hosting the same so as make it accessible to all Institutions/Colleges.

30.2. Prior to the actual award of the degree, the degree-awarding Institution shall issue a Provisional Certificate to the effect that the Degree has been awarded in accordance with the provisions of UGC Regulations, 2016.

XXXI. ETHICAL & LEGAL REQUIREMENTS

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 Committees constituted by the University. In practice this means that no research in this line can be undertaken until all of the required approvals and authorisations have been given from the Appropriate Ethical committees.

It is the responsibility of the Research Supervisor and the Research Scholar to obtain approval from the relevant committee before initiating the research work.

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.

Institutional Psychology Research Ethics Committee (IPREC) for research in Psychology and Institutional Humanities and Social Sciences Research Committee (IHSSRC) for research in the Arts, Humanities and Social Sciences or cognate areas shall scrutinize research proposals to ensure that the dignity, human rights, interests, health, safety and privacy of research participants is 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 the result of a proposed research work.

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.

Regulations for Studies on Plants: All research work carried out on transgenic plants shall follow the guidelines laid down by the Department of Biotechnology (http://dbtindia.nic.in/guidelines_98.pdf).

Regulations for Field work: Permission for field work shall be obtained from the Departments of Forests, Fisheries, National Biodiversity Authority, Wildlife etc., as appropriate.

Regulations for Studies on Laboratory Animals: The Institutional Animal Ethics Committee (IAEC) shall examine proposals involving research on laboratory animals.

a. 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.

b. Project Staff 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.

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).

Regulations for Human Sampling: The Institutional Human   Ethics Committee (IHEC) will scrutinize 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 (2006), issued by the Indian Council of Medical Research, New Delhi (http:// www.icmr.nic.in/ ethical.pdf).

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). Informed consent must be obtained.

Where research is being conducted in collaboration with another institution outside the University, the ethics policies of those institutions should be appended to any proposals to be considered by the Research Ethics Committee of this 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.

XXXII. RESEARCH ETHICS

Annamalai University is committed to undertaking research with impeccable scientific integrity and in conformity with the accepted code of principles 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.

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 and publication of results.

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.

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.

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.

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 when to stop experiments.

Documentation of Data

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.

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.

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.

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.

RESEARCH MISCONDUCT

Annamalai University's 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 foundationof research**

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.

Fabrication that 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.

Falsification which 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.

Plagiarism that 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.

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.

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.

Violation of ethical standards in human and animal experiments.

Suppression or failure to publish findings adverse to the researchers' interests.

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.

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.

XXXIII. INVESTIGATION OF RESEARCH MISCONDUCT

A committee duly constituted by the University will investigate complaints of alleged research misconduct by the research Scholar and/or Supervisor.

Confidentiality will be maintained during the investigation including the identity of the individual registering the complaint (complainant).

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.

If the complaint is credible, the committee, after informing the Ph.D. student 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 information available.

The subject 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.

The Committee shall complete its investigation and submit its report on the recommended course of action within a period of sixty days.

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.

If the charges of misconduct are proved, the subject(s) will be notified and disciplinary action initiated.

Guidelines for the Preparation of Synopsis

The Research Scholar shall be permitted to submit the synopsis three months prior to the completion of his/her minimum duration.

The Research Scholar shall submit a copy of the synopsis of his/her research work prepared in accordance with the format and specification prescribed, to the RAC through the Research Supervisor. If the RAC approves the research work reported in the synopsis, the candidate shall submit three copies of the approved synopsis to the Director, Centre for Academic Research through proper channel.

1) Synopsis should contain title of the thesis, outline of the research problem, the methodology used for tackling it, the organization of the thesis, and the summary of the findings.

2) The size of synopsis should not exceed 20 pages of typed matter.

3) The sequence in which the Synopsis should be arranged is as follows:

    i. Cover Page/Title page (as shown in the Annexure 8

    ii. Text divided into suitable Headings (numbered consecutively)

    iii. References (not more than 10)

Programme Objective:

The overall programme objective of Ph.D. degree is to empower the Research Scholars to enable them to equip and to gain expertise themselves in the field of Research Methodology, Financial and Business Organizations, Human Resource Management, Organization Behaviour, Business Environment, Entrepreneurial Development, Co-operative Management, Marketing Management, Insurance Management, Technology Banking,

Financial Management, Financial Markets and Services and International Business.

Programme Learning Specific Objectives :

The objective of the programme is to enable the research scholars to:

PLSO1 Gain expert knowledge in the field of Research Methodology and Business Organisations.

PLSO2 Ever changing environmental business, Human Resources, Marketing Management, Organizational Behaviour and Entrepreneurial Development, the knowledge can be Gained

PLSO3 Impart expert knowledge about conducting research in International business with relevant exposure to technology banking and Insurance management.

PLSO4 Equip the researchers with expert knowledge about the principles and practice co-operation.

PLSO5 research problem solving and decision making areas in Financial Management and Financial Market and Services

PROGRAMME OUTCOME

PO1 Critical thinking

PO2 Cultivating Cognitive skills required in the job market

PO3 Effective Communication

PO4 Familiarity with ICT to thrive in the information age

PO5 Cultivating aptitude for research

PO6 Respect for alternate view-points including those conflicting with one's own perspectives

PO7 Ability to work individually and as members in a team

PO8 Upholding ethical standards

PO9 Acting local while thinking global

PO10 Commitment to gender equality

PO11 Commitment to Sustainable development

PO12 Lifelong learning

PROGRAMME SPECIFIC OUTCOMES

This Ph.D. Research programme would enable the students to gain proficiency in research methodology and application of research methodological practices in the chosen fields specialisations like Human Resource Management, organisational behaviour, business environment, Entrepreneurial development, Co-operative Management, Marketing Management, Insurance management, Financial Management, Finance Markets and Services and International Business. After completion of this research programme the scholars will be able to

PSO1	Recall the time tested methodologies and research practices in the chosen field f respective specialisations.
PSO2	Enable themselves to gain expert knowledge in the research methodology and chosen field of respective specialisations.
PSO3	Demonstrate the professional skills in the research process and application of the chosen field of respective specialisations.
PSO4	Identify the problems, prospects, growth and developmental areas of research in the chosen fields of respective specialisations.
PSO5	Gain competence in the theoretical and conceptual parts of research methodology and expertise in the domain field of research undertaken.
PSO6	Develop and write the research articles and publications on the chosen fields of respective specialisations.

Semester -1

Course I RESEARCH METHODOLOGY

Credits: 6
Hours :80

LEARNING OBJECTIVE

The main objective of this course is

LO 1: To educate the Scholars' in different Types of Research and Research Process.

LO 2: To understand the Research Design and Sampling Design.

LO 3: To expose the scholars' knowledge in Measurement and Scaling Techniques.

LO 4: To educate the researchers in Framing the Hypothesis.

LO 5: To enhance the skills in Report Writing.

