



KLE Academy of Higher Education & Research

(Deemed-to-be-University)

[Declared as Deemed-to-be-University u/s 3 of the UGC Act, 1956 vide
Government of India Notification No. F.9 -19/2000-U.3 (A)]

Accredited 'A' Grade by NAAC (2nd Cycle)

Placed in Category 'A' by MHRD (Gol)



Syllabus for Ph.D.

Research Scholars in Health Sciences and

Inter-Disciplinary areas

(Pre-Ph.D. Examination)

2016 Onwards

Edition Year : 2019-20

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VISION

To be an outstanding University of excellence ever in pursuit of newer horizons to build self reliant global citizens through assured quality educational programs.

MISSION

- To promote sustainable development of higher education consistent with statutory and regulatory requirements.
- To plan continuously provide necessary infrastructure, learning resources required for quality education and innovations.
- To stimulate and to extend the frontiers of knowledge, through faculty development and continuing education programs.
- To make research a significant activity involving staff, students and society.
- To promote industry / organization, interaction/collaborations with regional/national / international bodies.
- To establish healthy systems for communication among all stakeholders for vision oriented growth.
- To fulfill the national obligation through rural health missions.

OBJECTIVES

The objectives are to realize the following at university and its constituent institutions:

- To implement effectively the programs through creativity and innovation in teaching, learning and evaluation.
- To make existing programs more career oriented through effective system of review and redesign of curriculum.
- To impart spirit of enquiry and scientific temperament among students through research oriented activities.
- To enhance reading and learning capabilities among faculty and students and inculcate sense of life long learning.
- To promulgate process for effective, continuous, objective oriented student performance evaluation.
- To ordinate periodic performance evaluation of the faculty.
- To incorporate themes to build values. Civic responsibilities & sense of national integrity.
- To ensure that the academic, career and personal counseling are in-built into the system of curriculum delivery.
- To strengthen, develop and implement staff and student welfare programs.
- To adopt and implement principles of participation, transparency and accountability in governance of academic and administrative activities.
- To constantly display sensitivity and respond to changing educational, social, and community demands.
- To promote public-private partnership.

[I] PREAMBLE:

KLE University is determined to encourage quality research in different disciplines of Health Sciences, keeping in view the global requirements of health care, with national needs as the focal point.

The Doctor of Philosophy (Ph.D.) Program in Health Sciences and Inter-disciplinary area (wherein one of the disciplines shall be health sciences) is proposed with an objective of promoting the cause of quality research in thrust or priority areas. The UGC expects from Deemed Universities activities related to research, development, extension and consultation, all being aimed at attaining academic excellence.

The infrastructure facilities and human resources available at the KLE University health science institutions shall be effectively utilized for promoting quality research in health sciences and inter-disciplinary areas. To facilitate interdisciplinary research, a Dean and separate Board of Studies has been constituted.

[II] AIMS & OBJECTIVES OF THE Ph.D. PROGRAMME

- To gain expertise and knowledge in a specialized field of research.
- Design, implement & report a research project.

III. DISCIPLINES:

Admission to Ph.D. program will be made under the following faculties, covering a wide spectrum of disciplines:

I. FACULTY OF MEDICINE:

A) Pre-Clinical:

- Anatomy
- Physiology
- Biochemistry

B) Para-Clinical:

- Pharmacology
- Pathology
- Microbiology
- Forensic Medicine
- Community Medicine

C) Clinical:

Medicine and Allied Subjects:

- Medicine
- Paediatrics
- Pulmonary Medicine
- Dermatology
- Psychiatry

Surgery and Allied Subjects:

- Surgery
- Orthopaedics
- ENT & Head & Neck Surgery (HNS)
- Ophthalmology

Obstetrics & Gynaecology, Anaesthesiology and Radiology:

- Obstetrics & Gynaecology
- Anaesthesiology
- Radiology

D) Superspecialities:

- Cardiovascular and Thoracic Surgery
- Urology
- Plastic Surgery
- Cardiology
- Neurology
- Neurosurgery
- Paediatric Surgery

Other Disciplines of Health Sciences:

- Hospital Administration
- Public Health

E) Medical Education

II. FACULTY OF DENTISTRY:

A) Pre-Clinical:

- Dental Anatomy & Oral Histology
- Dental Material

B) Clinical:

- Prosthodontics
- Orthodontics
- Periodontics
- Oral Surgery
- Pedodontics
- Oral Diagnosis and Radiology
- Conservative Dentistry
- Community Dentistry
- Oral Pathology and Microbiology

