

**MANIPAL UNIVERSITY**

**SECOND YEAR B.P.T./B.O.T./B.Sc. R.T./ B.Sc. C.V.T./ B.Sc. R.R.T. & D.T/  
FOURTH SEMESTER B. PFT DEGREE EXAMINATION – DECEMBER 2016**

**SUBJECT: PATHOLOGY**

(2010 REGULATION/2011 SCHEME/2010 SCHEME/2011 SCHEME/BDT 201/PFT 204-2014 SCHEME)

Thursday, December 15, 2016

Time: 10:00-11:30 Hrs.

Max. Marks: 40

- ✍ **Answer ALL questions.**
- ✍ **Illustrate your answers with diagrams wherever necessary.**

1. Define and classify shock. Discuss the etiopathogenesis of septic shock.  
(2+2+3 = 7 marks)
  
2. Define and classify anemias. Describe the lab investigations with blood and bone marrow findings in Megaloblastic anemia.  
(2+2+4 = 8 marks)
  
3. **Write short notes on:**
  - 3A. Necrosis
  - 3B. Etiopathogenesis of rheumatic heart fever
  - 3C. Definition and FAB classification of acute myeloid leukemia
  - 3D. Primary pulmonary tuberculosis
  - 3E. Causes of thrombocytopenia(5 marks × 5 = 25 marks)



Reg. No.

**MANIPAL UNIVERSITY**

**SECOND YEAR BPT/BOT/B.Sc. RT/B.Sc. CVT/B.Sc. RRT & DT/  
FOURTH SEMESTER B. PFT DEGREE EXAMINATION – DECEMBER 2016**

**SUBJECT: MICROBIOLOGY**

(COMMON FOR 2010 REGULATION/2011 SCHEME/2010 SCHEME/2011 SCHEME/BDT 202/PFT 206-2014 SCHEME)

Friday, December 16, 2016

Time: 10:00-11:30 Hrs.

Max. Marks: 40

**☞ Draw Diagrams wherever appropriate.**

1. Classify hypersensitivity. With suitable examples discuss the mechanism of immediate hypersensitivity.

(3+5 = 8 marks)

2. Discuss the pathogenesis and laboratory diagnosis of hepatitis B virus infection.

(3+4 = 7 marks)

3. **Write short notes on:**

3A. Louis Pasteur

3B. Bacterial flagella

3C. Virion structure

3D. Investigation of nosocomial infections

3E. Laboratory diagnosis of Streptococcus pneumonia infection

(5 marks × 5 = 25 marks)



Reg. No.

**MANIPAL UNIVERSITY**

**SECOND YEAR B. Sc. R.T. DEGREE EXAMINATION – DECEMBER 2016**

**SUBJECT: RESPIRATORY DISEASE PROCESS  
(2010 SCHEME)**

Saturday, December 17, 2016

Time: 10:00-13:00 Hrs.

Max. Marks: 80

1. Explain the etiology and pathophysiology of smoke inhalation injury. Elaborate in detail the diagnosis and treatment for the same.

(4+5+3+4 = 16 marks)

2. Define pulmonary embolism. What are the clinical manifestations of pulmonary embolism? Elaborate on its diagnosis and treatment.

(1+8+4+3 = 16 marks)

3. **Write short notes on:**

- 3A. Diagnosis and treatment of pneumonia  
3B. Treatment of bronchial asthma based on its severity  
3C. Staging of COPD  
3D. Myasthenia gravis  
3E. Near drowning  
3F. Pleurisy

(8 marks × 6 = 48 marks)



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## MANIPAL UNIVERSITY

SECOND YEAR B. Sc. R.T. DEGREE EXAMINATION – DECEMBER 2016

SUBJECT: DIAGNOSTIC TECHNIQUES  
(2010 SCHEME)

Monday, December 19, 2016

Time: 10:00-13:00 Hrs.

Max. Marks: 80

✍ **Draw diagrams wherever necessary.**

1. What do you mean by equal pressure point? What is the significance of equal pressure point? Describe the method to measure the ability of the lungs to transfer gases across alveolar capillary membrane.

(4+4+8 = 16 marks)

2. Draw a labeled diagram of a normal electrocardiogram and explain the normal intervals and segments. What are the components of 12 lead ECG?

(8+8 = 16 marks)

3. **Write short notes on:**

3A. Life threatening arrhythmias and their treatment

3B. Broncho provocation test

3C. Pre-analytical errors associated with arterial blood sampling

3D. Write the chest x ray characteristics of:

- i) Bronchiectasis      ii) Pulmonary Edema

3E. Causes and treatment of metabolic acidosis

3F. Indications and complications of Pulmonary Artery (PA) catheterization. What are the values which can be monitored using a PA catheter?

(8 marks × 6 = 48 marks)



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**MANIPAL UNIVERSITY**

**SECOND YEAR B.Sc. R.T. DEGREE EXAMINATION – DECEMBER 2016**

**SUBJECT: APPLIED CARDIOPULMONARY ANATOMY AND PHYSIOLOGY  
(2010 SCHEME)**

Tuesday, December 20, 2016

Time: 10:00-13:00 Hrs.

Max. Marks: 80

1. Write the parts of respiratory tract. Write anatomy of larynx in detail. Add a note on functions of nose.

(4+6+6 = 16 marks)

2. Write a note on oxygen transport and carbondioxide transport in detail.

(8+8 = 16 marks)

3. **Write short notes on:**

- 3A. Functional residual capacity
- 3B. Cardiac cycle
- 3C. Muscles of respiration
- 3D. Ventilation perfusion relationship
- 3E. Bronchopulmonary segments
- 3F. Management of metabolic acidosis

(8 marks × 6 = 48 marks)



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## MANIPAL UNIVERSITY

SECOND YEAR B.Sc. R.T. DEGREE EXAMINATION – DECEMBER 2016

SUBJECT: RESPIRATORY THERAPY SCIENCE II  
(2010 SCHEME)

Wednesday, December 21, 2016

Time: 10:00-13:00 Hrs.

Max. Marks: 80

1. Write in detail ventilator management of ARDS patients. What are the different strategies for improving ventilation in a critically ill patient, with a help of a diagram write about mean airway pressure.

(6+4+6 = 16 marks)

2. Explain pressure support mode in detail, what are the indications, objectives, and adverse effects of peep. What is the criteria for extubation of ventilatory patient?

(6+6+4 = 16 marks)

3. **Write short notes on:**

3A. I:E ratio

3B. Assist control mandatory ventilation

3C. Respiratory alkalosis

3D. Auto peep

3E. Non – invasive assessment of respiratory function

3F. Management of severe sudden respiratory distress in a mechanically ventilated patient

(8 marks × 6 = 48 marks)

