Reg. No. | | | | | | | | | |

MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD YEAR B.Sc. R.R.T. & D.T./ B.Sc. M.R.T/B.Sc. R.T./B.Sc. C.V.T
FOURTH YEAR B.O.T./B.P.T. DEGREE EXAMINATION – JUNE 2018

SUBJECT: BIOSTATISTICS & RESEARCH METHODOLOGY/RESEARCH METHODOLOGY & STATISTICS/BASIC BIOSTATISTICS & RESEARCH METHODOLOGY/RESEARCH METHODOLOGY AND BIOSTATISTICS / BIOSTATISTICS & RESEARCH METHODOLOGY

Friday, June 01, 2018

Time: 10:00-13:00 Hrs.   Max. Marks: 80

✍ **Answer ALL the questions.**

1. Define statistics and enumerate its applications in health sciences.

(5 marks)

2. Form a frequency table along with relative frequencies for the ages of 40 patients given below. (Class intervals: $0 - 15$, $15 - 30$, $30 - 45$, so on)

57	37	43	43	30	39	53	47	64	31
40	22	40	29	15	65	39	43	54	40
24	46	17	38	50	30	34	25	36	39
36	62	30	07	47	32	36	42	42	47

(5 marks)

3. Define discrete and continuous variables with examples.

(4 marks)

4. **State true or false:**
4A. Mode may or may not exist.
4B. Standard normal curve is either leptokurtic or platykurtic.

(2 marks)

5. Construct a bar diagram for the following data on socioeconomic status of 120 HIV infected subjects.

Socioeconomic Status	No. of subjects
High	55
Middle	25
Low	40

(4 marks)

6. Erythrocyte Sedimentation Rate (ESR) readings (in mm) of 10 tuberculosis patients are given below. Calculate coefficient of variation.
11   9   8   14   10   8   7   12   8   9

(10 marks)

7. Obtain median and interquartile range for the data regarding number of post operative days until diagnosis of infection for each subject experiencing an infection.
7   4   15   8   16   14   8   9   12   11

(8 marks)

8. **Define the following:**

8A. Crude death rate

8B. Total fertility rate

8C. Maternal mortality rate

(2 marks × 3 = 6 marks)

9. Given the weight of new born babies is approximately normally distributed with a mean of 3000 gms and a standard deviation of 300 gms, obtain the proportion of new born babies with weight

9A. More than 3300 gms

9B. Between 3000 and 3600 gms

(3 marks × 2 = 6 marks)

10. **Write short notes on:**

10A. Scatter diagram

10B. Probability sampling

10C. Case series study

10D. Health information system

10E. Disease registries

10F. Scales of measurement

(5 marks × 6 = 30 marks)

MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH YEAR B.P.T. DEGREE EXAMINATION – JUNE 2018

SUBJECT: MEDICINE
(2011 REGULATION)

Monday, June 04, 2018

Time: 10:00 – 13:00 Hrs   Maximum Marks: 80

✍ **Answer any THREE of the following:**

1. What are the types of myocardial infarction? Discuss the clinical features, complications, investigations and treatment of myocardial infarction.

2. Discuss the etiology, clinical manifestations and management of acute respiratory distress syndrome.

3. Mention the types of snake bite. Discuss the clinical features and management of snake bite.

4. Discuss the etiology, clinical features, investigations and management of acute renal failure.

(15 marks × 3 = 45 marks)

5. **Answer all the following questions:**

5A. Iron deficiency anemia

5B. Management of mercury spillage

5C. Obesity

5D. Types of Lymphedema and its clinical features

5E. Clinical features of congestive heart failure

5F. Mention the causes of Type 1 & 2 respiratory failure.

5G. Complications of diabetes mellitus

(5 marks × 7 = 35 marks)

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MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH YEAR B.P.T. DEGREE EXAMINATION – JUNE 2018

SUBJECT: SURGERY
(2011 REGULATION)

Wednesday, June 06, 2018

Time: 10:00 –13:00 Hrs. Maximum Marks: 80

✍ **Answer Section "A" and Section "B" in TWO separate answer books.**

SECTION A: CARDIOVASCULAR AND THORACIC SURGERY (40 MARKS)

1. Describe the management of blunt chest trauma. Add a note on ICD care.

    (10 marks)

2. Describe the anatomy of coronary circulation. Add a note on etiopathogenesis of coronary artery diseases.

    (10 marks)

3. **Write short notes on any TWO:**

3A. Write a short note on congenital diaphragmatic hernia.

3B. Discuss surgical management of Peripheral vascular disease.

3C. Write a short note on cardio pulmonary bypass.

    (10 marks × 2 = 20 marks)

SECTION B: GENERAL SURGERY (40 MARKS)

1. Classify Burns. Describe the pathophysiology and management of burns.

    (10 marks)

2. Classify surgical wounds. Describe the etiopathogenesis and principles of treatment of pressure sore.

    (10 marks)

3. **Write short notes on any FOUR:**

3A. Write a short note on colostomy care.

3B. Define SIRS (Systemic Inflammatory Response Syndrome). Enumerate various types of shock.

3C. Describe post-operative cardiovascular complications.

3D. Describe various types of abdominal incisions.

3E. Write a short note on rectal prolapse.