Course Outcome

Upon completion of the course, the research scholars will

CO1: able to identify research problem and to find appropriate research design.

CO 2: Cultivating and enhance the knowledge about Research Design and Sampling Design.

CO 3: Understand the application of Measurement and Scaling Technique.

CO 4: Have the ability to frame the Hypothesis and to do appropriate Analysis.

CO 5: Cultivate the skill in draft the Research report.

Unit–I

Research Methodology: Meaning, objectives and types of research, Research process – quality of Good Research. Research problem – selecting the problem. Techniques involved in defining a problem.

Unit–II

Research Design: meaning, need and types of research design – Features of a good design – Developing a research plan. Sampling Design: Implications, Steps – Characteristics of Good Sample Design – Different Types of Sample Designs, and Criteria for Selecting a Sampling procedure

Unit–III

Measurement and Scaling Techniques: Measurement Scales – Sources of Error in Measurement – Meaning of Scaling – Importance and Method of Data collection, primary and secondary Data – Observation – Interview – Questionnaire – Schedule. Case study Method – Selection of Appropriate Method of Data Collection.

Unit–IV

  Processing and Analysis of Data: Editing – Coding – Classification - Tabulation. Statistics in Research: mean, Median and Mode – Standard Deviation – correlation – Regression – Hypothesis – Criteria of a Good Hypothesis – Advantages of Formulating Hypothesis – Univariate – Bivariate – Multivariate analysis.

Unit–V

Report Writing: Types – Different Steps in Report Writing – Mechanics of Writing a Research Report – Precautions for Writing Research Reports – Computer role in Research: Computer and Computer Technology – Computer System – Characteristics – Computer Application – Computers and Researcher.

Text Books

1. Kothari C. R 2016 Research Methodology (Methods and Techniques) New Age International Publications, New Delhi.

2. Gosh B. N 2016 Research Methods and Social Research, Sterling Publications, New Delhi

3. David De Vays 2015 Research Design in Social Research, Sage Publications, New Delhi

4. Wilkinson and Bhandarkar 2015 Methodology and Techniques of Social Research, Himalaya Publications, Mumbai.

Supplementary Readings

1. Deepak Chawla NeenaSodhi 2017Gorde WJ and Hatt Research methodology, S. Chand & Sons, New Delhi.

2. Amarchand D 2016 Research Methods in Commerce, Emarald Publications, Chennai.

3. Gorde WJ and Hatta PK 2014 Methods in Social Research, McGraw Hill, New Delhi.

4. Partha Nath Mukerji 2012 Methodology in Social Research, Dilemmas and Perspectives, Sage Publications, New Delhi.

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcome

PO/CO	Programme Outcomes												Programme Specific Outcomes						
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7
CO1	√																√		
CO2					√								√						
CO3							√											√	
CO4														√					
CO5																√			
CO6								√											√

Suggested MOOC courses

1. https://www.mooc-list.com/course/understanding-research-methods-coursera

2. https://www.mooc-list.com/tags/survey-research-methodology

3. https://www.mooc-list.com/tags/methodology

4. https://www.mooc-list.com/course/qualitative-research-methods-coursera

5. https://www.mooc-list.com/tags/scientific-methods
6. https://www.mooc-list.com/course/research-methods-saylororg

Course II BUSINESS MANAGEMENT APPLICATION

Credits: 6
Hours :80

LEARNING OBJECTIVES:
LO1- To impart the scholars about the basics of Management.
LO2- To train the scholars on core functional areas like Marketing and Financial Management.
LO3- To inculcate the scholars on core functional areas like Human resource management and Information system.
LO4: To provide the general outline about the need for controlling in an organization.
LO5: To impart knowledge on the need for communication and different types of communication.

COURSE OUTCOME:
After successful completion of the course the scholars will be able to
C01- The scholar can get expert knowledge and the activities involved in Staffing and Co-ordination function.
C02- The scholar can cultivate cognitive skills on the task involved in New product development, product innovation and acquire professional skills on their field.
C03- The scholar can able to critically think about the need and allocation of funds for Working capital management.
C04- The scholar can able to develop theoretical and conceptual knowledge on training and its suitability to the Industry.
C05- The scholar can able to work individually in the process and activities in a Management information system department and they can write a quality research article.

Unit-I - Management Process:

Evolution of management thought - steps in planning - types of policies - delegation of authority - importance of staffing - need and principles of coordination - essential requirements of effective supervision - concepts and importance of control – MBO and MBE.

Unit-II - Marketing Management:

Definition - role and concepts of marketing- segmentation, targeting, positioning-marketing mix - classification of product - new product development - product innovation - product life cycle -branding – pricing – strategies of policies- channels of distribution - promotion - advertising - market research - sales forecasting.

Unit-III - Financial Management:

Definition - scope of finance function - objectives of financial management - tools of financial analysis: funds flow, cash flow and ratio analysis - sources of finance: types - kinds and determinants of working capital - functions and problems of cash management - types and objectives of inventory management - objectives and determinants of receivables management.

Unit-IV - Human Resource Management:

Meaning, objective, scope and functions of human resource management - needs,

objective, problem and sources of recruitment - steps in selection - need, objectives, types and steps in training - objective of transfer - purpose of promotion - objective and principles of compensation - meaning and objective of performance appraisal - types

Unit-V - Management Information System:

Data and information - information systems and organizational structures - system definition - system analysis and design - system development life cycle - applications, components and functions of decision support system (DSS) - advantages of GDSS – Research focus.

TEXT BOOKS:

1. Shinde,RajashreeDr, Human Resource Development, Himalaya Publishing House, Mumbai 2015
2. Joseph, M Putti, Human Resource Management - A dynamic Approach ,Trinity Press ,2015
3. joseph m.putti, management principles, Trinity press Lakshmi publication Chennai 2014
4. Avison, david, Information Systems Project Management, SAGE Publications India Pvt Ltd,2010
5. Chandra bose d, Fundamentals of Financial Management SecondEdition,Phi Learning Private Limited,2010

SUPPLEMENTARY READING BOOKS:

1.Ivancevich, M John, Human Resource Management, Tata Mcgraw-Hill Publishing Company Limited2010
2.Kumar,dharminder. Management Information Systems, excellbook 2006
3. Gupta,Avdhesh.Management Information Systems,LaxmiPublications(P)LTD,New Delhi,2009
4. Chandra ,prasana.Fundamentals of Financial Management, Tata Mcgraw-Hill Publishing Company Limited,2010.

