

**MANIPAL UNIVERSITY****SECOND YEAR B.Sc. R.T. DEGREE EXAMINATION – DECEMBER 2009****SUBJECT: PATHOLOGY AND MICROBIOLOGY**

Thursday, December 10, 2009

Time: 10:00-13:00 Hrs.

Max. Marks: 80

✍ Answer SECTION – A and SECTION – B in TWO separate answer books.

**SECTION – 'A' : PATHOLOGY : 40 MARKS**

1. Define inflammation. Describe the vascular and cellular changes in acute inflammation  
(2+6 = 8 marks)
2. Define and classify anemia. Discuss the clinical features of iron deficiency anemia.  
(2+3+2 = 7 marks)
3. Write short notes on:
  - 3A. Diabetes Mellitus
  - 3B. Spread of tumors
  - 3C. Primary tuberculosis
  - 3D. Goitre
  - 3E. Fate of a thrombus(5×5 = 25 marks)

**SECTION – 'B' : MICROBIOLOGY : 40 MARKS**

4. Define infection. Briefly explain hospital acquired infections.  
(1+6 = 7 marks)
5. Enumerate the bacteria causing urinary tract infection. Describe the laboratory diagnosis of UTI.  
(3+5 = 8 marks)
6. Write short notes on any FIVE:
  - 6A. Cryptococcosis
  - 6B. Hot air oven
  - 6C. Bacterial cell wall
  - 6D. Laboratory diagnosis of Rabies
  - 6E. Bacterial meningitis
  - 6F. Type II hypersensitivity(5×5 = 25 marks)



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## MANIPAL UNIVERSITY

SECOND YEAR B. Sc. R.T. DEGREE EXAMINATION – DECEMBER 2009

SUBJECT: RESPIRATORY DISEASE PROCESS

Friday, December 11, 2009

Time: 10:00-13:00 Hrs.

Max. Marks: 80

**Answer all the questions. Draw diagrams wherever necessary.**

1. Describe the risk factors, diagnosis and management of pulmonary thromboembolism.  
(5+5+6 = 16 marks)
2. Define poison. Classify poisons with examples. Outline general measures of management of a case of poisoning.  
(2+6+8 = 16 marks)
3. Write short notes on:
  - 3A. Classify anti retroviral agents and give atleast one example and its most common side effects.
  - 3B. Mechanisms of atelectasis.
  - 3C. Management of COPD.
  - 3D. Obstructive sleep apnoea.
  - 3E. Transudative effusions.
  - 3F. Silicosis.

(8×6 = 48 marks)



**MANIPAL UNIVERSITY****SECOND YEAR B. Sc. R.T. DEGREE EXAMINATION – DECEMBER 2009****SUBJECT: DIAGNOSTIC TECHNIQUES**

Saturday, December 12, 2009

Time: 10:00-13:00 Hrs.

Max. Marks: 80

✍ **Draw diagrams wherever necessary.**

✍ **Answer to the question and avoid padding of answers.**

1. How will you differentiate atrial flutter and atrial fibrillation? How do you treat a patient in the intensive care unit who is unresponsive to call, has no palpable pulse and his ECG shows Ventricular tachycardia?  
(8+8 = 16 marks)
2. List the indications and complications of pulmonary artery catheterization. Which are the routes of insertion? Explain the procedure of PA catheterization in detail. How do you monitor cardiac output with help of PA catheter?  
(4+2+5+5 = 16 marks)
3. Write short notes on:
  - 3A. Radiological features of consolidation and atelectasis of the lung.  
(8 marks)
  - 3B. What is the significance of ST segment in electrocardiogram? What is the change seen in ST segment in case of myocardial ischemia and infarction?  
(4+4 = 8 marks)
  - 3C. Nitrogen wash out technique.  
(8 marks)
  - 3D. CVP trace.  
(8 marks)
  - 3E. Explain the procedure of arterial blood sampling. How do you differentiate between respiratory alkalosis and metabolic alkalosis?  
(4+4 = 8 marks)
  - 3F. Definition of Tidal volume, Vital capacity, Inspiratory capacity and Reserve Volume with normal values.  
(2+2+2+2 = 8 marks)



**MANIPAL UNIVERSITY**  
**SECOND YEAR B.Sc. R.T. DEGREE EXAMINATION – DECEMBER 2010**  
**SUBJECT: PATHOLOGY AND MICROBIOLOGY**

Monday, December 13, 2010

Time: 10:00-13:00 Hrs.

Max. Marks: 80

✍ **Answer SECTION – A and SECTION – B in TWO separate answer books.**

**SECTION – 'A' : PATHOLOGY : 40 MARKS**

1. Discuss the aetiology, pathogenesis, gross features and complications of osteomyelitis.  
( $2\frac{1}{2}+2\frac{1}{2}+1\frac{1}{2}+1\frac{1}{2} = 8$  marks)
  
2. Discuss the aetiology, pathogenesis, morphology and diagnosis of cervical cancer starting from pre-cancer to invasive cancer.  
( $1\frac{1}{2}+2\frac{1}{2}+3 = 7$  marks)
  
3. **Write short notes on:**
  - 3A. Fate of a thrombus.
  - 3B. Differences between benign and malignant neoplasia.
  - 3C. Primary pulmonary tuberculosis.
  - 3D. Pathogenesis of hypovolemic shock.
  - 3E. Opportunistic infections in a HIV positive patient.

(5×5 = 25 marks)

**SECTION – 'B' : MICROBIOLOGY : 40 MARKS**

4. Classify methods of Sterilization. Discuss sterilization by moist heat above 100°C in detail.  
(3+5 = 8 marks)
  
5. Discuss the etio-pathogenesis of leprosy. Add a note on its laboratory diagnosis.  
(5+2 = 7 marks)
  
6. **Write short notes on:**
  - 6A. Innate immunity.
  - 6B. Gram negative bacterial cell wall.
  - 6C. Pathogenesis of polio.
  - 6D. Laboratory diagnosis of UTI.
  - 6E. Food poisoning.

(5×5 = 25 marks)



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## MANIPAL UNIVERSITY

**SECOND YEAR B.Sc. R.T. DEGREE EXAMINATION – DECEMBER 2009**

**SUBJECT: RESPIRATORY THERAPY SCIENCE II**

Monday, December 14, 2009

Time: 10:00-13:00 Hrs.

Max. Marks: 80

1. What are the phase variables that describe a ventilator breath? Explain each of them in detail.  
(16 marks)
  
2. Explain in detail trouble shooting the following ventilator alarms.
  - i) High Pressure
  - ii) High Minute Volume
  - iii) Low PEEP
  - iv) High frequency(4+4+4+4 = 16 marks)
  
3. **Write short notes:**
  - 3A. Type I and Type II respiratory failure.
  - 3B. Differentiate between PEEP and CPAP modes of ventilation.
  - 3C. Sigh breaths.
  - 3D. Weaning Criteria.
  - 3E. Incentive spirometry.
  - 3F. Endotracheal tube cuff pressure.(8×6 = 48 marks)

