

**MANIPAL UNIVERSITY****SECOND YEAR B.Sc. R.T. DEGREE EXAMINATION – JUNE 2013****SUBJECT: PATHOLOGY**

Monday, June 10, 2013

Time: 10:00-11:30 Hrs.

Max. Marks: 40

1. Define neoplasia. How is neoplasia different from dysplasia and metaplasia? Explain the characteristic features of malignant tumors with suitable examples. Write a note on the prognosis of tumors.  
(1+2+3+2 = 8 marks)
2. Describe the predisposing factors, clinical effects and complications of atherosclerosis.  
(2+2+3 = 7 marks)
3. **Write short notes on:**
  - 3A. Megaloblastic anaemia
  - 3B. Osteomyelitis
  - 3C. Bronchiectasis
  - 3D. Types of necrosis with examples
  - 3E. Clinical features and complications of Diabetes Mellitus(5×5 = 25 marks)



## MANIPAL UNIVERSITY

SECOND YEAR B.Sc. R.T. DEGREE EXAMINATION – JUNE 2013

SUBJECT: MICROBIOLOGY

Wednesday, June 12, 2013

Time: 10:00-11:30 Hrs.

Max. Marks: 40

☞ Answer all questions. Draw diagrams wherever appropriate:

1. Discuss the mechanisms of autoimmunity. List the diseases involving multiple organs.  
(4+3 = 7 marks)
  
2. Explain the pathogenesis of Mycobacterium tuberculosis. Add a note on its laboratory diagnosis.  
(5+3 = 8 marks)
  
3. Write short notes on:
  - 3A. Pathogenesis of typhoid fever
  - 3B. Laboratory diagnosis of syphilis
  - 3C. Contributions of Robert Koch
  - 3D. Pathogenesis and prophylaxis of rabies
  - 3E. Mechanisms of innate immunity(5×5 = 25 marks)



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## MANIPAL UNIVERSITY

SECOND YEAR B. Sc. R.T. DEGREE EXAMINATION – JUNE 2013

SUBJECT: RESPIRATORY DISEASE PROCESS  
(2010 SCHEME)

Wednesday, June 19, 2013

Time: 10:00-13:00 Hrs.

Max. Marks: 80

1. Define Bronchial asthma and its pathogenesis, types, causes, diagnosis. Write your management of a patient with status asthmaticus.  
(2+4+2+2+2+4 = 16 marks)
2. Mention the common types of poisoning. Write the action of Organo-phosphorus compounds on neuromuscular junction and its effect, clinical features and management.  
(2+6+2+6 = 16 marks)
3. Differentiate between cardiogenic and non-cardiogenic pulmonary edema.  
(8 marks)
4. Write the aetiology, pathogenesis, clinical course, and diagnosis for any one of the following:
  - i) Guillian-Barre syndrome or
  - ii) Myasthenia gravis  
(1+3+2+2 = 8 marks)
5. Write a note on *Pneumocystis carinii* pneumonia.  
(8 marks)
6. Describe the condition where you clinically observe pendelluft movement.  
(8 marks)
7. Tension Pneumothorax.  
(8 marks)
8. Write the basic steps in management of snake bite.  
(8 marks)



**MANIPAL UNIVERSITY****SECOND YEAR B. Sc. R.T. DEGREE EXAMINATION – JUNE 2013****SUBJECT: DIAGNOSTIC TECHNIQUES  
(2010 SCHEME)**

Monday, June 17, 2013

Time: 10:00-13:00 Hrs.

Max. Marks: 80

1. What are the factors affecting the cardiac output? Define all the factors. Illustrate the changes in cardiac output with changes in the factors.  
(4+8+4 = 16 marks)
2. What are the anatomical locations for arterial blood gas sampling? What are the pre-requisites of ABG sampling? What are the situations where false blood gas values are obtained?  
(4+6+6 = 16 marks)
3. **Write short notes on:**
  - 3A. Draw the graph obtained on the cardiac monitor during pulmonary artery catheter placement. What are the uses of pulmonary artery catheter?  
(4+4 = 8 marks)
  - 3B. Draw ECG of atrial flutter and atrial fibrillation and explain the characteristic features. What is the treatment for these arrhythmias?  
(4+4 = 8 marks)
  - 3C. Write the chest x-ray characteristics of:  
i) Pneumonia                      ii) ARDS  
(4+4 = 8 marks)
  - 3D. Body plethysmography  
(8 marks)
  - 3E. Explain the placement of the 12 lead ECG.  
(8 marks)
  - 3F. Bronchial provocation test  
(8 marks)



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MANIPAL UNIVERSITY

SECOND YEAR B.Sc. R.T. DEGREE EXAMINATION – JUNE 2013

SUBJECT: APPLIED CARDIOPULMONARY ANATOMY AND PHYSIOLOGY  
(2010 SCHEME)

Friday, June 14, 2013

Time: 10:00-13:00 Hrs.

Max. Marks: 80

1. Draw normal spiogram and explain all the volumes and capacities including how it is measured. Write briefly about different disorders that alter normal volumes and flows.  
(4+4+8 = 16 marks)

2. Describe regulation of breathing.  
(16 marks)

3. Write short notes on:

- 3A. Write short note on muscles of respiration.  
3B. What are the different mechanisms of regulation of blood pressure?  
3C. Oxygen transport  
3D. Describe the events of cardiac cycle  
3E. Defects in ventilation perfusion  
3F. Foetal circulation

(8×6 = 48 marks)



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# MANIPAL UNIVERSITY

SECOND YEAR B.Sc. R.T. DEGREE EXAMINATION – JUNE 2013

SUBJECT: RESPIRATORY THERAPY SCIENCE II  
(2010 SCHEME)

Friday, June 21, 2013

Time: 10:00-13:00 Hrs.

Max. Marks: 80

1. **Write ventilatory settings in following cases:**

- 1A. Closed head injury
- 1B. Acute respiratory distress syndrome
- 1C. COPD
- 1D. Myasthenia Gravis

(4+4+4+4 = 16 marks)

2. **Complication of positive pressure ventilation in relation to:**

- 2A. Artificial airways
- 2B. Pressure and volume

(8+8 = 16 marks)

3. **Write short note on:**

- 3A. Alveolar Gas Equation and its significance
- 3B. Different types of pressure gradient in respiratory physiology
- 3C. Time constant
- 3D. Equipments needed for endotracheal intubation
- 3E. Steps for gradual T- tube weaning
- 3F. Volume controlled Vs pressure controlled modes

(8×6 = 48 marks)

