

## DEPARTMENT OF PHYSIOTHERAPY

PUNJABI UNIVERSITY PATIALA  
(Established under Punjab Act No 35 of 1961)

### Syllabus for Ph. D. Entrance Test for Session 2024-25

#### Section A (Research Methodology)

#### Research Methodology And Biostatistics

##### 1. Research –

Scope, characteristics and types of research

Various Research designs in health sciences: epidemiological research- observational studies (descriptive studies , cross sectional studies ,longitudinal studies ,case study , case control studies , cohort study – retrospective – prospective ) , Experimental design

Types of sampling and its advantages and disadvantages

Literature review: need, importance, steps of performing a good literature review identification of types of literature, search strategy, data base, pubmed, cinhal, pedro primary search – types, Secondary search – data search engine

Tools of Data collection: Schedule, Questionnaire, Interview, content analysis Observation, case study, use of instruments, case study, others

Ethics in research, publication misconduct, databases and research metrics

##### 2. Biostatistics –

- Introduction, origin & development, scope, and functions , central tendencies Mean Median, Mode Measures of dispersion, range, Standard deviation, Standard error, skewness, kurtosis.
- Organization and presentation of data.
- Types of Correlation.
- Parametric non parametric tests

**Section B**  
**(Subject)**

**1. Basic Medical Sciences**

Organization and regulation of motor system, control system of body (Motor and sensory) structure and function of cardio vascular, respiratory and endocrinal system

**2. Applied Basic Sciences**

Basics of radiology with respect to imaging of musculoskeletal system, pathology and pharmacological management of the disorders of Musculoskeletal, Nervous, Cardiovascular and Respiratory systems

**3. Biomechanics**

Principle, methods and role of Biomechanics and kinesiology in Physiotherapy, biomechanics of upper limb, lower limb, spine, gait analysis

**4. Exercise Physiology**

Bioenergetics of exercise, nutrition and metabolism , response of exercise to cardio respiratory system, hormonal response to exercise , acid base balance, exercise in metabolic disorders

**5. Therapeutics**

Principles and methods and advances in exercise therapy, Principles and methods and advances in electrotherapy, Principles, methods and advances in manual therapy, Principles and methods of orthotics and prosthetics

**6. Evaluation**

Principles and methods of examination of Musculoskeletal, Nervous ,Cardiovascular and Respiratory systems, assessment and documentation, disability evaluation, advanced evaluations tools

**7. Treatment Methods**

Physiotherapy management of disorders of Musculoskeletal, Nervous, Cardiovascular and Respiratory systems.