Outcome Mapping

CO/ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
C01		✓																
C02		✓	✓															
C03	✓			✓			✓											
C04																	✓	
C05																		✓

Suggested MOOC Course:
https://www.mooc-list.com/tags/business-process-management

1. Business Process Management: an Introduction to Process Thinking (FutureLearn)
Created by: Queensland University of Technology
Delivered by: FutureLearn
Taught by: HajoReijers, Jan Mendling, Marcello La Rosa, and Marlon Dumas

2. Management & Leadership
Modeling Business Processes with BPMN (mooc house)
Created by: Signavio
Delivered by: Mooc.house
Taught by: Various Instructors

https://www.edx.org/micromasters/iimbx-business-management
Master the essentials of managing a successful business

https://www.coursera.org/specializations/wharton-business-foundations
The Wharton School, University of Pennsylvania

Introduction to Marketing
Instructors: Barbara E. Kahn, Peter Fader, and David Bell.

Introduction to Financial Accounting
Instructor: Brian J Bushee

Managing Social and Human Capital
Instructors: Michael Useem, and Peter Cappelli

Introduction to Corporate Finance
Instructor: Michael R Roberts

Introduction to Operations Management
Instructor: Christian Terwiesch

https://www.edx.org/micromasters/ubcx-business-fundamentals
The University of British Columbia, Business Fundamentals

Semester -2
Field of Specialization
Course III (3.1) Human Resource Management

Credits: 6
Hours :80

Learning objective

LO1: To make the students, analyse the HRM concepts, theories with research perspectives.

LO2: To make the students evaluate the existing literature in the field of HRM for narrowing down their research area

LO3: To make the students create new theories by synthesising and integrating the existing theories based on the contemporary practices.

LO4: To provide the concepts of job analysis and job design

LO5: To impart knowledge on the promotion, job evaluation and compensation issues.

Course Outcome

CO1: The student will be able to effectively understand the HR problems in the organisation by making the proper research framework.

CO2: The student will be able to apply the HR knowledge in formulating the causal determinants of the particular research problem.

CO3: The student will be able to make an in depth analysis of cause and effect relationship with appropriate tools.

CO4: The student will be able to evaluate the research results obtained for its consistencies and accuracy and make critical recommendations.

CO5: The student will be able to create HR policies and procedures with the support of existing literature and research findings

Unit–I : Introduction

Human Resource Management – Importance – Challenges – Line and Staff aspect – HR management activities – Role of personnel manager – Images and qualities of HR manager – Integration of employee/management interests – Harvard frame work of HRM – Environment of Human Resource Management – External forces, internal forces, Environment scanning.

Unit–II : Human Resource Planning, Job Analysis, Job design and job evaluation

Human resource Planning – Importance – future personnel needs, creating talented personnel, foundations for personnel functions – Factors affecting HRP – HR supply/demand forecast – Recruitment – Factors affecting recruitment – Recruitment policy – Internal/External sources of recruitment – Methods of recruitment – Selection procedure – Orientation program - Job analysis – Content, steps in job analysis, methods of collecting job data, potential problems with job analysis – Factors affecting job design – JOB design approaches – Job specification – Job evaluation – Basic procedure, advantages, Limitations of Job evaluation – Job evaluation methods.

Unit–III : Training, Promotion and Compensation

Distinction between training and development – Inputs in T&D – Skills, education, development, ethics, attitudinal changes, decision making skills – Gaps in training – principles of learning – learning curve – The training process – Evaluation – Training methods/techniques – On the job training, Off the job training – Management Development – Pedagogical approaches and techniques of management development – Promotion – Promotion policy – Types of Promotion – Basis of Promotion – Seniority – Merit – Ability – Transfers – Reasons, principles, types – Separation – Lay off, resignation, dismissal,

retrenchment, voluntary retirement scheme – Components of remuneration – Wages and salary, incentives, fringe benefits, perquisites, non monetary benefits – Factors affecting employee remuneration – Minimum wage, fair wage, living wage – Executive remuneration.

Unit–IV : Performance Appraisal, Morale and Employee Motivation

What should be appraised – Traditional methods of performance appraisal – Modern methods of appraisal – MBO process – Appraisal techniques failure – Ethics of appraisal – Potential appraisal – Potential attributes – Career planning and development – Succession planning – Motivation and morale – Demotivation of employees – Performance Vs motivation – Incentive Vs Motivation – Retention determinants – Organizational components, organizational career opportunities, Attrition – Objectives – Problems and Benefits, Rewards and retention, Employee relationship – Employees Engagement – Employees Score card.

Unit–V : Quality of work life and Participative Management

Scope and ways of participation – Board level, ownership, complete control, staff council, joint council, collective bargaining, Job enlargement/enrichment, suggestion schemes, quality circle – Total quality management – Structure of participative management – Nature and benefits of participation – managing diversity – gender issues in equal employment – Quality of work life – Role of supervisor in QWL – Safety – Types of accidents – Safety programs – Work place health issues – Work place violence – outsourcing HR activities.

Text Books

5. Aswathappa, K., Human resource and personnel Management, Tata Mc Graw Hill, New Delhi, 2005.
6. Mammoria, C.B. & Gangar, S.V., Human resource management, Himalaya Publishing House, Mumbai, 2004.
7. Sengupta & Amitabha, Human resource management concepts, practices and new paradigms, Sage publication,New Delhi, 2018.
8. Venkatapathy, R., Labour Welfare and industrial relations, Himalaya Publications, Mumbai, 2003.
9. Dr. Alex, Soft Skills, S. Chand Publications
10. Mello & Jeffrey A, Strategic human resource management, 4th edition, Cengage learning, New Delhi, 2015.

Supplementary reading books / Reference books

5. Gary Dessler & Biju Varkkey, "Human Resource Management", 15th Edition, Pearson India, 2019.
6. Gary Yukl & Nishant Uppal, "Leadership in Organisations", 8th Edition, Pearson, 2017.
7. Anderson & Valerie, "Research methods in Human Resource Management", 2nd edition, Hyderabad Universities Press, 2011
8. Robbins, Judge & Vohra, "Organizational Behavior", 18th Edition, Pearson India, 2019.
9. Dipak Kumar Bhattacharyya, "Human Resource Research Methods", Oxford University Press, 2007.

Outcome Mapping

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PS 01	PS 02	PS 03	PS 04	PS 05	PS 06
CO1					√	√						√	√	√		√	√	
CO2		√		√								√	√	√			√	√

CO3		√			√			√	√		√				√	√	√
CO4	√		√	√		√	√	√			√		√		√		√	√
CO5	√		√				√	√		√	√			√	√	√	

Suggested MOOC courses
1. Research writing by Prof. Aradhna Malik, IIT Kharagpur, NPTEL, https://nptel.ac.in/courses/110/105/110105091/.
2. Principles of Human Resource Management by Prof. Aradhna Malik, IIT Kharagpur, NPTEL, https://nptel.ac.in/courses/110/105/110105069/.
3. Statistics and R, by Harvard University, https://www.edx.org/course/statistics-and-r-2.
4. Human Resource Development by Prof. KBL Srivastava, IIT Kharagpur, NPTEL, https://nptel.ac.in/courses/109/105/109105121/.

