

MANIPAL ACADEMY OF HIGHER EDUCATION
FIRST YEAR M.O.T. DEGREE EXAMINATION – MAY/JUNE 2018
SUBJECT: PAPER – II: OCCUPATIONAL THERAPY: KNOWLEDGE BASE

Saturday, June 02, 2018

Time: 10:00 – 13:00 Hrs.

Maximum Marks: 80

✍ **Answer ALL the questions.**

✍ **Draw diagram wherever necessary.**

✍ **Long Questions:**

1. Describe Reflex Theory and Hierarchical Theory of motor control. Discuss the advantages and disadvantages of the same in clinical applications.

(10+10 = 20 marks)

2. Describe the tracts of extrapyramidal system with illustration and specify one important function of each.

(10+10 = 20 marks)

3. Discuss the methods of exercise testing. Explain the process of exercise prescription for obstructive pulmonary disease and highlight the significance of aerobic training.

(10+5+5 = 20 marks)

4. **Short Notes:**

4A. Explain composition and resolution of forces. Give suitable examples to explain its application in the human body.

4B. Describe the excitation – contraction coupling mechanism of muscle contraction.

((4+6)+10 = 20 marks)



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MANIPAL ACADEMY OF HIGHER EDUCATION
FIRST YEAR M.O.T. DEGREE EXAMINATION – MAY/JUNE 2018
SUBJECT: PAPER – III: ASSESSMENTS IN OCCUPATIONAL THERAPY

Tuesday, June 05, 2018

Time: 10:00 – 13:00 Hrs.

Maximum Marks: 80

✍ **Answer ALL the questions.**

✍ **Long questions:**

1. Discuss the factors to consider the selection of an assessment tool to measure quality of life. Describe the challenges involved in the analysis and interpretation of these tools.

(10+10 = 20 marks)

2. Discuss the strengths and limitation of Barthel index as a measure of ADL with respect to the test construction and psychometric properties of the scale development.

(20 marks)

3. Describe the guidelines to estimate permanent physical impairment and process to calculate percentage of permanent physical impairment in lower limb amputation.

(8+12 = 20 marks)

4. **Short Notes:**

4A. Describe the process of construction of a standardized test.

4B. Describe guidelines and parameters for evaluation of play and leisure.

(10+10 = 20 marks)



MANIPAL ACADEMY OF HIGHER EDUCATION
FIRST YEAR M.O.T. DEGREE EXAMINATION – MAY/JUNE 2018
SUBJECT: PAPER – IV: OCCUPATIONAL THERAPY: TOOLS FOR PRACTICE

Thursday, June 07, 2018

Time: 10:00 – 13:00 Hrs.

Maximum Marks: 80

✍ **Answer ALL questions.**

✍ **Long questions:**

1. Describe play and leisure as a function of time and context. Discuss the conceptual basis for planning intervention to play and leisure in occupational therapy.

(8+12 = 20 marks)

2. Briefly describe the physiological basis of EMG output signal of a biofeedback instrument. What will cause artifact to appear in the processed signal. Describe the use of superficial biofeedback to decrease spasticity.

(6+6+8 = 20 marks)

3. Discuss two models of assistive technology application in occupational therapy. Describe the possible roles for occupational therapists related to assistive technology application.

(8+12 = 20 marks)

4. **Short notes:**

- 4A. Compare CBR with Institution based rehabilitation (IBR).

- 4B. Describe the physiological responses to electrical stimulation on nerves and muscles. Describe two techniques and their rationales for using electrical stimulation for pain modulation.

