MANIPAL UNIVERSITY

MASTER OF PHYSIOTHERAPY (MPT) – PART-I DEGREE EXAMINATION – MAY 2012
SUBJECT: RESEARCH METHODOLOGY

Tuesday, May 29, 2012

Time: 10:00 – 13:00 Hrs.   Maximum Marks: 100

✍ **Answer ALL questions.**

1. Explain different phases in research process.

(10 marks)

2. Define probability and non-probability sampling. Briefly explain any two non-probability sampling methods.

(4+6 = 10 marks)

3. Discuss skewness and kurtosis with help of diagrams.

(10 marks)

4. Explain independent t test and paired t test.

(10 marks)

5. A vaccine trial of measles vaccine was conducted in Udupi district in the year 2005. It was found that in 342 children who received the vaccine, 11 suffered from measles whereas in 256 children who were not vaccinated 32 suffered from the disease. Perform a Chi square test at 5% level of significance (los) to see whether the vaccine is effective.

($\chi^2_{(1)}$ at 5% los=3.84)

(10 marks)

6A. Discuss case series study design.

6B. You want to evaluate the use of creatine kinase (CK) as a diagnostic test for acute myocardial infarction (AMI). This test was drawn on 500 consecutive patients admitted to the intensive care unit with suspected AMI. A CK level of 80 IU was selected as normal. Each person was also diagnosed by a team of expert cardiologists who didn't know the results of the CK determination. The results are summarized below:

CK result	AMI	
	Present	Absent
Positive	275	50
Negative	25	150

Find the sensitivity, specificity, positive predictive value and negative predictive value for the above data.

(5+5 = 10 marks)

7. Explain the structure of research thesis .

(10 marks)

8. With the help of an example explain how do you conduct a cohort study and enumerate the strength and weakness of this study deign.

(15 marks)

9. **Write short notes on:**

9A. Kaplan-Meier method

9B. Minimum sample size required for comparing two means

9C. Correlation

(5×3 = 15 marks)

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MANIPAL UNIVERSITY

MASTER OF PHYSIOTHERAPY (MPT) – PART-I DEGREE EXAMINATION – MAY 2012

SUBJECT: THEORETICAL BASIS & PRINCIPLES OF PRACTICE IN PHYSIOTHERAPY

Thursday, May 31, 2012

Time: 10:00 – 13:00 Hrs.   Maximum Marks: 100

✍ **Answer ALL questions.**

1. Discuss Neuro Developmental Treatment and Roods approach.

(10+10 = 20 marks)

2. Discuss physiotherapy management following above knee amputation. Add a note on different types of prosthesis for above knee amputation.

(12+8 = 20 marks)

3. Discuss sub-maximal exercise testing.

(20 marks)

4. Discuss different component of gait evaluation. Add a note on posture and gait in Parkinson disease.

(12+8 = 20 marks)

5. **Write short notes on:**

5A. Objectives of "Persons with disability act"
5B. Scales for assessment of level of consciousness
5C. Assessment of balance in adult hemiplegic patient
5D. Effect of exercise training on cardiopulmonary system

(5×4 = 20 marks)

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MANIPAL UNIVERSITY

MASTER OF PHYSIOTHERAPY (MPT) – PART-I DEGREE EXAMINATION – JUNE 2011
SUBJECT: RESEARCH METHODOLOGY

Tuesday, June 07, 2011

Time: 10:00 – 13:00 Hrs.   Maximum Marks: 100

✍ **Answer ALL questions.**

1.   **Write short notes on:**

1A.   Different scales of measurement

1B.   Cluster Sampling

1C.   Skewness and Kurtosis

1D.   Application of Biostatistics in health science research

1E.   Correlation

1F.   Validity of diagnostic tests

1G.   Logistic Regression

1H.   Prevalence and incidence

(5×8 = 40 marks)

2.   The following table gives the results of neomycin prophylaxis in cross infection of burns during first 14 days.

Dressing with	Staphylococcal infection		Total
	Acquired	Not acquired	
Penicillin cream + neomycin	7	28	35
Penicillin cream alone	18	12	30
Total	25	40	65

Does the dressing significantly associated with Staphylococcal infection? Use appropriate test stating necessary assumptions? (Chi-square = 3.84)

(8+2 = 10 marks)

3A.   Briefly write a short note on Systematic reviews and Meta analysis.

3B.   Describe the format of research article according to uniform requirements of articles submitted to bio-medical journals.

(5+5 = 10 marks)

4.   Describe Cohort Study with its merits and demerits.

(15 marks)

5. Discuss independent and paired t tests.

(10 marks)

6. List the advantages of probability sampling.

(5 marks)

7. Two researches have studied various heart abnormalities that occur in male athletes. One characteristic studied was left ventricular end diastolic volume for runners and non runners. The data is summarized in the following table

Samples	Size	Mean	SD
Runners	15	160.1	33.1
Non-runners	16	100.8	17.6

Construct a 95% Confidence interval for difference in mean diastolic volume among runners and non runners.

(5 marks)

8. Enumerate the requirements for sample size determination for estimating mean of a population.

(5 marks)

MANIPAL UNIVERSITY

MASTER OF PHYSIOTHERAPY (MPT) – PART-I DEGREE EXAMINATION – JUNE 2011
SUBJECT: THEORETICAL BASIS & PRINCIPLES OF PRACTICE IN PHYSIOTHERAPY

Thursday, June 09, 2011

Time: 10:00 – 13:00 Hrs.   Maximum Marks: 100

✍ **Answer ALL questions.**

✍ **All questions carry equal marks.**

1. Describe the biomechanical basis of rotator cuff function during overhead throwing activity.

2. Discuss how the lack of a regulatory body places greater responsibility on the Physiotherapy in India to practice ethically and practice with evidence.

3. Describe strategies to improve head control in a child with developmental delay. Base your discussion on developmental theory.

4. Describe the cardiac cycle.

5. What are barriers and facilitators? Elucidate with the example of a child with polio, non ambulatory, living in a village with no road accessibility.