Semester -2
Field of Specialization
Course III (3.2) Marketing Management

Credits: 6
Hours :80

LEARNING OBJECTIVE
The main objective of this course is

LO 1: To enhance the skills in different concepts of marketing and important strategies in marketing.

LO 2: To understand the consumer behaviour and their major influencing factors.

LO 3: To expose the scholars' knowledge in analysing the business opportunity and segmenting the market.

LO 4: To educate the researchers in product development concept and pricing strategies.

LO 5: To identify the domestic, international distribution system and its importance.

Course Outcome

Upon completion of the course, the research scholars will

CO 1: Critically think about the Challenges and Dynamic Environment of Marketing concepts.

CO 2: Cultivating and enhance the knowledge about the effects of globalised business world.

CO 3: Understand the application of marketing research in international aspects to identify the new markets with product and pricing focus.

CO 4: Have the ability to work and demonstrate the planning of marketing activities on foreign markets and

domestic markets.

CO 5: Analyse and design strategies for consumer behaviour that firms utilize when marketing their products.

CO 6: Develop competencies and upholding the strategies in implementing Global Marketing Strategies

UNIT-I:

Marketing Environment-Societal Marketing- Green Marketing - Global Marketing – Rural Marketing - Relationship marketing - Services Marketing - Marketing Ethics – Consumer Protection - Marketing Research - Market Segmentation and Market Targeting and positioning – Marketing Audit- Product Focused Marketing - Consumer Focused Marketing.

UNIT-II:

Consumer Behaviour - Theories of consumer behaviour - Buying Process - Understanding the buyer- Influence of buyer behaviour - Sales Forecasting - Marketing Intelligence System

UNIT - III:

Product - Product Liability - Technological Innovations - New Product Development - Product life cycle - Global brands Vs National brands - Brand Loyalty - Brand Equity - Packaging Process - Product Mix Strategies – innovation and Planned Obsolescence.

UNIT - VI:

Pricing - Objectives - Pricing Procedure - Pricing Policies and strategies - Government Policies Price Sensitivity - Distribution - Channels of Distribution - confilt- Elimination of Middlemen -Public Distribution System - Merchant Middlemen Vs Agent Middlemen - Organized Retailing.

UNIT-V:

Promotion Mix - Advertising - Types of Advertisements - Advertising Campaign – Advertising budget - Advertising effectiveness - Advertising in India - Advertising Agency- Internet advertising - Door to Door selling - Sales Promotion - Publicity - Demonstration effect.

Text Books

1. Rajan Sexena, Marketing Management, The McGraw Hill Company, New Delhi, 2007.

2. Micheal Rezinkota and Masakki Kotaba, Marketing Management, Thomson Publishing, New Delhi, II edition.

Suggested Supplementary Reading:

3. Leon, G. Schiffman & Les Lie Laear Kanun, Consumer Behaviour, Prentice Hall of India, New Delhi, IX edition.

4. Philip Kotler and Kevin Lane Koller, Marketing Management, Prentice Hall of India, New Delhi, India, IX edition.

5. C.L. Tyagi Arun Kumar, Consumer Behaviour, Attantic publisher & Distributors, New Delhi, 2004.

Mapping of Course Outcomes with Programme Outcomes and Programme Specific Outcome

PO/CO	Programme Outcomes												Programme Specific Outcomes						
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7
CO1	√																√		
CO2					√								√						
CO3							√											√	
CO4														√					
CO5																√			
CO6								√											√

Suggested MOOC courses

1. https://www.mooc-list.com/course/meaningful-marketing-insights-coursera
2. https://www.mooc-list.com/course/market-research-and-consumer-behavior-coursera
3. https://www.mooc-list.com/course/cost-and-economics-pricing-strategy-coursera
4. https://www.mooc-list.com/course/forecasting-models-marketing-decisions-coursera
5. https://www.mooc-list.com/course/sales-marketing-alignment-coursera

Field of Specialization
Course III (3.3) Behavioural Science

Credits: 6
Hours :80

Learning Objectives

LO1: Gain knowledge in the field of behavioural science group behaviour and organizationall behaviour.

LO2: Understanding on personality, values, attitudes and job satisfaction.

LO3: Enhances the knowledge base on leadership, power, polities and conflict in organization.

LO4: Gives inputs on motivation and group behaviour.

LO5: Enables them to understand the organizational change and organizational development.

Course Outcome

CO1: Helps in understanding behavioural science.

CO2: Makes the researcher to gain knowledge on personality values and attitudes.

CO3: Develops Leadership.

CO4: Cultivates the habit of motivation.

CO5: Ability to understand the importance of organizational change and development.

Unit–I : Human Behaviour in Organization, Perception, Communication and Learning
Understanding human behaviour– Organization as a social system – The formal and informal organization – Foundations and historical development of organizational behaviour model – Contributing disciplines to organizational behaviour – Schools of thought in organizational behaviour – Hawthorne experiments and its implications - Perception – Perceptual Process – Factors influencing perception – Halo effect – Stereo typing; Learning – Theories – learning curve; Communication – Barriers to communication – Defensive and Non–defensive communication – Reflective Listening.

Unit–II : Personality, Values, Attitudes and Job Satisfaction

Personality – Theories – Determinants of personality – Type A and Type B personality Values – types; Attitudes – Functions of attitudes – Barriers to attitudinal changes – work attitudes - Job satisfaction – Theories – Factors determining job satisfaction – Job dissatisfaction

Unit–III : Leadership, Power, Politics and Conflict

Leadership – Leader Vs Manager – Leadership theories – Leadership styles - Power – Types and sources of power – Power and politics - Conflict – Causes and types of conflict – Interpersonal – Intra group conflict – Transactional Analysis – Johari Window – Interpersonal conflict resolution – Counselling.

Unit–IV : Motivation & Group Behaviour

Motivation – Process – Theories, Content theories of Motivation – Process theories of motivation –

Performance Management – Defining Performance – Performance feedback – Individual Vs Team reward system - Defining and classifying groups – Workgroup behaviour – Group structure / Processes and tasks – Group decision making – Work teams – Group Vs Team – Dynamics of group behaviour - Stress – Causes of stress – Stress reduction strategies – Stress and Performance – concept and factor influencing organizational citizenship behaviour – Concept and factors influencing organizational commitment.

Unit–V : Organization Change and Organizational Development

Organizational change – Meaning – Models of change – Resistance to change – Managing planned change - Organizational culture – creating and maintaining the culture – Organizational culture Vs organization climate - Organizational development – Process – Organizational development Interventions – Recent developments in Organizational development.

Text Books

1. Stephen P. Robbins, Organizational Behavoiur, Pearson Education.
2. Steven L. Mushane, et al. Organizational Behavoiur, Tata McGraw Hill.
3. Jerald Green Berg, et al, Organizational Behavoiur, A Simon & Schuster Company
4. R.S. Dwivedi, Human Relations and Organizational Behavoiur, Macmillan Publishers India Limited.
5. S. Davar, Organizational Behavoiur, U&S publishers.
6. Mishanes et al, Organizational Behavoiur, TMH.

