

Reg. No.																			
----------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

MANIPAL UNIVERSITY
FOURTH YEAR B.P.T./FOURTH SEMESTER B.Sc. H.I.A.
DEGREE EXAMINATION – DECEMBER 2014

SUBJECT: RESEARCH METHODOLOGY AND BIOSTATISTICS/EPIDEMIOLOGY & BIOSTATISTICS
(2009 & 2008 REGULATION/OR)

Wednesday, December 17, 2014

Time: 10:00-13:00 Hrs.

Max. Marks: 80

1. Describe the steps involved in a research process. (5 marks)
2. What are the characteristics of a good hypothesis? (5 marks)
3. List out the differences between discrete and continuous variables with examples. (5 marks)
4. Classify the following into different scales of measurements (Nominal, Ordinal, Interval and Ratio)
a) Name b) Age c) Intelligence Quotient (IQ)
d) Marital status e) Pain score (5 marks)
5. Define and distinguish probability and non-probability sampling. (5 marks)
- 6A. The following table shows tuberculin reaction measured in 206 persons who were never vaccinated. Present the data graphically by a histogram.

Reaction in mm	Number of persons
8 – 10	24
10 – 12	52
12 – 14	42
14 – 16	48
16 – 18	12
18 – 20	08
20 – 22	14
22 – 24	06

6B. The data gives the number of hours 45 hospital patients slept following the administration of a certain anesthetic. Construct frequency table taking class intervals 0 – 4, 4 – 8, 8 – 12, etc.

10	4	12	1	13	11	3	8	1
11	8	3	7	7	1	17	10	4
8	5	7	7	3	10	12	4	8
2	3	4	7	3	5	5	8	7
5	5	8	3	4	13	1	7	17

(5+5 = 10 marks)

7A. Calculate median and standard deviation of the following data:

Hb level (in gm%): 15 12 11 13 10 13 14 12 13 17

7B. Define coefficient of variation. Mean and standard deviation of pulse rate for a group of individuals is 76 and 3 beats per minute respectively. The mean and standard deviation of height is 64 and 2 inches respectively. Which of the two characteristics has lesser variability?

(5+5 = 10 marks)

8. A study on fasting blood glucose levels of patients reported a mean glucose level of 148mg/dl and a standard deviation of 11 mg/dl. Assuming normal distribution, what is the probability that any given individual will have blood glucose level,

8A. Between 126 and 159 mg/dl

8B. Less than 181 mg/dl

(5 marks)

9. With the help of scatter diagram, explain correlation.

(5 marks)

10. Define health information system. List its uses.

(5 marks)

11A. Explain the terms rate and ratio with examples.

11B. During the year 2010, there were 550 deaths in a town. The estimated mid-year population for 2010 for the town was 27500. Calculate the crude death rate.

(5+5 = 10 marks)

12. What do you mean by cross sectional studies? What are its uses? List the aims of epidemiology.

(10 marks)



Reg. No.

--	--	--	--	--	--	--	--	--	--

MANIPAL UNIVERSITY
FOURTH YEAR B.P.T. DEGREE EXAMINATION – DECEMBER 2014
SUBJECT: MEDICINE/GENERAL MEDICINE
(COMMON FOR 2009 AND OLD REGULATION)

Thursday, December 18, 2014

Time: 10:00 – 13:00 Hrs

Maximum Marks: 80

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

1. What is pleural effusion? Discuss the etiology, clinical manifestations and management of pleural effusion.
2. Classify anemia. Discuss the clinical features, investigations and treatment of iron deficiency anemia.
3. Discuss the clinical features, investigations and treatment of congestive heart failure.
4. Mention the types of snake bite. Discuss the clinical features, investigations and management of snake bite.

(15 marks × 3 = 45 marks)

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

- 5A. Cor pulmonale
- 5B. Cardiopulmonary resuscitation
- 5C. Protein energy malnutrition
- 5D. Hypothyroidism
- 5E. Obstructive jaundice
- 5F. Clinical features and complications of acute renal failure
- 5G. Lymphedema

(5 marks × 7 = 35 marks)



MANIPAL UNIVERSITY**FOURTH YEAR B.P.T. DEGREE EXAMINATION – DECEMBER 2014****SUBJECT: SURGERY/GENERAL SURGERY
(2008/2009 REGULATION/OLD REGULATION)**

Friday, December 19, 2014

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. Discuss aetiology, clinical features and management of carcinoma lung. Add a note on Video assisted thoracoscopic surgery.
(10 marks)
2. Discuss the clinical features, investigation and management of peripheral vascular disease.
(10 marks)
3. **Write short notes on any TWO:**
 - 3A. Discuss Patent ductus arteriosus.
 - 3B. Discuss coronary artery bypass surgery.
 - 3C. Discuss intercostal drainage.

