Reg. No.										

MANIPAL UNIVERSITY

SECOND YEAR B.Sc. R.T. DEGREE EXAMINATION – JUNE 2011

SUBJECT: PATHOLOGY AND MICROBIOLOGY

Monday, June 06, 2011

Time: 14:00-17:00 Hrs. Max. Marks: 80

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

SECTION – 'A' : PATHOLOGY : 40 MARKS

1. Define anemia. Write the clinical features, aetiology and basic investigations of thalassemia and sickle cell anemia.

(1+3½+3½ = 8 marks)

2. Define thrombosis. Discuss briefly the factors influencing thrombosis and the fate of a thrombus.

(1+3+3 = 7 marks)

3. **Write short notes on:**

3A. Nomenclature of tumours.
3B. Pneumoconiosis.
3C. Bronchial asthma.
3D. Rheumatoid arthritis.
3E. Definition and examples of hypertrophy and metaplasia.

(5×5 = 25 marks)

SECTION – 'B' : MICROBIOLOGY : 40 MARKS

✍ **Draw diagram wherever appropriate.**

4. Classify hypersensitivity reactions. Discuss the IgE mediated hypersensitivity reaction in detail.

(2+6 = 8 marks)

5. Enumerate the agents causing diarrhoea. Discuss the laboratory diagnosis of cholera.

(2+5 = 7 marks)

6. **Write short notes on:**

6A. Bacterial cell wall.
6B. Hot air oven.
6C. Investigation of hospital acquired infections.
6D. Prophylaxis of rabies.
6E. Predisposing factors of UTI.

(5×5 = 25 marks)

Reg. No.										

MANIPAL UNIVERSITY

SECOND YEAR B. Sc. R.T. DEGREE EXAMINATION – JUNE 2011

SUBJECT: RESPIRATORY DISEASE PROCESS

Wednesday, June 08, 2011

Time: 14:00-17:00 Hrs. Max. Marks: 80

- **Answer ALL the questions.**
- **Draw Diagrams wherever necessary.**

1. Discuss the clinical features, diagnosis and management of pulmonary embolism.

(4+6+6 = 16 marks)

2. Describe the clinical features, diagnosis and management of Post Operative Atelectasis.

(4+6+6 = 16 marks)

3. **Write short notes on:**

3A. Bronchiectasis

3B. Myasthenia Gravis

3C. Cor pulmonale

3D. Small Cell Carcinoma

3E. Shock

3F. Hanging.

(8×6 = 48 marks)

Reg. No.										

MANIPAL UNIVERSITY

SECOND YEAR B. Sc. R.T. DEGREE EXAMINATION – JUNE 2011

SUBJECT: DIAGNOSTIC TECHNIQUES

Friday, June 10, 2011

Time: 14:00-17:00 Hrs. Max. Marks: 80

- **Draw diagrams wherever necessary.**
- **Answer to the question and avoid padding of answers.**

1. What is closing capacity? Explain any one method of measurement of closing capacity. What is its significance?

(4+12 = 16 marks)

2. What are the radiological features of the following?

2A. Cardiogenic pulmonary oedema.
2B. Acute respiratory distress syndrome.
2C. Chronic obstructive pulmonary disease.
2D. Tension Pneumothorax.

(4×4 = 16 marks)

3. **Write short notes on:**

3A. Premature ventricular contraction.
3B. Central venous pressure trace.
3C. Functional residual capacity.
3D. Information obtained from a PA catheter.
3E. Flow – volume loop in a patient with obstruction.
3F. Anteroposterior vs postero-anterior view for a chest X-ray.

(8×6 = 48 marks)

Reg. No.										

MANIPAL UNIVERSITY

SECOND YEAR B.Sc. R.T. DEGREE EXAMINATION – JUNE 2011

SUBJECT: APPLIED CARDIOPULMONARY ANATOMY AND PHYSIOLOGY

Monday, June 13, 2011

Time: 14:00-15:30 Hrs. Max. Marks: 40

- **Answer to the point. Unnecessary padding of answers will be counterproductive.**
- **Draw diagrams wherever necessary.**

1. Describe in detail the factors that affect cardiac output.

(16 marks)

2. Write short notes on:

2A. Comparison of adult and paediatric upper airways

2B. Surfactant

2C. Anion gap

(8×3 = 24 marks)

Reg. No.										

MANIPAL UNIVERSITY

SECOND YEAR B.Sc. R.T. DEGREE EXAMINATION – JUNE 2011

SUBJECT: RESPIRATORY THERAPY SCIENCE II

Wednesday, June 15, 2011

Time: 14:00-17:00 Hrs. Max. Marks: 80

- **Draw diagrams wherever necessary.**
- **Answer to the question and avoid padding of answers.**

1. A 25 year old male patient is admitted in MICU with a case of road traffic accident. He is on ventilator from 3 days and needs to be weaned off and extubated. Write your plan of weaning and extubation. What are causes of weaning failure?

(10+6 = 16 marks)

2. Explain with labeled diagram the scalars of Pressure, Flow and Volume in
   i) Synchronised Intermittent Mandatory Ventilation (SIMV)
   ii) Assist-Control Ventilation (A/C)
   iii) Pressure Support Ventilation (PSV)
   iv) Control Mandatory Ventilation (CMV)

(4×4 = 16 marks)

3. **Write short notes:**

3A. Auto PEEP
3B. Sigh breaths
3C. Inflation hold
3D. Equal pressure point
3E. Effects of positive pressure ventilation
3F. CROP index.

(8×6 = 48 marks)