III. FACULTY OF PHARMACEUTICAL SCIENCES:

All subjects of Pharmaceutical Sciences

IV. FACULTY OF AYURVEDA:

All subjects of Ayurvedic Sciences

V. FACULTY OF NURSING:

All subjects of Nursing Sciences

VI. FACULTY OF PHYSIOTHERAPY:

All subjects of Physiotherapy

**VII. FACULTY OF SCIENCE (Inter-disciplinary Studies / Research)
(Involving Health Sciences) which also includes:**

- Biostatistics, M.Sc., M.Lib., Masters in Physical Education

VIII. BASIC MEDICAL SCIENCES.

**PRE-Ph.D. EXAMINATION
(Based on UGC Guidelines, 2016)**

- i) The candidates admitted to Ph.D. Programme shall have to appear for Pre-Ph.D. examination.
- ii) Pre-Ph.D. examination shall be conducted after one year from the date of registration.
- iii) The Controller of Examinations shall conduct the Pre-Ph.D. examination. The registration of such candidates, who do not pass the Pre-Ph.D. examination in five consecutive attempts from the date of registration, shall be cancelled.
- iv) The Pre-Ph.D. examination for all the faculties shall consist of examination in three theory papers. The first two papers of three hours duration with 100 marks each and biostatistics paper is of two hours with 50 marks. The common paper (Paper I) shall be on the topics covered in the syllabus for orientation programme as described under course work of 300 hours. The paper two shall be on the topics related to the research discipline of the candidate. The biostatistics paper (Paper III) on the topics covered in the syllabus for the orientation programme of 150 hours as described. The syllabi for the papers shall be notified by the Dean and Director Academic Affairs with the approval of Vice-Chancellor. The Examiner appointed by Vice-Chancellor shall set the common paper and special paper and biostatistics paper. The two Examiners appointed by Vice-Chancellor shall evaluate the papers and the average of the two will be taken into consideration.
- v) The minimum pass marks of all the 3 papers shall be 55 %. If the candidate fails in a paper he or she has to appear only in that paper.

Ph.D. ORIENTATION PROGRAMME

PAPER – I (Research & Research Methodology)

Theory: 180 hrs (Credits: 6);

Practicals: 120 hrs (Credits: 2)

1. Introduction to Ph. D Programme: Th: 10hrs

Introduction to the course, course objectives, Open House Discussion, timely submission of Half yearly Reports & Synopsis submission, publication and submission of articles.

National Knowledge Commission, National Assessment and Accreditation Council (NAAC) & University Grant Commission (UGC).

2. Historical Perspectives: Th: 15hrs

Historical narration about conduct of research on human subject, Biblical times, research on vulnerable population, tackling of ethical issues in the past century. Ethical code, Nuremberg code, Helsinki declaration, Belmont principles in conduct of research in human subject.

3. Ethical Issues in Research: Th: 40hrs

Background, general principles on ethical considerations involving human participants, general ethical issues, Ethical Review Committee – need, relevance and working, rules & regulations as applicable in India. Ethical Review Procedures, IRB. Principles for clinical evaluation of drugs/ devices/diagnostics/vaccines/ herbal remedies. Informed Consent Process – Preparing an informed consent for a research project.

4. Approach to Research in Health Science: Th: 16 hrs;Pr: 25hrs

Research protocol development.

Research Methodology – Defining research questions/

Hypothesis, Study designs - cross sectional study, case control study and randomized clinical trials.

Clinical Trials – Introduction, composition, procedures & records, Informed consent, responsibility & rules applicable to investigators and sponsors, reporting of adverse events and other related ethical issues.

5. Grant Writing : Th: 5 hrs; Pr: 8 hrs

Introduction, specific aims, review of literature, measures, methodology, study plan and statistical analysis. Protection of human participants, proposed budget and time line for the proposal. Serious Adverse Effects, Pre-Clinical Research / Translational Research.

Information regarding National /International organizations to avail research grants.

Patents and Intellectual Property Rights.

6. Manuscript Writing: Th: 5 hrs

Writing a scientific manuscript, structured writing and language editing, writing respondents & presentation, impact factor, plagiarism, bibliography, referencing & citations, Good Clinical Practices (GCP) and safety.

Hands-on workshop on writing abstracts and manuscripts.

7. Critical Appraisal of Article Published in Scientific Journal: Th: 6 hrs; Pr: 16 hrs

What is critical appraisal and why critical appraisal, present scenario of scientific publications, methodology of critical appraisal, format for critical appraisal.