    (5 marks × 4 = 20 marks)

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MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH YEAR B.P.T. DEGREE EXAMINATION – JUNE 2018

SUBJECT: COMMUNITY PHYSIOTHERAPY
(2011 REGULATION)

Friday, June 08, 2018

Time: 10:00-13:00 Hrs   Maximum Marks: 80

✍ **Answer ALL questions.**

1. **Essay questions:**

1A. What are the physiological changes that occur with aging? What are the implications of those to a physiotherapist?

(7+3 = 10 marks)

1B. Define CBR. What are the differences between IBR and CBR? What are the challenges to CBR in India?

(2+5+3 = 10 marks)

2. **Write short notes on:**

2A. Principles of Antenatal exercises

2B. Types of Barriers

2C. Risk factors for WRMSDs

2D. Home programme guidelines

2E. Theories of aging

2F. Advice on handling a child with osteogenesis imperfect

2G. Role of exercises in osteoporosis

2H. CBR program evaluation

(5 marks × 8 = 40 marks)

3. **Write brief answers on:**

3A. Role of village health worker

3B. What is inclusive society?

3C. List any two sociocultural barriers to integrating the disabled into the society.

3D. Enumerate the features of PWD act.

3E. What is ICF?

3F. List out the participation restriction for a 30 year old L1 paraplegic.

3G. List any two successful public health program of Government of India.

3H. What is an accessible environment?

3I. Who are the members of a CBR team?

3J. Draw a diagram to depict the relationship of the CBR team and the disabled individual.

(2 marks × 10 = 20 marks)

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MANIPAL ACADEMY OF HIGHER EDUCATION
FOURTH YEAR B.P.T. DEGREE EXAMINATION – JUNE 2018
SUBJECT: PHYSIOTHERAPY IN CARDIOPULMONARY AND GENERAL CONDITIONS
(2011 REGULATION)

Monday, June 11, 2018

Time: 10:00-13:00 Hrs   Maximum Marks: 80

✍ **Answer ALL questions.**

1.   **Essay questions:**

1A.   Discuss the physiological changes and complications associated with mechanical ventilation. Add a note on role of physiotherapist for a patient on mechanical ventilator.

1B.   Describe the clinical features, physiotherapy treatment and pulmonary rehabilitation for a patient with bronchiectasis.

(10 marks × 2 = 20 marks)

2.   **Write short notes on:**

2A.   Illustrate abdominal surgery incisions

2B.   Phase one Post-CABG cardiac rehabilitation protocol

2C.   Anatomical differences in pediatric respiratory system

2D.   Physiotherapy treatment of lymphedema

2E.   Principle and effects of incentive spirometry

2F.   Post-operative physiotherapy treatment of lobectomy

2G.   Methods of administration and complications of oxygen therapy

2H.   Illustrate Wallace rule of nine for severity of burns

(5 marks × 8 = 40 marks)

3.   **Write brief answers on:**

3A.   Classify Peripheral Vascular Diseases.

3B.   Mention any four modes of mechanical ventilator.

3C.   Mention any four complications of radiation therapy.

3D.   Mention the effects of any two electrotherapeutic modalities used in treatment of wounds.

3E.   Define Cardiac Rehabilitation.

3F.   Mention any two pulmonary function test changes in obstructive lung conditions.

3G.   Mention the indications for Six minute walk test.

3H.   Describe Active Cycle of Breathing Technique.

3I.   What is Equal Pressure Point theory?

3J.   Mention the accessory muscles of respiration.

(2 marks × 10 = 20 marks)

MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH YEAR B.P.T. DEGREE EXAMINATION – JUNE 2018

SUBJECT: EXERCISE PHYSIOLOGY
(2011 REGULATION)

Wednesday, June 13, 2018

Time: 10:00-11.30 Hrs   Maximum Marks: 40

✍   **Answer ALL questions.**

✍   **Essay question:**

1.   Rationale for exercise based interventions in diabetes mellitus. Briefly outline an exercise based intervention program for a middle aged male with type II diabetes mellitus.

(6+4 = 10 marks)

2.   **Write short notes on:**

2A.   Blood doping

2B.   Mention the endocrinological adaptations to acute exercise

2C.   Metabolic adaptations to endurance training

2D.   Bruce protocol

(5 marks × 4 = 20 marks)

3.   **Write brief answers on:**

3A.   Define strength.

3B.   Mention four functions of vitamins in the body.

3C.   What is ventilator threshold?

3D.   Define metabolic equivalents (MET).

3E.   Mention the types of muscle fibre.

(2 marks × 5 = 10 marks)

MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH YEAR B.P.T. DEGREE EXAMINATION – JUNE 2018

SUBJECT: ELECTRODIAGNOSIS
(2011 REGULATION)

Friday, June 15, 2018

Time: 10:00-11.30 Hrs   Maximum Marks: 40

✍ **Answer ALL questions.**

✍ **Essay Question:**

1. Explain in detail the instrumentation of the ENMG.

(10 marks)

2. **Write short notes on:**

2A. Stages of signal processing for EMG Biofeedback.

2B. F-wave and its clinical importance.

2C. Procedure for right ulnar motor nerve conduction study.

2D. Brainstem Auditory evoke potential studies and its clinical implications.

(5 marks × 4 = 20 marks)

3. **Write brief answers on:**

3A. Define MUP.

3B. Indications of H-reflex studies.

3C. Name two normal potentials seen at rest.

3D. Mention the normal distal latency values for ulnar and median sensory nerve conduction study.

3E. Name any two conditions which produce myotonic potentials.

(2 marks × 5 = 10 marks)