Supplementary Reading Books

1. Human Resource and Personal Management, Text and Cases K. Aswathappa
2. Frcd Luthans, Organizational Behavoiur, Tata McGraw Hill.
3. Herman J, Research Methodology & Social Research, Dlinemmas and perspectives, sage.

Outcome Mapping

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PS 01	PS 02	PS 03	PS 04	PS 05	PS 06
CO1					✓	✓						✓	✓	✓		✓	✓	
CO2		✓		✓								✓	✓	✓			✓	✓
CO3		✓			✓				✓	✓		✓				✓	✓	✓
CO4	✓		✓	✓		✓	✓	✓			✓		✓		✓		✓	✓
CO5	✓		✓			✓	✓		✓	✓				✓	✓	✓		

Mooc Courses

1. Introduction to developmental psychology.
2. Introduction to social psychology Health and behaviour.

Field of Specialization
Course III (3.4) Financial Management

Credits: 6
Hours :80

Learning Objective:

LO1: To educate the concept of finance and its concern with everything that takes place in the conduct of the research.
LO2: To develop and acquaint the scholars with the various concepts, techniques, methods of planning and forecasting.
LO3: To inculcate the concepts and various methods of portfolio analysis.
LO4: To impart knowledge on merger and acquisitions.
LO5: To provide the financial concepts of Commodity Exchanges and its trading methods.

Course outcome
After completion of this course, the scholar should be able to
CO1: Identify the researchable problems and find the appropriate research design for the identified research problem and objectives in the area of finance.
CO2: Able to understand and analyse the investor protection measures and investors education initiatives in the Indian capital market.
CO3: Analyse the key issues related to financial distress and various facets of share buy-backs and stock splits.
CO4: Discuss the techniques of corporate performance such as ROI, ROE, EVA and MVA..
CO5: Expound various views on difference between commodity and financial derivatives and explore the method of trading on NCDEX platform and its application .

Unit-1

Behavioural Finance - Prospect Theory - Mental Short cuts and Impact on Investment decisions - Gambler's fallacy- Social and Emotional influence on investment behavior. Efficient Market Hypothesis (EMH) - Market Anomalies - Rational Thought: Pascal-Fermat to Friedman-Savage - Expected Utility Theory [EUT] - Paradoxes (Aliais and Others) - Prospect Theory - Information Processing: Bayesian Decision Making, Heuristics and cognitive biases - Emotion and Neuroscience -Group Behavior: Conformism, herding, fatal attractions.

Unit-2

Investment Process

Structural changes and growth of the Indian capital market - Stock Market Indices in developed markets and the Indian capital market- Investor protection measures and investor education initiatives in the Indian capital market.

Markowitz portfolio theory: Portfolio Analysis: Estimating the portfolio return and portfolio

risk, formation of Efficient Frontier of Portfolios and Portfolio Selection - Modern portfolio theory -Capital Asset Pricing Model (CAPM) - Evaluation of CAPM - Construction of CML, SML and Characteristics Line- Arbitrage Pricing Theory (APT).

Unit-3

Human Resource Accounting

Human Capital and Productivity - Human Resource Accounting - Measurement of Human Value addition into Money Value - Human Resource Accounting: Objectives and Approaches. Investment Approach: Investment in Human Resources; HR Value - Concepts, Methods and Mechanics - HR Accounting: Design of HR Accounting process and Procedures for each of the HR sub-system including recruitment, induction, training; HR Auditing and Accounting - HRA Oriented Reporting processes including P&L Accounting and Balance Sheet.

Unit-4

Corporate Restructurings

Merger and Acquisitions - Motives for Mergers - Basic forms of Acquisitions - NPV of a merger - Defensive strategies to prevent takeover attempts - Benefits of Merger - Leveraged Buyouts: types - Financial Distress - Re-Organisation of firms - Share Buy-backs and Stock Splits. Measures of Corporate Performance: ROI, ROE, EVA, MVA, Balanced Scorecard.

Unit-5

Commodities Derivatives Market:

Difference between Commodity and Financial Derivatives - Evaluation of Commodity Exchanges - Trading on NCDEX platform - Application of Commodity Futures: Forward Contracts - Futures and Options - Trading, Clearing and Settlement - Regulatory framework of Commodity Derivatives.

Text Books
1. Khan, M.Y. and P.K. Jain, *Financial Management–Text and Problems*, 4th ed.,Tata McGraw Hill Publishing Co., New Delhi, 2017.
2. Srivastava. R.M., Financial Management, Himalaya Publication House, Mumbai, 2016.
3. Prasanna Chandra, *Financial Management: Theory and Practice*, Tata McGraw Hill, 2016.
4. Aron Gottesman, Derivatives Essentials, Wiley Finance Series, 3rd ed., 2016.
5. Shuchita Singh and Shilpa Bahl, Behavioural Finance, Vikas Publishing House PVT Ltd.,New Delhi, 2016.
6. Donald E.Fisher and Ronald.J.Jordan, Security Analysis and Portfolio Management, Perason

Publications,Seventh Edition, 2018.

Supplementary Readings

1. Eugene F. Brigham & Michael C. Ehrhardt, Financial Management: Theory and Practice, Cengage Publication, 2015.
2. James C Van Horne, Fundamentals of *Financial Management,* 13th Edition, PHI Learning Publisher, New Delhi, 2015.
3. Kuchhal, S.C., *Financial Management*, Allahabad, Chaitanya Publishing House, 2014.
4. Pandey, I.M., *Financial Management,* (10th Edition), Vikas Publishing House, 2014, New Delhi.

Outcome Mapping

CO/PO	PO O6	PO O5	PO O4	PO O3	PO O2	PO O1	PO 12	PO 11	PO 10	PO 9	PO 8	PO 7	PO 6	PO 5	PO 4	PO 3	PO 2	PO 1
CO1		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓			✓	✓
CO2				✓	✓	✓					✓			✓			✓	✓
CO3		✓	✓	✓	✓	✓	✓	✓		✓	✓			✓		✓		✓
CO4	✓	✓					✓				✓			✓				
CO5	✓		✓	✓	✓	✓	✓				✓			✓				

SUGGESTED MOOC COURSES:

1.**Financial Accounting and Analysis**: (edx) Created by Indian Institute of Management , Bangalore,Taught by Padmini Srinivasan.
2.**Financial Engineering And Risk Management Part I** : (Coursera),Created By: Columbia University, Taught By: Garud Iyengar & Martin Haugh.
3.**Portfolio And Risk Management(Coursera),** Created By: Indian School Of Business (Isb), Delivered By: Coursera, Taught By: Ramabhadran Thirumalai.
4. **Money Markets& Foreign Exchange**: (edx) Created by New York Institute, Finance, Instructors Jack Farmer and Chris Thomas.
5. **Equity Markets And Financial Regulations**: (edx) Created by New York Institute, Finance, Instructor Jack Farmer.
6. **Derivatives, Futures, Swaps and Options:** (edx) Created by New York Institute, Finance, Taught by Jack Farmer & Cris Thomas.