(10+10 = 20 marks)



MANIPAL ACADEMY OF HIGHER EDUCATION

FRIST YEAR MSC. RT / MOPT/MSc. ECG/MSc. CCIT/ MSc. NMT/ MSc. MLT/ MOT/ MSc. RRT & DT/ MASLP

SECOND SEMESTER M.Sc. MRP/MSc. EXERCISE AND SPORTS SCIENCE / M.Sc. MIT/ M.Sc. HIM/M.Sc. CLINICAL PSYCHOLOGY
DEGREE EXAMINATION – MAY/JUNE 2018**SUBJECT: ADVANCED BIOSTATISTICS & RESEARCH METHODOLOGY / PAPER IV: RESEARCH
METHODOLOGY & BIOSTATISTICS / PAPER IV: EPIDEMIOLOGY & BIOSTATISTICS/ PAPER IV:
ADVANCED BIOSTATISTICS & RESEARCH METHODOLOGY / BIOSTATISTICS / ADVANCED
BIOSTATISTICS & RESEARCH METHODOLOGY/ ADVANCED BIOSTATISTICS & RESEARCH
METHODOLOGY/ STATISTICS & RESEARCH METHODS/RESEARCH METHODOLOGY &
BIOSTATISTICS / BIOSTATISTICS/ EPIDEMIOLOGY & BIOSTATISTICS / ADVANCED
BIOSTATISTICS & RESEARCH METHODOLOGY**

Tuesday, May 29, 2018

Time: 10:00 – 13:00 Hrs.

Max. Marks: 80

Answer ALL the questions.

- 1A. Define mean, median, mode, standard deviation and coefficient of variation.
- 1B. What do you mean by simple random sampling? Explain lottery method in simple random sampling with the help of an example.
- (5+5 = 10 marks)
- 2A. Write two examples of Poisson random variable. Enumerate the properties of Poisson distribution.
- 2B. Define sampling distribution, standard error and confidence interval. Write two applications of standard error in inferential statistics.
- (5+5 = 10 marks)
- 3A. Briefly explain the steps involved in one way ANOVA.
- 3B. A research team wants to know the prevalence of anaemia among primary school going children in a rural area in southern India. A previous study conducted few years before in the same population showed that the prevalence of anaemia among primary school children was 15%. What is the minimum sample size required if absolute precision (margin of error) is 3% and confidence level of 95%?
- (5+5 = 10 marks)
4. Explain the structure of a research thesis.
- (10 marks)
5. A sample of 160 women between 75 and 80 years old were classified into one of two groups based on whether they took Vitamin E supplements at the time of enrolment. Each woman was subsequently given a test to measure cognitive ability. Higher scores on this test indicate better cognition. The average test score amongst 60 women taking vitamin E was 27 with standard

deviation of 6.9 as compared to a mean score of 24 with a standard deviation of 6.2 among 100 women not taking the supplements. The research team wants to know whether the mean scores differ significantly between the two groups.

- i) Name the statistical test used for comparing the mean scores between the two groups.
- ii) What are the assumptions for this test?
- iii) State the null and alternate hypothesis for this test?
- iv) Compute the test statistic for this test.
- v) State whether the test is one sided or two sided test. Justify your answer.

(1+2+2+4+1 = 10 marks)

6. Explain the design, measure of strength of association, strength and weakness of cohort study design.

(10 marks)

7. **Write short notes on:**

- 7A. Wilcoxon signed rank test
- 7B. Cross sectional study design
- 7C. Logistic regression
- 7D. Validity of diagnostic tests

(5 marks × 4 = 20 marks)



MANIPAL ACADEMY OF HIGHER EDUCATION
FIRST YEAR M.O.T. DEGREE EXAMINATION – MAY/JUNE 2018
SUBJECT: PAPER – I: OCCUPATIONAL THERAPY: PHILOSOPHY AND
THEORETICAL FOUNDATIONS

Thursday, May 31, 2018

Time: 10:00 – 13:00 Hrs.

Maximum Marks: 80

✍ **Answer ALL the questions.**

✍ **Long Questions.**

1. Explain the assumptions of the Rehabilitation Frame of Reference and enumerate the function-dysfunction continua. Explain in detail work evaluations.

(10+10 = 20 marks)

2. Explain the theoretical assumptions of the Cognitive-Behavioral Frame of Reference. Discuss in detail evaluation using this frame of reference.

(10+10 = 20 marks)

3. Explain the function-dysfunction continua of the Sensory Integration Frame of Reference. Discuss the assessment and intervention using this approach.

(6+14 = 20 marks)

4. **Short notes.**

4A. Neurodevelopmental evaluation of automatic reactions.

4B. Assumptions about human beings in Occupational Therapy.

(10+10 = 20 marks)

