

## MANIPAL UNIVERSITY

## FOURTH YEAR B.P.T. DEGREE EXAMINATION – DECEMBER 2011

SUBJECT: MEDICINE  
(NEW REGULATION)

Monday, December 12, 2011

Time: 10:00 –13:00 Hrs.

Maximum Marks: 80

✍ **Answer ALL Questions:**

1. Write the risk factors for Ischemic heart disease. Discuss the clinical features, investigation and treatment of acute myocardial infarction.

(2+3+2+3 = 10 marks)

**2. Write short notes on any SIX of the following:**

- 2A. Causes and clinical features of Cushing's syndrome.  
2B. Management of bleeding from esophageal varices.  
2C. Clinical features of beta-thalassemia.  
2D. Investigations and treatment of Plasmodium falciparum malaria.  
2E. Hyperkalemia  
2F. Pellagra  
2G. Lung abscess  
2H. Urinary tract infection

(5×6 = 30 marks)

3. Discuss the etiopathogenesis, clinical features and management (investigations and treatment) of typhoid fever.

(3+3+2+2 = 10 marks)

**4. Write short note on any SIX of the following:**

- 4A. Acromegaly  
4B. Metabolic acidosis  
4C. Describe the clinical features and treatment of chronic renal failure.  
4D. Complications of Diabetes mellitus  
4E. Chronic active hepatitis  
4F. Hemophilia  
4G. Hypocalcemia  
4H. Clinical features and treatment of right sided Pneumothorax

(5×6 = 30 marks)



**MANIPAL UNIVERSITY**  
**FOURTH YEAR B.P.T. DEGREE EXAMINATION – DECEMBER 2011**

**SUBJECT: SURGERY**  
**(NEW REGULATION)**

Tuesday, December 13, 2011

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 Rheumatic heart disease. Discuss surgical options for management of valvular heart disease.  
(10 marks)
2. Discuss the aetiology, clinical features and management of pneumothorax. Add a note on care of intercostal drainage tube.  
(10 marks)
3. **Write short notes on any TWO:**
  - 3A. Discuss bronchoscopy.
  - 3B. Discuss surgical management of peripheral vascular disease.
  - 3C. Describe video assisted thoracoscopic surgery.(10×2 = 20 marks)

**SECTION “B” : GENERAL SURGERY : 40 MARKS**

4. Discuss types and clinical features of prolapse rectum. Describe management of prolapse rectum.  
(10 marks)
5. Define and classify hernia. Discuss surgical management of inguinal hernia.  
(10 marks)
6. **Write short notes on any FOUR:**
  - 6A. Discuss types of Regional anaesthesia
  - 6B. Discuss sinus and fistula.
  - 6C. Describe surgical management of BPH and its post-operative complications.
  - 6D. Classify burns.
  - 6E. Discuss Glaucoma.(5×4 = 20 marks)



# MANIPAL UNIVERSITY

## FOURTH YEAR B.P.T. DEGREE EXAMINATION – DECEMBER 2011

### SUBJECT: RESEARCH METHODOLOGY AND BIOSTATISTICS (NEW REGULATION)

Wednesday, December 14, 2011

Time: 10:00-13:00 Hrs.

Max. Marks: 80

1. What is the role of Statistics in Clinical Medicine? (5 marks)
2. Explain Test – Retest method of assessing reliability. (5 marks)
3. Write a note on quantitative variables. (5 marks)
4. Classify the following into different scales of measurements (Nominal, Ordinal, Interval and Ratio)
 

i) Temperature (°F)	ii) City	iii) Age
iv) Gender	v) Hospital Number	

(5 marks)
5. Describe cluster sampling. (5 marks)
- 6A. Construct a frequency polygon for the following data:
 

Systolic Blood Pressure (mmHg)	115 – 117	117 – 119	119 – 121	121 – 123	123 – 125	125 – 127
Number of people	13	25	40	22	15	10
- 6B. The following are the ages of 30 men in an emergency ward on a particular day. Construct frequency table along with relative and cumulative frequencies taking class intervals 10 – 20, 20 – 30, 30 – 40, so on.
 

35	32	21	43	39	60
36	12	54	45	37	53
45	23	64	10	34	22
36	45	55	44	55	46
22	38	35	56	45	57

(5+5 = 10 marks)
- 7A. Define mode, range, inter-quartile range, variance and coefficient of variation.
- 7B. Erythrocyte Sedimentation Rate (ESR) readings (in mm) of 12 tuberculosis patients are given below. Calculate mean and standard deviation.
 