Field of Specialization
Course III (3.5) Strategic Management

Credits: 6
Hours :80

Learning Objectives

LO1: To expose students to various perspectives and concepts in the field of strategic management.

LO 2: The course would enable the students to understand the principles of strategy formulation, implementation and control in organizations.

LO 3: To help students develop skills for applying these concepts to the solutions of business problems.

LO 4: To help students master the analytical tools of strategic management.

LO5: To Acquire the formulation and implementation of Business Policies and Strategies.

Course Outcome

At the end of the course students would able to

CO1 : Understand the basic concepts and principles of strategic management and to analyze the internal and external environment of business.

CO 2: Develop and prepare organizational strategies that will be effective for the current business environment.

CO 3: Devise strategic approaches to managing a business successfully in a global context.

CO 4: To help students master the analytical tools for strategic management.

CO 5: Integrate and apply knowledge gained in basic courses to the formulation and implementation of strategy from holistic and multi functional perspectives.

UNIT I

STRATEGY AND PROCESS - Conceptual framework for strategic management, the Concept of Strategy and the Strategy Formation Process - Stakeholders in business -Vision, Mission and Purpose - Business definition, Objectives and Goals - Corporate Governance and Social responsibility-case study.

UNIT II

COMPETITIVE ADVANTAGE - External Environment - Porter's Five Forces Model-Strategic Groups Competitive Changes during Industry Evolution- Globalization and Industry Structure - National Context and Competitive advantage Resources-Capabilities and competencies-core competencies-Low cost and differentiation Generic Building Blocks of Competitive Advantage-Distinctive Competencies-Resources and Capabilities durability of competitive Advantage-Avoiding failures and sustaining competitive advantage-Case study.

UNIT III

STRATEGIES - The generic strategic alternatives - Stability, Expansion, Retrenchment and Combination strategies - Business level strategy- Strategy in the Global Environment-Corporate Strategy-Vertical Integration-Diversification and Strategic Alliances- Building and Restructuring the corporation- Strategic analysis and choice - Environmental Threat and Opportunity Profile (ETOP) - Organizational Capability Profile - Strategic Advantage Profile - Corporate Portfolio Analysis - SWOT Analysis - GAP Analysis - Mc Kinsey's 7s Framework - GE 9 Cell Model - Distinctive competitiveness - Selection of matrix - Balance Score Card-case study.

UNIT IV

STRATEGY IMPLEMENTATION & EVALUATION -The implementation process, Resource allocation, Designing organizational structure-Designing Strategic Control Systems- Matching structure and control to strategy-Implementing Strategic change-Politics-Power and Conflict-Techniques of strategic evaluation & control- Competitive cost   dynamics   -   experience curve - BCG approach - cash   flow   implication - IA - BS matrix - A.D. Little's Life - Cycle approach to strategic planning - Assessment of economic contribution of strategy - case study.

UNIT V

OTHER STRATEGIC ISSUES - Managing Technology and Innovation- Strategic issues for Non Profit organizations. New Business Models and strategies for Internet Economy-case study

Text Books

1. Management Policy and Strategic Management – RM. Srivastava Concepts, Skills and Practices, Himalaya Publishers – 2014.

2. Survival and growth strategies for Business Dynamics, Author: 1) T.Aranganathan, 2) K. Vijayarani, 3)) Elangovan. R, 4) K. Sundar, 5) T. Srinivasan – Scitech Publishers – 2010.

3. Strategic Management Information, Implementation and control, Author: John A Pearce, Richard B Robinson Jr, Amita Mital, Tata McGraw Hill Publishers – 2008.

4. Strategic Management of Human Resources – Jeffrey A. Mello – Cengage Learning Publishers – 2015.

5. Business Policy and Strategic Management – Francies cherunilam, Himalaya Publishers – 2015.

6. Business policy and strategic management – Ravikant Mukherjee, Adhyayam Publishers – 2010.

Supplementary Readings

4. Strategic management formulation, Tenth Edition, Implementation and control by John A Pearce, Richard B Robinson, Jr, Amita Mital (2011) Tata mcgraw hill education private limited.
5. Strategic management of human resources 3rd edition (2014) by Jeffrey A Melio – cengage learning india private limited – Delhi.
6. Management policy and strategic management concepts, skills and practices, third edition by R.M. Srivastava – Himalaya publishing house (2014), Mumbai.
7. Business policy and strategic management edition (2010) by Ravikant Mukherjee – Adhyayam publishers and distributors, New delhi.

Outcome Mapping:

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PS 01	PS 02	PS 03	PS 04	PS 05	PS 06
CO1					✓	✓						✓	✓	✓		✓	✓	
CO2		✓		✓								✓	✓	✓			✓	✓
CO3		✓			✓				✓	✓		✓				✓	✓	✓
CO4	✓		✓	✓		✓	✓	✓			✓		✓		✓		✓	✓
CO5	✓		✓				✓	✓		✓	✓				✓	✓	✓	

Suggested Mooc Courses

1. Mooc material: competitive strategy, created by:
   Luduog – Maximillians – universitat Munchen, delivered by coursea, Tansut by Tobias kretschmer

2. Critical perspectives on management created by IE business school, delivered by coursea, Tansut by ROIF strom-olsen.

3. Advanced competitive strategy, created by Ludig – maximillians – universitat munchen, delivered by courser, Tansut by Tobias Kretschmer.

4. Strategic management: Be competitive, created by Macquiarie university, delivered by courser, tansut by Ralfurilolen.

Field of Specialization
Course III (3.6) Project Entrepreneurship and Small Business Management

Credits: 6
Hours :80

Learning Objectives
The objectives of this course is

LO1: To study about planning of a project and to conduct feasibility study

LO2: To understand the financial aspects of a project and also the ways to evaluate the project

LO3: To analyze the concept of entrepreneurship and its role and responsibilities

LO4: To know about various environmental aspects of entrepreneurship and its challenges

LO5: To familiarize characteristics, marketing methods, sickness and growth of small business management

Course Outcomes:	
After the successful completion of the course, the scholars will be able to	
CO1	plan for a project, project organization, and also they will be able to do feasibility study based on various aspects of the project.
CO2	understand the financial aspects of a project by means of estimating project time and cost, project information system and also the ways to evaluate the project using PERT
CO3	analyze the concept of entrepreneurship, role and responsibilities of an entrepreneur in Indian Business Context, and also they will be able to know about Entrepreneurial Development Programme
CO4	know about various environmental aspects of entrepreneurship like social, cultural, political, natural, geographic, economic and technological aspects, and the factors affecting entrepreneurial growth
CO5	familiarize characteristics of small business, marketing methods like pricing and distribution, sickness in small business, and growth of small business management.