(10 marks × 2 = 20 marks)

SECTION B: GENERAL SURGERY (40 MARKS)

4. Classify burns. Discuss management and complications of burns.
(10 marks)
5. Describe indications and types of tracheostomy. Discuss post-operative care and complications of tracheostomy.
(10 marks)
6. **Write short notes on any FOUR:**
 - 6A. Discuss sinus and fistula.
 - 6B. Classify hernia.
 - 6C. Discuss Parotitis.
 - 6D. Discuss Modified radical mastectomy.
 - 6E. Discuss management of carcinoma oesophagus.

(5 marks × 4 = 20 marks)



MANIPAL UNIVERSITY
FOURTH YEAR B.P.T. DEGREE EXAMINATION – DECEMBER 2014
SUBJECT: COMMUNITY PHYSIOTHERAPY
(2009 REGULATION)

Saturday, December 20, 2014

Time: 10:00-13:00 Hrs

Maximum Marks: 80

✍ **Answer ALL questions.**

✍ **Essay Questions:**

1. Explain the physiological and biomechanical changes during pregnancy.
2. Explain the management for carpal tunnel syndrome considering the ergonomic risk factors for a computer operator.

(10 marks × 2 = 20 marks)

3. **Short Notes:**

- 3A. Home modifications for a patient with bilateral knee replacement
- 3B. Explain physiotherapy management for stress incontinence
- 3C. Postnatal Exercise Program
- 3D. Prevention of ankle deformity in cerebral palsy
- 3E. Explain types of occupational hazards in a saw mill
- 3F. Role of family as caregivers in CBR
- 3G. Ergonomic advice for a dentist
- 3H. Explain architectural modifications for wheel chair bound paraplegics at a shopping mall

(5 marks × 8 = 40 marks)

4. **Brief Answers:**

- 4A. What is plyometrics?
- 4B. Any four laws governing for benefit of the Indian physically handicapped
- 4C. What is pre eclampsia?
- 4D. Enumerate any four steps for care of the Diabetic foot
- 4E. Define work hardening
- 4F. PT management for a dementic patient
- 4G. What is VO₂ max?
- 4H. Mention any four primitive reflexes in neonate
- 4I. Any four Musculoskeletal changes with ageing
- 4J. Mention any four functions of multipurpose health worker

(2 marks × 10 = 20 marks)



MANIPAL UNIVERSITY**FOURTH YEAR B.P.T. DEGREE EXAMINATION – DECEMBER 2014****SUBJECT: PHYSIOTHERAPY IN CARDIOPULMONARY AND GENERAL CONDITIONS
(COMMON FOR 2009 AND OLD REGULATION)**

Monday, December 22, 2014

Time: 10:00-13:00 Hrs

Maximum Marks: 80

✍ Answer ALL questions.**1. Long Answers:**

1A. Mention the different abdominal incisions used. Explain in detail the role of a physical therapist in the management of a patient who has undergone a laparotomy.

(4+6 = 10 marks)

1B. What is COPD? Describe the rehabilitation of a patient who has been admitted with an acute exacerbation of COPD.

(2+8 = 10 marks)

2. Write short notes on:

2A. Mention the anatomic localization of the various regions of the heart with ECG and write the ECG changes seen in a person having a myocardial infarction.

2B. Describe the exercises given to a patient suffering from peripheral vascular disease.

2C. Highlight the complications seen in a lady who has undergone a radical mastectomy.

2D. What is an ulcer? Mention the management of pressure ulcers.

2E. Describe the active cycle breathing technique.

2F. What is the physiotherapy management for respiratory complications in a patient with head injury?

2G. Highlight the importance of early mobilization.

2H. What is the principle followed for the working of a nebuliser? Name the various drugs used for nebulisation and explain how you will provide nebulisation to a patient.

(5 marks × 8 = 40 marks)

3. Write brief notes on:

3A. Name two drugs given to reduce bronchospasm.