12	8	11	9	8	15	8	12	8	9	11	10
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(5+5 = 10 marks)

8. Enumerate the properties of normal distribution with the help of a neat diagram. (5 marks)
9. Give the formula for the computation of correlation coefficient. List out the properties of correlation coefficient. (5 marks)
10. Discuss census as a source of health information system. (5 marks)
- 11. Define the following:**
- 11A. Crude birth rate
  - 11B. Crude death rate
  - 11C. General fertility rate
  - 11D. Total fertility rate
  - 11E. Neonatal mortality rate
- (10 marks)
12. State the aims of epidemiology. Discuss the usefulness and limitations of cross sectional studies. (10 marks)



**MANIPAL UNIVERSITY****FOURTH YEAR B.P.T. DEGREE EXAMINATION – DECEMBER 2011****SUBJECT: PHYSIOTHERAPY IN CARDIOPULMONARY AND GENERAL CONDITIONS  
(NEW REGULATION)**

Thursday, December 15, 2011

Time: 10:00 –13:00 Hrs.

Maximum Marks: 80

**Answer ALL questions.****1. Essay Questions:**

1A. Define cardiac rehabilitation. What are the core components and phases of cardiac rehabilitation? Describe the exercise prescription for an aerobic exercise program using the FITT principle in a patient undergoing phase-2 cardiac rehabilitation.

(1+5+4 = 10 marks)

1B. Explain the physiology of ventilation and perfusion in the lung. Elaborate its application in therapeutic body positioning.

(4+6 = 10 marks)

**2. Short Notes:**

2A. What is lymphedema? Describe the physiotherapy management of a patient suffering from lymphedema of the right upper limb.

(5 marks)

2B. What are the steps involved in basic life support?

(5 marks)

2C. Mention the proper positioning required for a patient who has suffered whole body burns. Highlight the complications that can occur at the hand.

(5 marks)

2D. Classify lung diseases under the headings of obstructive and restrictive diseases. Describe the various dyspnea relieving strategies for a patient with COPD.

(2+3 = 5 marks)

2E. Draw and explain the changes seen on pulmonary function tests with obstructive and restrictive lung diseases.

(5 marks)

2F. Mention the normal mucociliary mechanism. Explain how coughing and huffing aid in removal of secretions.

(2+3 = 5 marks)

2G. Write the management of a patient who has undergone a Right sided pneumonectomy for bronchiectasis.

(5 marks)

2H. What is type 2 respiratory failure? Mention the physiotherapy management for it.

(5 marks)

**3. Brief Answers:**

3A. Define pulmonary rehabilitation.

3B. Name the various oxygen delivery systems.

3C. Interpret the following arterial blood gas sample: pH – 7.21, PaO<sub>2</sub> – 70mmHg, PaCo<sub>2</sub> – 70 mmHg, HCO<sub>3</sub> – 27 mEq/L

3D. Name the life threatening arrhythmias.

3E. Briefly describe the SIMV mode of mechanical ventilation.

3F. Name the bronchopulmonary segments of the Left lung.

3G. Name TWO drugs to relieve bronchospasm.

3H. Mention TWO differences between the adult and paediatric airway.

3I. What are the general and specific complications seen after a cholecystectomy that are relevant to a physical therapist?

3J. Mention the contraindications to performing a six minute walk test.

(2×10 = 20 marks)



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# MANIPAL UNIVERSITY

THIRD/FOURTH YEAR B.P.T. DEGREE EXAMINATION – DECEMBER 2011

SUBJECT: ETHICS/ADMINISTRATION AND TEACHING SKILLS  
(NEW REGULATION)

Friday, December 16, 2011

Time: 10:00-11.30 Hrs

Maximum Marks: 40

✍ **Answer ALL questions.**

✍ **Essay Question:**

1. What is the international organization governing physiotherapy? What are their rules and regulations governing physiotherapy education?

(10 marks)

✍ **Short Notes:**

- 2A. Autonomy
- 2B. Compensation
- 2C. Confidentiality
- 2D. What are the ethical issues encountered in clinical practice?

(5×4 = 20 marks)

✍ **Brief Answers**

- 3A. Define ethics.
- 3B. What is medical service?
- 3C. Beneficence
- 3D. Barriers
- 3E. Informed consent

(2×5 = 10 marks)



**MANIPAL UNIVERSITY****THIRD/FOURTH YEAR B.P.T. DEGREE EXAMINATION – DECEMBER 2011****SUBJECT: COMMUNITY MEDICINE AND SOCIOLOGY  
(NEW REGULATION)**

Saturday, December 17, 2011

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**

- 1A. Define health.  
1B. What are the different levels of disease prevention?  
1C. Describe the modes of intervention.