Unit–I : Project Planning and Feasibility Studies
Definition of project – Classifications of projects – Importance – Scope – Project Identification – Idea generation and Screening – Project selection and Planning – Project Formulation – Project life cycle – Project Organisation – Roles and Responsibilities of project manager – Managing project team - Pre–feasibility study – Market and Demand analysis – Feasibility Study: Technical – Commercial – Environmental – Socio economic – Managerial and Financial analysis – Detailed Project Report – Resource Survey – Selection of plant location – Project contracts – Insurance for projects – Project Implementation.

Unit–II : Project Finance and Evaluation
Estimating project time and cost – Cost of capital – Source of finance – Cost control – Project Scheduling and Monitoring – Project Information System and Documents – Project Report – Social Cost Benefit Analysis – Project Evaluation and Performance review techniques.

Unit–III : Introduction to Entrepreneurship
Definition – Concept – Classification and types of entrepreneurs – Entrepreneurial Traits – Need and Important – Role and Responsibility of Entrepreneurs in Indian business context –

Entrepreneurial Motivation – Entrepreneurial Development Programme: Role and objectives of the programme – Contents – Institutions aiding Entrepreneurs – Central and State level Institutions.

Unit–IV : Entrepreneurship Environment and Challenges

Entrepreneurship environment: Social – Cultural – Political – Natural – Geographic – Technological – Economic Environment and its impact on Entrepreneurship – Factors affecting entrepreneurial growth – Globalization and its challenges – Steps to face global challenges – Strategies for the development of women entrepreneurs.

Unit–V : Small Business Management

Small Enterprises – Definition – Classification – Characteristics – Ownership Structures – Steps involved in setting up a small business – Identifying and selecting a good Business opportunity – Market potential analysis – Marketing methods: Pricing and Distribution methods. Sickness in small Business: Concept – Magnitude – Causes and Consequences – Corrective Measures – Government Policy on Small Scale Enterprises – Growth Strategies in small industry: Expansion – Diversification – Joint Venture – Merger and Sub Contracting – NSIC – DIC – Development commissioner for small scale industry – commercial banks – IDBI role in small scale industry – EXIM Bank

Text Books

1. David H. Holt. Entrepreneurship. New Venture creation, New Delhi: Prentice Hall of India, 1991

2. Gopalakrishnan P and V. E. Ramamoorthy. Project Management. New Delhi: Mac Millan India Ltd. 2009

3. Prasanna Chandra. Projects. New Delhi: Tata McGraw Hill. 2007

4. Kanka S. S. Entrepreneurial Development. New Delhi: S. Chand & Co., 2012

5. Vasant Desai. Dynamic of Entrepreneurial Development and Management. New Delhi: Himalaya Publishing House. 2008

Supplementary Readings

1. Meredith, J.R. & Mantel, S.J. 2000. *Project management: A managerial approach, 4th Ed*. New York: Wiley.

2. Smith, K.A. 2000. *Project management and teamwork*. New York: McGraw-Hill.

3. Van Voorhis, Kennth R. Entrepreneurship and Small Business Management. Boston: Allyn and Bacon. 1980.

4. Saravanavel. Entrepreneurship. Mumbai: Himalaya Publishing House

Outcome Mapping

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1					√											√		
CO2	√			√										√				
CO3							√										√	
CO4		√														√		
CO5								√				√			√			

Suggested MOOC Courses:
1. **Fundamentals of Project Planning and Management**, Created by University of Virginia. Delivered by Coursera. Taught by Yael Grushka – Cockayne.

2. **Entrepreneurship**, Created by University of Pennsylvania. Delivered by Coursera. Taught by

3. **Introduction to Project management Principles and Practices Specialization**, Created by UCI Division of Continuing Education, Delivered by Coursera. Taught by Margaret Meloni

4. **How to start your own business specialization**, Created by Michigan State University, Delivered by Coursera. Taught by Forrest S. Carter, Ken Szymusiak, and David Wheeler

Semester -2
Field of Specialization
Course III (3.7) Productions and Material Management

Credits: 6
Hours :80

Learning Objective

    LO 1. To develop how the production, have importance and can provide a competitive advantage in the workplace.

    LO 2. To understand the techniques location and facility planning, job capacity planning in production and materials management.

    LO 3. To elaborate the characteristics of purchasing, stores make or buy and inventory control of materials to meet the needs of the firm.

LO4:   To explain the essentials of materials management and the role of inventory system in running a business and to develop skills in solving production related problems.

    LO5:   To impart knowledge on the materials management information system.

Course Outcomes

        After the successful completion of the course the scholars will be able to;

    CO 1: Identify the elements of production management and various processes to enhance productivity and competitiveness.

    CO2: Appraise the production functions and their interaction with other business functions such as finance, marketing, human resource, supply chain and innovation.

    CO 3: Plan and implement suitable quality control techniques in quality management.

    CO 4: Insure the production decisions meet the requirements in the organisation.

    CO 5: Determine the appropriate decision in on organisational policies and procedures.

Unit-I: Production Function

    Introduction - Production functions - Design of production system - Types of production - Types of process - Productivity - Ergonomics.

    Plant Location - Factors influencing plant location - Multi Plant location - Foreign Location - Relocation - Plant location trends.

Unit-ll: Plant Layout and Maintenance

    Plant Layout - Types of layouts - Process layout - Product layout - Layout of service facilities - Office layout - Use of service facilities - Use of drawings, templates and models in layout physical facilities.

    Maintenance - Objective of maintenance - Elements of maintenance - Types of maintenance - Breakdown time - Distribution time - Preventive maintenance Vs Breakdown maintenance - Optimum crew size - Maintenance records.

Unit-Ill : Production Planning and Control

    Production Planning and Control - Routing - scheduling - Despatching - Expediting -GANTT charts - Work study, Motion study, Method study analysis - Use of Computers in PPC - Design and Implementation of PPC System.

Unit-IV : Materials Management

Materials Management - Objective of materials management - Materials forecasting and planning - Inventory control - Fixed order size, P&Q Inventory System - Deterministic probabilistic models, Static inventory models - Spare parts management - Materials requirement planning - Aggregate inventory management - Implementation aspects of inventory systems.

Unit-V : Store and Purchase Function

Standardization, simplification, codification, stores layout, storage systems and equipment, stores preservation, stores procedures and automation of warehouses.

Purchasing function - Purchasing policies and procedures, legal aspects of purchasing, tax considerations in purchasing, selections and sources of supply, make or buy decisions - Vendor evaluation and rating - vendor development.

Materials accounting and budgeting evaluation of materials management performance. Information systems and computers in materials management.- Materials handling equipments - Stores Account - Price - Cost analysis and Negotiation forward buying - Speculation and Commodity markets - Capital equipment buying, imports and customs - Clearance - Purchasing research.

