

**Tantia University,
Sri Ganganagar
Ph.D. Entrance Exam Syllabus
Subject: Physiotherapy**

Maximum Marks-100

Part A- 50 (Research Methodology)

Part B- 50 (Subject Wise)

PART-A

Research Methodology and Statistics

- UNIT 1: Meaning of Research
 Aims, nature and scope of research
 Prerequisites of research
- UNIT 2: Research Problem
 Meaning of research problem Sources of research problem
 Characteristics of a good research problem
 Hypothesis: Meaning and types of hypothesis. Research proposal or
 synopsis.
- UNIT 3: Types and Methods of Research
 Classification of Research
 Pure and Applied Research
 Exploring or Formulative Research
 Descriptive Research
 Diagnostic Research/Study
 Evaluation Research/Studies
 Action Research
 Experimental Research
 Historical Research
 Surveys
 Case Study
 Field Studies
- Unit 4: Review of Related Literature
 Purpose of the review. Identification of the related literature.
 Organizing the related literature.
- UNIT 5: Data Collection (Sampling) Sampling and Population Techniques of
 sampling Selection Characteristics of a good sample Types of data.
- UNIT 6: Tools of Data Collection
 Observation, Interview, Questionnaire, Rating scales, Attitude scales,
 Schedules, Characteristics of good research tools.
- UNIT 7: Statistics
 Concept of statistics, relevance in education, parametric and non-
 parametric data; graphical representation of data: histogram, frequency

polygon, ogive and pie chart; Measures of Central Tendency: concept, computation and interpretation; measures of variability: concept, computation and interpretation; normal probability curve: concept, application and interpretation.

Correlation: concept, computation and interpretation- Product Moment, Rank Order, Biserial, Point Biserial, Phi, Contingency, Tetrachoric; significance of mean: concept, computation and interpretation of significance of t-test(correlated and uncorrelated, matched, paired-unpaired, matching- paired); ANOVA(One way) :concept, computation and interpretation, regression and prediction; chi square: concept, computation and interpretation (equal and normal probability).

UNIT 8: Research Report

Format of the research report Style of writing the report References and bibliography

Reference books:

1. Best John W. and James Kahn, V., 1989, Research in Education, Sixth Edition, Prentice- Hall of India Pvt.Ltd, New Delhi.
2. Sharma R.A., 1992, Fundamentals of Educational Research, Loyal Book Depot, Meerut, UP, India.
3. Kulbir Singh Sidhu, 1990, Methodology of Research in Education, Sterling Publishers Pvt. Ltd., New Delhi.
4. Lokesh Koul, 1997 Methodology of educational Research, third edition, Vikas Publishing House Pvt. Ltd. , New Delhi.
5. Kothari C.R., 1990, Research Methodology Methods and Techniques, Wiley Eastern Limited, New Delhi.
6. Borg Walter R., Gall Meridith D., 1983, Educational Research an Introduction, Fourth Edition, Longaman, New York &London.
7. Nitko Anthony J., 1983, Educational Tests and Measurement an Introduction, Harcourt Brace Jovanovich, Inc., New York.
8. Aggarwal Y.P., 1988, Statistical Methods Sterling Publishers Pvt. Ltd., New Delhi.
9. Garret Hnery E., 1985 Statistics in Psychology and Education, Viakils, Feffer and Simon, Bombay.
10. Guilford, J.P., and Benjamin Fruchter, 1982 Fundamentals of statistics in Psychology and Education, Fifth edition, Mc Graw-Hill Book Company, New York.
11. Gupta S.C. and Kapoor V.K., 1999, Fundamentals of Mathematical Statistics, Sultan

- Chand & Sons Educational Publishers, New Delhi.
12. Grewal P.S., Methods of Statistics Analysis, Sterling Publishers Pvt. Ltd., New Delhi.
13. Bruce W. Tuckman, Statistics in Psychology and Education.