8. Thesis Writing: Th: 5 hrs

Introduction to thesis writing, prescribed format for thesis writing, seminar presentations, preparation for Viva-Voce & communication skills.

- 9. Health care delivery systems in India: Th: 8 hrs**
- National Population Policy.
- National Health Policy.
- National Rural Health Mission (NRHM program).
- RCH program.
- Current Health Problems.
- Environment & health related challenges of India.
- Non Communicable Diseases.
- Biomedical waste management.
- Emerging and re-emerging infectious diseases in the world and in India.
- Population explosion causes and its impact.
- 10. Online Certificate Course on “Health Research Fundamentals” by ICMR: Pr: 5 hrs**
- 11. Attending Ph.D. 6-monthly presentations: Th: 50 hrs**
- 12. Visit to Regional Medical Research Centre (RMRC), Belagavi: Pr: 18 hrs**
- 13. Visit to Basic Science Research Centre (BSRC): Pr: 18 hrs**
- 14. Library Hours for Self Study: 50 hrs**

Paper II (Syllabus related to Research Discipline)

Theory: 60 hrs (Credits: 2);

Practicals: 120 hrs (Credits: 2)

- 1. Topics related to research discipline: Th: 60 hrs; Pr: 30 hrs**
- Topics related to the research discipline of the candidate and the research supervisors are required to submit the detailed syllabus to the Office of the Academic Affairs within three months of the registration of the candidate.
- 2. Attending Discipline-related Workshops/CMEs/Seminars/Conferences: Pr: 35 hrs**
- 3. Attending Ph.D. Open House Seminars: Pr: 25 hrs**
- 4. Attending Ph.D. Open Defence Viva: Pr: 30 hrs**

Paper III (Biostatistics)

Theory: 90 hrs (Credits: 3);

Practicals: 60 hrs (Credits: 1)

Basic Statistics:

1. Introduction to Bio-statistics, translating research problem into hypothesis, hypothesis testing, Type I & Type II errors in statistics, checking errors in data and correcting them.
2. Study designs & sample size estimation, sampling techniques, methods in statistical inference, sampling distribution.
3. Types of variables and types of data measurements scales, Data Collection methods & Scrutiny, presentation & organization of data – Tabular / Graphical Form, Analysis of quantitative, qualitative & categorical data.
4. Sampling Designs, Descriptive Statistics - Measures of central tendency & measures of dispersion, Correlation Analysis, Regression Analysis, Probability Theory - Binominal distribution, Poisson distribution, normal distribution, concept of testing of hypothesis.
5. Test of Significance- Parametric tests-Z test, T test, ANOVA and Non Parametric tests- Chi- Square test, Wilcoxon Rank test, Kruskal Wallis test.
6. Devising conclusion from data analysis.
7. Use of computers, statistical software's, data cleaning.

SCHEME OF PRE-Ph.D. Examination

Paper – I: All topics covered in the syllabus for orientation programme as described under course work of 300 hours.

Paper – II: The topics related to the research of the candidate.

Paper – III: Biostatistics: The topics covered in the syllabus for orientation programme as described under course work of 150 hours.

PATTERN OF QUESTION PAPERS

Paper I & II shall be of 3 hours duration with 100 marks each. Both papers shall contain 2 long questions of 20 marks each and 6 questions of 10 marks each. The candidate has to attempt all the questions. **Paper III** shall be of 2 hours duration of 50 marks. The paper shall contain 2 long questions of 10 marks each and 5 short questions of 6 marks each.

The candidate has to score minimum of 55 % marks in each paper for being declared as pass.

Two Examiners appointed by Vice-Chancellor shall evaluate the papers and the average of the two will be taken into consideration.

A Ph.D. scholar has to obtain a minimum of 55% or its equivalent grade in the UGC 7-points scale (or an equivalent grade/CGPA in a point scale wherever grading system is followed) in the course work in order to be eligible to continue the programme and submit the thesis, as depicted in the table below:

Letter Grade and Grade Point equivalent to marks in percentage and performance

Marks Obtained (%)	Grade Point	Grade	Performance
91.00-100.00	10	O	Outstanding
81.00-90.99	9	A+	Excellent
71.00-80.99	8	A	Good
61.00-70.99	7	B	Average
55.00-60.99	6	P	Pass
Less than 55	00	F	Fail
Absent	00	F	Fail

If the candidate fails in a paper, he/she has to re-appear only in that paper.