

MANIPAL ACADEMY OF HIGHER EDUCATION**MASTER OF PHYSIOTHERAPY (MPT) – PART I DEGREE EXAMINATION – MAY 2018****SUBJECT: RESEARCH METHODOLOGY****(2013 REGULATION)**

Tuesday, May 29, 2018

Time: 10:00 – 13:00 Hrs.

Maximum Marks: 100

✍ **Answer ALL The questions.**

- 1A. Describe stratified random sampling and how it is different from cluster sampling?
 1B. What do you mean by sampling error and how it can be reduced?
 1C. A team of medico research experts feels that a new drug they have developed will cure about 80% of the patients. How large should be the sample size required for the study so that the research team be 95% certain that the margin of error is within plus or minus 2%?
 (6+3+6 = 15 marks)

- 2A. Discuss binomial distribution with an example.
 2B. State the properties of normal distribution with the help of a diagram.
 (4+6 = 10 marks)

- 3A. Mention in detail about the various steps involved in research process.
 3B. Distinguish between reliability and validity of a diagnostic tool.
 (10+5 = 15 marks)

- 4A. Six young recruits were put through a strenuous physical training program for one month by the army. Their weights (in kg.) before and after the training are given below.

Recruits	1	2	3	4	5	6
Weight Before	67	60	70	75	68	79
Weight after	63	60	71	70	65	76

At 5% level of significance, test whether the training program is effective in reducing the weights. (Table value at 5% level of significance and for appropriate degrees of freedom is 2.015).

- 4B. Write the merits and demerits of non-parametric tests.
 (6+4 = 10 marks)

- 5A. Define Cohort Study. Describe steps involved in a cohort study.
 5B. Write the advantages and disadvantages of case control study.
 (10+5 = 15 marks)

6. Write short essays on:

- 6A. Correlation & Regression
 6B. Blinding in Randomised control trials
 6C. Type I & II errors
 6D. Confidence interval for mean
 6E. Chisquare test
 6F. Systematic reviews
 6G. Measures of dispersion

(5 marks × 7 = 35 marks)



MANIPAL ACADEMY OF HIGHER EDUCATION**MASTER OF PHYSIOTHERAPY (MPT) – PART-I DEGREE EXAMINATION – MAY 2018****SUBJECT: THEORETICAL BASIS & PRINCIPLES OF PRACTICE IN PHYSIOTHERAPY
(2013 REGULATION)**

Thursday, May 31, 2018

Time: 10:00 – 13:00 Hrs.

Maximum Marks: 100

✍ Answer ALL the questions.

1. Discuss the biomechanics of the Lumbo-Pelvic complex.
(20 marks)
2. Discuss the acute and chronic changes that take place following exercise to the:
2A. Cardiopulmonary system
2B. Musculoskeletal system
(10+10 = 20 marks)
3. Discuss the principles of Motor relearning application in Neuro Rehabilitation.
(20 marks)
4. Discuss the levels of Lower Extremity Amputation. Add a note on the various prosthesis options available for Lower Extremity Amputation.
(20 marks)
5. **Short note on:**
 - 5A. Glasgow Coma Scale (GCS).
 - 5B. Techniques of Proprioceptive Neuromuscular Facilitation (PNF).
 - 5C. Scapulohumeral Rhythm.
 - 5D. Fibrillation and Fasciculation potentials.
(5 marks × 4 = 20 marks)