3B. What are the complications following burns to the hand?

3C. Describe the postural drainage position for draining the left lateral basal segment.

3D. Name the various colours, flow rates required and FiO₂ provided with each different venturi.

3E. Name the lung volumes and capacities and also mention their normal values.

3F. Define cardiac rehabilitation.

3G. What postural changes occur following a radical neck dissection?

3H. Highlight the precautions to be given to a patient following a midline sternotomy.

3I. Mention two differences between the adult and paediatric airways.

3J. Name the different types of humidifiers.

(2 marks × 10 = 20 marks)



MANIPAL UNIVERSITY**FOURTH YEAR B.P.T. DEGREE EXAMINATION – DECEMBER 2014****SUBJECT: EXERCISE PHYSIOLOGY AND ELECTRODIAGNOSIS
(COMMON FOR 2009 AND OLD REGULATION)**

Tuesday, December 23, 2014

Time: 10:00-13.00 Hrs

Maximum Marks: 80

- ✍ Answer both SECTION – A and SECTION – B in same answer book.
✍ Answer ALL questions.

SECTION A- EXERCISE PHYSIOLOGY✍ **Essay Question:**

1. Write briefly about the methods of heat gain and heat loss and explain in detail the physiological changes and adaptations to exercise in a hot environment.

(10 marks)

2. **Short Notes:**

- 2A. Immune responses to aerobic exercise
2B. Potential mechanisms contributing to muscular fatigue
2C. Principles of endurance training
2D. Physiological basis of oxygen deficit and debt

(5 marks × 4 = 20 marks)

3. **Brief Answers:**

- 3A. Define endurance.
3B. What is periodization?
3C. What is Ventilatory breakpoint?
3D. What is cross training?
3E. What is decompression sickness?

(2 marks × 5 = 10 marks)

SECTION B- ELECTRO DIAGNOSIS✍ **Essay Question:**

4. Define EMG. Explain in detail about the potentials obtained during different stages of EMG in neurogenic conditions.

(2+8 = 10 marks)

5. **Short Notes:**

- 5A. Blink reflex
- 5B. Procedure for measuring motor nerve conduction velocity of median nerve
- 5C. Uses of threshold detector in EMG biofeedback
- 5D. Classification of nerve fibers and their properties

(5 marks × 4 = 20 marks)

6. **Brief Answers:**

- 6A. What is end plate noise? Mention its implication.
- 6B. What is differential amplification?
- 6C. Draw the SD curves of partial and complete degenerated nerves
- 6D. What is satellite potential? Mention any two conditions during which it is seen.
- 6E. What is closed loop theory? Mention the treatment technique based in it.

(2 marks × 5 = 10 marks)



Reg. No.

--	--	--	--	--	--	--	--	--	--

MANIPAL UNIVERSITY

FOURTH YEAR B.P.T. DEGREE EXAMINATION – DECEMBER 2014

**SUBJECT: COMMUNITY MEDICINE AND SOCIOLOGY
(OLD REGULATION)**

Wednesday, December 24, 2014

Time 10:00-13:00 Hours

Maximum Marks: 80

- ✍ **Answer ALL questions.**
✍ **Answer SECTION 'A' and SECTION 'B' in TWO separate answer books.**

SECTION 'A': COMMUNITY MEDICINE : 40 MARKS

✍ **Long Question:**

1. Discuss the epidemiology of Pulmonary Tuberculosis. Add a note on Revised National Tuberculosis Control Program (RNTCP).

(4+6 = 10 marks)

2. **Write short notes on:**

- 2A. National Immunization Schedule
2B. Rule of halves in hypertension
2C. Ice-berg phenomenon
2D. Rehabilitation
2E. Employees State Insurance (ESI) Act
2F. World Health Organization (WHO)

(5 marks × 6 = 30 marks)

SECTION 'B': SOCIOLOGY : 40 MARKS

3. Enumerate and explain the factors of group life.

(3+7 = 10 marks)

4. Discuss the causes of Juvenile delinquency, classified under two major factors:

- 4A. Social
4B. Personality

(5+5 = 10 marks)

5. What is poverty? Explain the types of poverty and its causes

(2+3+5 = 10 marks)

6. **Write short notes on the following:**

- 6A. Caste system in modern India
6B. Culture lag

(5+5 = 10 marks)