(1+4+5 = 10 marks)

**2. Write short notes on:**

- 2A. Prevention of blindness  
2B. Contraceptive methods  
2C. Modes of transmission of HIV /AIDS  
2D. Epidemiological studies  
2E. Health education to the community regarding cancers  
2F. ESI Act

(5×6 = 30 marks)

**SECTION 'B': SOCIOLOGY : 40 MARKS**

3. Explain the various welfare schemes for the disabled.  
4. Explain the meaning of rural and urban communities and their health problems.  
5. Define culture. Explain its characteristics.

(10 marks)

(10 marks)

(2+8 = 10 marks)

**6. Short Answers:**

- 6A. Social change and health programme  
6B. Effect of sickness on family

(5×2 = 10 marks)





**MANIPAL UNIVERSITY**  
**FOURTH YEAR B.P.T. DEGREE EXAMINATION – DECEMBER 2011**  
**SUBJECT: COMMUNITY BASED REHABILITATION**  
**(NEW REGULATION)**

Monday, December 19, 2011

Time: 10:00-13:00 Hrs

Maximum Marks: 80

✍ **Answer ALL questions**

**1. Essay Questions:**

- 1A. Define barriers. Explain different types of barriers for a 45 year old patient with T<sub>10</sub> level paraplegia following traumatic spinal cord injury.
- 1B. Define aging. Explain the role of physiotherapist in institutionalized elderly.
- ((2+8)+(2+8) = 20 marks)

**2. Short Notes:**

- 2A. Explain physiological changes in the musculoskeletal system in older adults.
- 2B. Explain any FIVE principles of ergonomics.
- 2C. Write in brief about work conditioning program.
- 2D. Write in brief about risk factors for work related musculoskeletal disorders.
- 2E. Explain any FIVE principles of sports training.
- 2F. Explain the role of physiotherapist in antenatal care in the community.
- 2G. Explain any FIVE features of PWD act.
- 2H. Explain any FIVE principles of CBR.
- (5×8 = 40 marks)

**3. Brief Answers:**

- 3A. Discuss in short about ICF.
- 3B. Define early intervention.
- 3C. Kegel's exercises.
- 3D. Define incontinence.
- 3E. Define participation restriction.
- 3F. What is job simulation?
- 3G. Mention ideal gradient for a ramp and ideal temperature of working environments.
- 3H. List any FOUR limitation of disability evaluation.
- 3I. List any FOUR agencies involved in rehabilitation.
- 3J. Classify older adults.
- (2×10 = 20 marks)



**MANIPAL UNIVERSITY**  
**FOURTH YEAR B.P.T. DEGREE EXAMINATION – DECEMBER 2011**  
**SUBJECT: EXERCISE PHYSIOLOGY AND ELECTRODIAGNOSIS**  
**(NEW REGULATION)**

Tuesday, December 20, 2011

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. Name the components of health related physical fitness and explain in detail the procedure to test these components. (10 marks)

✍ **Short Notes:**

- 2A. Acute endocrine response to aerobic exercise.  
 2B. Blood doping – potential benefits and health risks.  
 2C. Physiological changes associated with chronic exposure to microgravity environment.  
 2D. Methods of assessing body composition.

(5×4 = 20 marks)

✍ **Brief Answers:**

- 3A. Define speed.  
 3B. What is oxygen deficit?  
 3C. What is the principle of progressive overload?  
 3D. What is an ergometer?  
 3E. What is nitrogen narcosis?

(2×5 = 10 marks)

**SECTION – B : ELECTRODIAGNOSIS**

✍ **Essay Question:**

4. Define NCV. Mention the factors affecting nerve conduction studies. Explain the procedure for studying motor nerve conduction.

(2+4+4 = 10 marks)

✍ **Short Notes:**

- 5A. F Wave  
 5B. Abnormal potentials recorded at rest during EMG.  
 5C. Classification of nerve lesions based on electro diagnostic studies.  
 5D. Motor unit study parameters.

(5×4 = 20 marks)

✍ **Brief Answers:**

- 6A. Resting membrane potential.  
 6B. Gain.  
 6C. Define A wave.  
 6D. Chronaxie.  
 6E. Mention any TWO uses and indications of EMG biofeedback.

(2×5 = 10 marks)

