Reg. No.										

MANIPAL ACADEMY OF HIGHER EDUCATION

(Deemed University)

SECOND YEAR B.Sc. R.T.T. DEGREE EXAMINATION – SEPTEMBER 2005

SUBJECT: PATHOLOGY AND MICROBIOLOGY

Monday, September 12, 2005

Time: 3 Hrs. Max. Marks: 80

- ***Answer section A and section B in TWO separate answer books.***
- **Answer all questions.**

SECTION – 'A' : PATHOLOGY : 40 MARKS

1. Define Shock. Mention types of shock with an example for each. Discuss the pathogenesis of Septic shock.

(1+2+5 = 8 marks)

2. Define Inflammation. Describe the process of chemotaxis and phagocytosis.

(1+3+3 = 7 marks)

3. Write short notes on **ANY FIVE:**

3A. Morphology of lepromatous leprosy.
3B. Hemophilia.
3C. Vitamin A deficiency.
3D. Gross morphology of Gastric ulcer.
3E. Metaplasia.
3F. Coagulative necrosis.

(5×5 = 25 marks)

SECTION – 'B' : MICROBIOLOGY : 40 MARKS

4. Describe bacterial cell in detail.

(8 marks)

5. Define and classify Immunity. Explain Innate Immunity.

(1+3+3 = 7 marks)

6. Write short notes on any **FIVE.**

6A. Antibiotic sensitivity tests.
6B. Chemical disinfectants.
6C. Laboratory diagnosis of tuberculosis.
6D. Gas gangrene.
6E. Aspergilosis.
6F. AIDS.

(5×5 = 25 marks)

Reg. No.										

MANIPAL ACADEMY OF HIGHER EDUCATION

(Deemed University)

SECOND YEAR B. Sc. R.T.T. DEGREE EXAMINATION – SEPTEMBER 2005

SUBJECT: RESPIRATORY DISEASE PROCESSES

Tuesday, September 13, 2005

Time: 3 Hrs. Max. Marks: 80

Answer all questions. Draw diagrams wherever necessary.

1. Describe the grading, diagnostic evaluation and management of dyspnoea.

(4+4+8 = 16 marks)

2. Describe the predisposing factors, pathogenesis, diagnosis and management of ARDS.

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

3. Write short notes on:

(8×6 = 48 marks)

3A. Pulmonary hypertension.

3B. Necrotizing pneumonia.

3C. Prophylaxis of pulmonary embolism.

3D. Tuberculous pleurisy.

3E. Management of snake bite patient in emergency room.

3F. Hypersensitivity pneumonitis.

Reg. No.										

MANIPAL ACADEMY OF HIGHER EDUCATION

(Deemed University)

SECOND YEAR B. Sc. R.T.T. DEGREE EXAMINATION – SEPTEMBER 2005

SUBJECT: DIAGNOSTIC TECHNIQUES

Wednesday, September 14, 2005

Time: 3 Hrs. Max. Marks: 80

- **Answer ALL questions.**
- **Draw diagrams wherever necessary.**

1. Describe with the help of a diagram, a timed expiratory spirogram. What information obtained from a timed expiratory spirogramm can help in diagnosing and quantitating the degree of airway obstruction?

(6+10 = 16 marks)

2. Describe the radiological features in following conditions.

2A. ARDS.

2B. Lobar Collapse of the Lung.

2C. Pleural effusion.

2D. Hydro pneumothorax.

(4×4 = 16 marks)

3. Write briefly on:

3A. Discuss the relative merits and demerits of four views that are taken for the radiological examination of chest.

(4+4 = 8 marks)

3B. Define closing volue, closing capacity, functional residual capacity (FRC) and residual volume (RV). Enumerate and describe techniques that can be used for measuring FRC.

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

3C. Electrocardiologic features, treatment of supra ventricular tachycardia (SVT) and ventricular tachycardia (VT).

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

3D. Define preload. Outline the factors which affect the venous return to the heart. Name the sites in which a central venous line can be introduced.

(2+2+4 = 8 marks)

3E. Indices for evaluating status of ventilation and oxygenation from an arterial blood gas report.

(8 marks)

3F. With the help of a diagram describe the conduction system of the heart.

(8 marks)

Reg. No.										

MANIPAL ACADEMY OF HIGHER EDUCATION

(Deemed University)

SECOND YEAR B.Sc. R.T.T. DEGREE EXAMINATION – SEPTEMBER 2005

SUBJECT: APPLIED CARDIOPULMONARY ANATOMY AND PHYSIOLOGY

Thursday, September 15, 2005

Time: 1½ Hrs. Max. Marks: 40

Answer ALL questions. Draw diagrams wherever necessary.

1. With the help of appropriate diagrams, describe the distribution of ventilation and perfusion in the normal upright lung. Briefly mention the relationship between ventilation and perfusion in various parts of the lung. What happens when the normal ratio is altered?

(8+4+4 = 16 marks)

2. Write short notes on:

2A. Properties of cardiac muscle.

2B. Regulation of pH in the body.

2C. Compliance of the lung.

(8×3 = 24 marks)

Reg. No.										

MANIPAL ACADEMY OF HIGHER EDUCATION

(Deemed University)

SECOND YEAR B.Sc. R.T.T. DEGREE EXAMINATION – SEPTEMBER 2005

SUBJECT: RESPIRATORY THERAPY SCEINCE II

Friday, September 16, 2005

Time: 3 Hrs. Max. Marks: 80

- **Answer ALL questions.**
- **Draw diagram wherever necessary.**

1. List the most commonly encountered problems in weaning and the management strategy (or strategies) that you would use to overcome each of these.

(16 marks)

2. Discuss the following aspects of positive end–expiratory pressure (PEEP): definition, physiologic effects, methods of generation, indications and contraindications and differences between PEEP and continuous positive airway pressure (CPAP). Describe how conventional CPAP differs from bi- level CPAP (BiPAP).

(1+2+3+2+2+3+3 = 16 marks)

3. Write briefly on:

3A. Hypoxaemic, hypercapnic respiratory failure.

(8 marks)

3B. Causes of ventilator dependence.

(8 marks)

3C. Characteristics of mandatory and spontaneous breaths and control logic of control mode, synchronized intermittent mandatory ventilation (SIMV), pressure support ventilation and mandatory minute ventilation (MMV).

(8 marks)

3D. Measurement of cuff pressure.

(8 marks)

3E. Measuring the adequacy of ventilation.

(8 marks)

3F. Glasgow coma score, indications for mechanical ventilation and ventilatory management in head injury patient.

(2+3+3 = 8 marks)