Part-B

Physiotherapy

1. Physiotherapy Management of cervical & thoracic spine disorders.
2. Physiotherapy Management of conditions affecting shoulder, elbow, hip, knee, ankle & foot.
3. Physiotherapy Management of spinal fractures, pelvic fractures & spinal cord injury.
4. Upper & Lower limb injuries & PT management
5. Clinical reasoning and differential clinical diagnosis based on different approaches such as
Maitland, Cyriax, Kalten borne, Mulligan, Mckenzie, Myofascial release.
6. Soft tissue approach - myofascial technique, neutral tissue mobilisation, muscle energy methods.
7. Burn and Physiotherapy management
8. Classification of hand injuries. Principles & methods of hand rehabilitation.
9. Neuro Anatomy & Neuro Physiology
10. Principles of Assessment & Motor control theories
11. Neural control of locomotion
12. Neurophysiological approaches
13. Spinal cord injuries- complications, consequences, SCI in children & adult rehabilitation including sports rehab.
14. Various treatment approaches for medical and surgical management
15. Principles of Geriatric Rehabilitation
16. Stroke, Parkinson's disease & its PT management.
17. Movement Disorder.
18. Sensory evaluation and treatment.
19. Motor control evaluation and treatment
20. Traumatic head injury

21. Peripheral nerve lesion
22. Lesions of central nervous system
23. Cardio-thoracic applied anatomy
24. Respiratory and cardio vascular physiology
25. Mechanics of ventilation
26. ECG, exercise ECG testing, Echo, PFT and ABG analysis etc.
27. Chest Physiotherapy techniques.
28. Cardio pulmonary Rehabilitation
29. Exercise physiology compared with abnormal exercise physiology
30. Common pulmonary diseases, including assessment and management
31. Detail study of various conditions (obstructive, restrictive, surgical conditions) patient intervention.
32. Respiratory muscle training
33. Fitness, definition, aspects and parameters for testing.
34. Scientific basis for exercise programs
35. Stress modifications by exercise
36. Traumatic brain injury
37. Down's syndrome
38. Cerebral Palsy
39. Spina bifida
40. Anterior Poliomyelitis & post-Polio syndrome
41. Muscular Dystrophy
42. Hydrocephalus
43. Infections of CNS – Bacterial & Viral infections
44. Infantile Hemiplegia.
45. Describe the various congenital and acquired orthopaedic problems in children and its medical, surgical & PT management.
46. Describe the various congenital and acquired cardiac diseases in children and its medical, surgical & PT management.
47. Describe the various respiratory problems and its medical, surgical & PT management.
48. Bobath approach
49. Motor relearning program
50. Vojta approach

51. Analysis of movement of sports injuries in upper limb
52. Concepts of motor control, clinical assessment and diagnosis of injury management.
53. Injuries of the patella
54. Hip & Knee Rehabilitation
55. Injuries to the running athlete
56. Specific physiotherapy for injuries including manual therapy and exercise for
57. rehabilitation.
58. Exercise in clinical practice
59. Exercise physiology and prevention of athletic injuries
60. Injury rehabilitation - goals, types of exercise and special forms of exercises

61. Special groups: Physiotherapy management for female, disabled, younger & older athlete
62. Trigger point release.
63. Anatomy & Physiology of female reproductive system.
64. Gynecological infections.
65. Pelvic inflammatory diseases.
66. Infertility.
67. Contraception and family planning Physiology of urinary and faecal continence.
68. Gynecological surgeries
69. Types of Prolapse.
70. Menopause and osteoporosis.
71. Laparoscopy and laser surgeries in Gynaecological condition.
72. Incontinence scales.
73. Gynaecologic problems in Female athletes
74. . Musculoskeletal changes during Pregnancy.
75. Common complication and discomforts during Pregnancy.
76. Stages and mechanism of labour.
77. Complication in labour.
78. Physiotherapy management of edema in Pregnancy.
79. Physiotherapy management of GDM, High risk Pregnancy
80. Management of common problem in Antenatal period.