Reg. No.										

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 DEGREE EXAMINATION – DECEMBER 2015

SUBJECT: PATHOLOGY

(2010 SCHEME/2011 BATCH/2010 SCHEME/2011 SCHEME)

Tuesday, December 15, 2015

Time: 10:00-11:30 Hrs. Max. Marks: 40

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

1. Discuss the etiology of Iron deficiency anemia. Describe the peripheral smear, bone marrow findings and relevant clinical investigations in a case of iron deficiency anemia.

(2+2+2+2 = 8 marks)

2. Describe the etiopathogenesis and fate of thrombus formation.

(3+4 = 7 marks)

3. **Write short notes on:**

3A. Differences between caseous necrosis and coagulative necrosis

3B. Complications of cutaneous wound healing

3C. Morphology of Primary pulmonary Tuberculosis

3D. Rheumatoid arthritis

3E. Morphology of Ischemic heart disease

(5 marks × 5 = 25 marks)

Reg. No.										

MANIPAL UNIVERSITY

SECOND YEAR BPT/BOT/B.Sc. RT/B.Sc. CVT/B.Sc. RRT & DT DEGREE EXAMINATION – DECEMBER 2015

SUBJECT: MICROBIOLOGY
(COMMON FOR 2010 SCHEME/2011 BATCH/2010 SCHEME/2011 SCHEME)

Wednesday, December 16, 2015

Time: 10:00-11:30 Hrs. Max. Marks: 40

✍ **Draw diagrams wherever appropriate.**

1. Describe the causes, sources and routes of spread and prevention of hospital acquired infections.

(2+3+3 = 8 marks)

2. Discuss the pathogenesis and laboratory diagnosis of pulmonary tuberculosis.

(3+4 = 7 marks)

3. **Write short notes on:**

3A. Working principle and uses of autoclave
3B. Mechanism and examples of delayed type hypersensitivity
3C. Pathogenesis and prevention of tetanus
3D. Laboratory diagnosis of Hepatitis B infection
3E. Pathogenesis of HIV infection

(5 marks × 5 = 25 marks)

Reg. No.										

MANIPAL UNIVERSITY

SECOND YEAR B. Sc. R.T. DEGREE EXAMINATION – DECEMBER 2015

SUBJECT: RESPIRATORY DISEASE PROCESS
(2010 SCHEME)

Thursday, December 17, 2015

Time: 10:00-13:00 Hrs. Max. Marks: 80

1. Define pulmonary hypertension. How do you classify pulmonary hypertension? Discuss the pathophysiology, clinical features and management of pulmonary hypertension.

(2+3+4+3+4 = 16 marks)

2. Describe the pathogenesis, diagnosis and management of ARDS. Add a note on Berlin definition of ARDS.

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

3. **Short notes:**

3A. Diagnosis of tuberculosis.
3B. Hanging
3C. Assessment of dyspnoea
3D. Nebulized drugs in COPD
3E. Management of poisoning
3F. Necrotizing pneumonia

(8 marks × 6 = 48 marks)

Reg. No.										

MANIPAL UNIVERSITY

SECOND YEAR B. Sc. R.T. DEGREE EXAMINATION – DECEMBER 2015

SUBJECT: DIAGNOSTIC TECHNIQUES

(2010 SCHEME)

Friday, December 18, 2015

Time: 10:00-13:00 Hrs. Max. Marks: 80

✍ **Draw diagrams wherever necessary.**

1. Define tidal volume, vital capacity and functional residual capacity. Mention two respiratory care maneuvers that improve FRC. How is tidal volume measured at bedside and in the pulmonary function laboratory? What is its clinical significance?

(2+2+2+2+6+2 = 16 marks)

2. What are the factors affecting the cardiac output? Define all the factors. Illustrate the changes in cardiac output with changes in factors.

(3+6+7 = 16 marks)

3. **Write short notes on**:

3A. Differentiation of metabolic acidosis from respiratory acidosis on the basis of an arterial blood gas report

3B. Bronchial provocation test

3C. Explain the placement of 12 lead ECG

3D. Write the chest x ray characteristics of:

i) Pneumonia

ii) Pulmonary Tuberculosis

3E. Central venous pressure waveforms and its significance

3F. Helium dilution test

(8 marks × 6 = 48 marks)

Reg. No.										

MANIPAL UNIVERSITY

SECOND YEAR B.Sc. R.T. DEGREE EXAMINATION – DECEMBER 2015

SUBJECT: APPLIED CARDIOPULMONARY ANATOMY AND PHYSIOLOGY

(2010 SCHEME)

Saturday, December 19, 2015

Time: 10:00-13:00 Hrs. Max. Marks: 80

✍ **Answer the following questions:**

1. With a help of a labelled diagram write a note on oxy heamoglobin dissociation curve. Explain in detail Ficks equation and Haldane effect.

(10+6 = 16 marks)

2. Explain Lung volumes and capacities in detail. Add a note on maximum voluntary ventilation.

(10+6 = 16 marks)

3. **Write short notes on:**

3A. Compliance
3B. Management of metabolic alkalosis
3C. Surfactant
3D. Heart as a pump
3E. Tracheo bronchial tree
3F. Regulation of cardiac output

(8 marks × 6 = 48 marks)

Reg. No.										

MANIPAL UNIVERSITY

SECOND YEAR B.Sc. R.T. DEGREE EXAMINATION – DECEMBER 2015

SUBJECT: RESPIRATORY THERAPY SCIENCE II

(2010 SCHEME)

Monday, December 21, 2015

Time: 10:00-13:00 Hrs. Max. Marks: 80

1. What are different types of phase variables in ventilators? Explain in detail types of limit. Write about negative pressure ventilators in detail.

(4+6+6 = 16 marks)

2. Define Respiratory failure. What are the types of respiratory failure? What are the different signs of respiratory distress? Write in detail the causes of respiratory failure.

(2+4+4+6 = 16 marks)

3. **Write short notes on:**

3A. Peak pressure and plateau pressure
3B. Indications of ventilator support
3C. SIMV mode of ventilation with graphics
3D. Ventilatory management of Closed head injury
3E. Complications associated with endotracheal tube
3F. Management of respiratory acidosis in intensive care unit

(8 marks × 6 = 48 marks)