Text Books
1. Sarangi S.K., Production Management and Materials Management: Text & Cases, Asian Books Private Limited Publication, New Delhi, 2011
2. Gopalakrishnan Sundaresan, Materials Management, PHI Learning, New Delhi, 2003.

Supplementary Readings
1. Tony Arnold J. R., Stephen N. Chapman, and Lloyd M. Clive, Introduction to Materials Management, sixth edition, Pearson Prentice Hall, 2008.
2. Dutta, A.K., Integrated Materials Management, New Delhi, PHI Learning, 2000.
3. Nair, N.K., Purchasing and Materials Management, Vikas Publishing House, New Delhi, 2005.
4. Paneer Selvam, R., Production and Operations Management, PHI Learning, 2010.
5. Shridhara Bhat, K., Production and Materials Management, Himalaya Publishing house, Mumbai, 2009.

Outcome Mapping

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO 1	✓		✓	✓	✓		✓		✓		✓	✓	✓	✓		✓		✓
CO 2		✓		✓		✓		✓		✓	✓		✓		✓		✓	
CO 3	✓		✓		✓		✓	✓		✓		✓		✓		✓		✓
CO 4	✓	✓		✓	✓		✓		✓		✓		✓		✓		✓	
CO 5		✓		✓		✓		✓		✓		✓		✓		✓		✓

SUGGESTED MOOC COURSES

1. **MOOC Material:** Introduction to Operations Management, University of Pennsylvania.Coursera.
2. **MOOC Material:** Production and materials engineering programme structure,Lund university.Sweden.

Field of Specialization
Course III (3.8) Research Software

Credits: 6
Hours :80

Learning Objectives:

LO1. To impart the scholars to gain expert knowledge of generate bibliographies in different referencing styles

LO2. To enable the scholars have a thorough understanding on organize literature review and enrich analysis with NVivo Software.

LO3.To provides an insight into the techniques of quantitative research tools and model testing to the scholars.

LO4: Studies core statistical techniques; data retrieval, analysis and mining;

LO5: Decision modeling to effectively persuade in the projectoriented world of datadriven decisions.

Course Outcomes:

After the successful completion of the course, the scholars will be able to:

CO1. Examine and practice the organizing and manage the literature library

CO2. Explore the researchable knowledge on qualitative research

CO3.Scrutinize the various technical knowledge about Model creation, chart creation and data management.

CO4.Develop the constructs and scales for Behavioral research and application of relevant research tools.

CO5: Expertise the Model Testing and measure of model fit indicates.

Unit I Bibliographic Software: Thomson Reuters EndNote X9

Introduction to an EndNote Library (Start EndNote, open a reference library, sort the library, select, open, and close a reference, and save references to a custom group.) - Entering a Reference (Manually insert a reference, and attach a file to the reference.) - Searching an Online Database and library catalogs.- Importing Reference Data into EndNote- Searching an EndNote Library and Saving it as a Smart Group - Using EndNote While Writing a Paper with Microsoft Word - Insert bibliographic citations in Microsoft Word, and have EndNote- generate a bibliography for the paper.

Unit II Literature Review Software: QSR NVivo 10

The Components of a Project - Working With Your Data - Approaching a Research Project - Prepare Your Data - Prepare for Teamwork - Gather Your Early Ideas - **NVivo** Basics - Creating a Project - Upgrading Projects from Previous Versions - Gathering Your Source Materials - Importing Sources - Classifications and attributes to organize/classify literature sources - Coding text by themes/nodes to analyze your literature sources for major themes/concepts - coding sources by author to facilitate comparisons across the authors of your sources - querying your sources to further analyze your literature sources - using framework matrices to condense your analysis in a grid format.- keeping track of ideas with annotations, memos, and see also links

Unit III Qualitative Research Software: QSR NVivo 10

Creating a Transcript for Audio and Video Sources - Creating a Log for Pictures - Creating Externals - Creating Memos - Creating Tree Nodes - Creating Cases and Attributes - Adding Attributes - Adding a Case - Simple Coding - Coding a Document - Coding an Audio or Video Source - Coding a Picture - Displaying Coding Stripes - Exploring a Node - Moving on from Basics - Finding Project Items - Querying Your Data -Creating Models - Creating Charts - Running Reports - Exporting Data - About the Sample Project

Unit IV Quantitative Research Software: SPSS 20

Test of assumption statistics - Runs Test - Distribution Test - T-Test - Homogeneity Test - Validity- Factor Analysis - Reliability- Inter-item comparison - summary of frequencies - statistics - cross-classification - chi-square test - ANOVA - ANCOVA - Bivariate Correlation - Linear regression - MANOVA - MANCOVA - Multivariate Analysis - Cluster analysis - Multidimensional Scaling - Discriminant Analysis - Multiple regression

Unit V Model Testing & Reporting Software

AMOS - Introduction to AMOS graphics - Estimating Variance & Co-variance - Exploratory analysis - Structural Equation Model - Measure of Model Fit indicates.

Texts Books:
1. K. Kalyanaraman, Hareesh N. Ramanathan, P.N. Harikumar (2016) Statistical Methods for Research: A Step by Step Approach Using IBM SPSS Hardcover, Atlantic Publishers and Distributors .
2. ASTHANA HARI SHANKAR|BHUSHAN BRA(2016) Statistics for Social Sciences (With SPSS Applications), PHI, 2nd Edition.
3. George Darren(2018), IBM SPSS Statistics 25 Step by Step,Taylor & Francis Ltd, 15th Edition.
4. S. C. Gupta(2018) Fundamentals of Statistics,Himalaya Publishing House; Seventh Edition edition

Supplementary Reading
1. https://aut.ac.nz.libguides.com/ld.php?content_id=40172445
2. https://endnote.com/wp-content/uploads/m/pdf/en-x8-qrg-windows.pdf
3. N Das (2017)Statistical Methods (Combined edition volume 1 & 2), McGraw Hill Education; 1st edition

Outcome Mapping:

CO/ PO	PO1	PO2	PO3	PO4	PO5	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	✓	✓		✓	✓	✓	✓			✓	✓	✓		✓	✓		
CO2	✓	✓			✓	✓	✓	✓		✓		✓	✓		✓	✓	
CO3		✓	✓	✓		✓		✓	✓	✓	✓		✓		✓		✓
CO4	✓	✓		✓	✓		✓	✓	✓	✓	✓		✓	✓		✓	✓
CO6	✓	✓	✓	✓		✓	✓	✓		✓		✓		✓		✓	✓

Suggested MOOC Courses:

1. MOOC Material: Research Data Management and Sharing, Created by: The University of North Carolina, University of Edinburgh Delivered by: Coursera
2. MOOC Material: Research Writing: How to Do a Literature Review Created by: University of Wollongong Delivered by: FutureLearn