MANIPAL UNIVERSITY

THIRD YEAR B.Sc. R.T. DEGREE EXAMINATION – JUNE 2007

SUBJECT: ADVANCED NEONATAL RESPIRATORY CARE

Thursday, June 14, 2007

Time: 3 Hrs.   Max. Marks: 80

✍ **Answer ALL questions.**

1. A 2000 gm preterm neonate is on ventilator. Describe the assessment of adequacy of oxygenation with reference to purpose and modes of assessment.

(4+12 = 16 marks)

2. Describe the cardiopulmonary events that accompany the normal transition at birth.

(2+3+3+8 = 16 marks)

3. Write short notes:

3A. CPAP - initiation and weaning.

3B. A 2500gm baby requiring endotracheal intubation. List the equipment needed. Write about ET tube size, procedure and checking the correct tube placement.

3C. What is hyaline membrane disease? Mention risk factors and pathophysiology.

3D. Discuss oxygen delivery systems.

3E. Complications of meconium aspiration into lungs.

3F. General care of a critically ill baby on ventilator.

(8×6 = 48 marks)

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THIRD YEAR B.Sc. R.T. DEGREE EXAMINATION – JUNE 2007

SUBJECT: CARDIOPULMONARY INTENSIVE CARE INCLUDING ADVANCED CARDIAC LIFE SUPPORT

Friday, June 15, 2007

Time: 3 Hrs.   Max Marks: 80

✍ **Answer ALL questions.**

✍ **Unnecessary padding of answers will be counter productive.**

1. How do you diagnose a case of tension pneumothorax? Describe its management.

(8+8 = 16 marks)

2. Discuss briefly the indications for a Treadmill test. Write a note on interpretation of a Treadmill test.

(10+6 = 16 marks)

3. Write short notes on:

3A. Physiological changes after pneumonectomy.

3B. Dopamine.

3C. Nutrition in chronic renal failure.

3D. Adenosine.

3E. Role of sodium bicarbonate and calcium in cardiopulmonary resuscitation.

3F. Cardioversion.

(8×6 = 48 marks)

MANIPAL UNIVERSITY

THIRD YEAR B.Sc. R.T. DEGREE EXAMINATION – JUNE 2007

SUBJECT: PSYCHOLOGY

Saturday, June 16, 2007

Time: 3 Hrs.   Max Marks: 80

1.   Answer any **SIX** of the following:

1A.   What is behavior therapy? Describe any two of the behavioral techniques employed in the treatment of mental disorders.

1B.   Define Clinical Psychology. Discuss its contribution to health sciences.

1C.   Describe briefly the assessment of intelligence and personality.

1D.   Compare and contrast the Observation and Case History methods.

1E.   Define the concept of stress. What are the various sources of stress and its impact on adjustment?

1F.   Explain briefly the marital and family therapies.

1G.   Outline the areas to be assessed in psychological rehabilitation.

1H.   Discuss the Indian concept of mental health and illness.

(10×6 = 60 marks)

2.   Write short notes on any **FOUR** of the following:

2A.   Supportive Psychotherapy.

2B.   Death and Dying.

2C.   Mental Retardation.

2D.   DSM system of classification.

2E.   Crisis Intervention.

2F.   Cognitive model of mental disorder.

(5×4 = 20 marks)

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THIRD YEAR B.Sc. R.T. DEGREE EXAMINATION – JUNE 2007

SUBJECT: PULMONARY REHABILITATION

Monday, June 18, 2007

Time: 3 Hrs.   Max Marks: 80

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

1. Describe various aerosol delivery devices. What are their advantages and disadvantages?

(4+12 = 16 marks)

2. Describe the pathophysiology and clinical features of cystic fibrosis. Describe your strategy of pulmonary rehabilitation in patients with cystic fibrosis.

(4+4+8 = 16 marks)

3. Write short notes on:

3A. Tobacco dependence.

3B. Sleep disorder in advanced lung disease.

3C. Ventilatory muscle evaluation for patients with neuromuscular disorders.

3D. Assessment of dyspnoea.

3E. Walk test.

3F. Oxygen therapy in pulmonary rehabilitation.

(8×6 = 48 marks)

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THIRD YEAR B.Sc. R.T. DEGREE EXAMINATION – JUNE 2007

SUBJECT: RESPIRATORY THERAPY SCIENCE - III

Tuesday, June 19, 2007

Time: 3 Hrs.   Max Marks: 80

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

1. Define refractory hypoxaemia. Define and classify hypoxaemia. What are the clinical and radiological features of Acute Lung Injury (ALI)? Describe the ventilatory strategies that are useful in the management of refractory hypoxaemia in a patient with Acute Lung Injury (ALI).

(1+2+3+10 = 16 marks)

2. Explain the mechanism of gas exchange in High Frequency Ventilation (HFV). Enumerate the differences between high frequency positive pressure ventilation and high frequency jet ventilation. Enumerate clinical conditions where HFV is used.

(6+6+4 = 16 marks)

3.   Write short notes:

3A. Monitors to detect Level 1 events in ventilatory support.

3B. Describe with the help of appropriate diagrams the pressure-volume loops in a normal individual and in individuals with altered lung mechanics.

3C. Adaptive support ventilation (ASV).

3D. Oxygen analysers.

3E. Flow – by mode.

3F. Define and classify gas flows. Describe the principle on which the flow sensor of a Hamilton Veolar circuit works.

(8+8+8+8+8+(4+4) = 48 marks)

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THIRD YEAR B.Sc. R.T. DEGREE EXAMINATION – JUNE 2007

SUBJECT: RESEARCH METHODOLOGY AND STATISTICS

Wednesday, June 20, 2007

Time: 3 Hrs.
Max. Marks: 80

✍ **Answer ALL the questions.**

1A. State the uses of statistics in health science.

1B. Discuss about the various scales of measurement.

(5+5 = 10 marks)

2A. Describe stratified random sampling and enumerate the merits and demerits of stratified sampling.

2B. Write briefly the steps involved in research process.

(6+4 = 10 marks)

3A. Calculate arithmetic mean and standard deviation for the following data.

10 12 8 7 9 10 11 10 11 12

3B. Describe coefficient of variation.

(7+3 = 10 marks)

4A. What are the sources of vital statistics?

4B. Write brief essay on Census and Registration of vital events.

(2+8 = 10 marks)

5. Write short essays on:

5A. Type of variables in Research.

5B. Graphical presentation of data.

5C. Skewness and Kurtosis.

5D. Correlation coefficient.

5E. Reliability and Validity.

5F. Measures of dispersion.

5G. Characteristics of good hypothesis.

5H. Uses of Epidemiology.

(5×8 = 40 marks)