

MANIPAL UNIVERSITY**MASTER OF PHYSIOTHERAPY (MPT) – PART I DEGREE EXAMINATION – JUNE 2014****SUBJECT: RESEARCH METHODOLOGY**

Tuesday, June 03, 2014

Time: 10:00 – 13:00 Hrs.

Maximum Marks: 100

1. With the help of examples briefly explain various scales of measurements. What do you mean by central tendency? Define the various measures of central tendency.
(5+2+3 = 10 marks)
2. Explain stratified and systematic random sampling methods.
(10 marks)
- 3A. Enumerate the properties of standard normal variable.
- 3B. How do you interpret the 99% confidence interval for difference in two population means? Write the lower and upper limits of this interval.
(5+5 = 10 marks)
4. Eight diabetic patients had plasma glucose levels (mmol) measured before and one hour after oral administration of 100 g glucose. The mean change in the glucose level was observed to be 2.5 mmol/l with a standard deviation of 4.4 mmol/l.
 - 4A. Name the statistical test used for testing whether there is any significant change in glucose level.
 - 4B. Calculate the test statistic value.
 - 4C. State the null and alternate hypothesis.
 - 4D. Write the assumptions for this test.
 - 4E. How do you take a decision about the acceptance or rejection of null hypothesis.
(1+3+2+2+2 = 10 marks)
- 5A. With the help of an example explain how do you perform a Chi square test.
- 5B. Write a short note on logistic regression.
(10+5 = 15 marks)
- 6A. Discuss correlation and regression.
- 6B. Briefly explain block randomization with an example.
(10+5 = 15 marks)
- 7A. Explain cohort study under the headings design, analysis, merits and demerits.
- 7B. Write a short note on cross sectional study designs.
(10+5 = 15 marks)

- 8A. Explain the review of literature in a protocol. Discuss the basic differences between a research protocol and research thesis.
- 8B. Calculate sensitivity, specificity, positive predictive value and negative predictive value for the following data:

Relation between results of liver scan and diagnosis in 344 patients.

Liver scan	Pathology		Total
	Abnormal (+)	Normal (-)	
Abnormal (+)	231	32	263
Normal (-)	27	54	81
Total	258	86	344

(10+5 = 15 marks)



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MANIPAL UNIVERSITY

MASTER OF PHYSIOTHERAPY (MPT) – PART-I DEGREE EXAMINATION – JUNE 2014

SUBJECT: THEORETICAL BASIS & PRINCIPLES OF PRACTICE IN PHYSIOTHERAPY

Thursday, June 05, 2014

Time: 10:00 – 13:00 Hrs.

Maximum Marks: 100

✍ **Answer ALL questions.**

1. Explain the guidelines for rehabilitation of patients with pulmonary disorders. (20 marks)
2. Explain the role of thermal agents used in Physiotherapy with their rationale. (20 marks)
3. Explain in detail about the models of disability rehabilitation. Add a note on the ideal model for the same. (15+5 = 20 marks)
4. Explain the theoretical concepts of any FOUR neurological approaches in the treatment of stroke patients. (5 marks × 4 = 20 marks)
5. Explain the role of physiotherapist in the management of prenatal and postnatal complications. (20 marks)

