

MANIPAL UNIVERSITY**THIRD YEAR B.Sc. R.T. DEGREE EXAMINATION – JUNE 2010****SUBJECT: ADVANCED NEONATAL RESPIRATORY CARE**

Tuesday, June 08, 2010

Time: 14:00-17:00 Hrs.

Max. Marks: 80

1. How does the neonatal circulation differ from that of a fetus? Describe the cardiopulmonary events that accompany the normal transition at birth.
(4+6+6 = 16 marks)
2. A 2000 gm preterm neonate is on ventilator. Describe the assessment of adequacy of oxygenation with reference to purpose and modes of assessment.
(2+14 = 16 marks)
3. Write short notes:
 - 3A. Heating and humidification of inspired air during neonatal ventilation.
 - 3B. CPAP - initiation and weaning.
 - 3C. How does a neonate lose heat from the body and how can you prevent it?
 - 3D. Discuss endotracheal intubation of neonates.
 - 3E. General care of a critically ill baby on ventilator.
 - 3F. What is hyaline membrane disease? Mention risk factors and pathophysiology.
(8×6 = 48 marks)



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MANIPAL UNIVERSITY

THIRD YEAR B.Sc. R.T. DEGREE EXAMINATION – JUNE 2010

SUBJECT: PULMONARY REHABILITATION

Thursday, June 10, 2010

Time: 14:00-17:00 Hrs.

Max Marks: 80

Answer ALL questions. Draw diagrams wherever necessary.

1. What are the goals of pulmonary rehabilitation? What are the factors contributing to diminished exercise tolerance in patients with chronic obstructive pulmonary disease? Describe the modes of exercise training in pulmonary rehabilitation programme.

(4+4+8 = 16 marks)

2. Describe briefly the pathophysiology and clinical features of asthma. Describe your strategy for pulmonary rehabilitation of a child with asthma.

(3+5+8 = 16 marks)

3. **Write short notes on:**

3A. Medications to treat nicotine dependence.

3B. Bronchial hygiene therapy.

3C. Bronchodilator therapy in pulmonary rehabilitation programme.

3D. Nutritional assessment and intervention in pulmonary rehabilitation programme.

3E. Ventilatory muscle evaluation and training for a patient with neuromuscular disorder.

3F. Lung volume reduction surgery.

(8×6 = 48 marks)



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THIRD YEAR B.Sc. R.T. DEGREE EXAMINATION – JUNE 2010

SUBJECT: CARDIOPULMONARY INTENSIVE CARE INCLUDING ADVANCED CARDIAC LIFE SUPPORT

Saturday, June 12, 2010

Time: 14:00-17:00 Hrs.

Max Marks: 80

Answer all the questions. Unnecessary padding of answers will be counter productive.

1. What is obstructive uropathy? Discuss the causes and management of a case of obstructive uropathy.

(1+7+8 = 16 marks)

2. How do you diagnose atrial fibrillation on an ECG monitor? What is your approach for the management of atrial fibrillation? Add a note on the use of amiodarone in AF.

(4+8+4 = 16 marks)

3. **Write short notes on:**

3A. Management of single rib fracture.

3B. Indications for permanent pacing.

3C. Physiological changes after pneumonectomy.

3D. Dopamine.

3E. Aetiology of cardiogenic shock.

3F. Postresuscitation care.

(8×6 = 48 marks)



MANIPAL UNIVERSITY

THIRD YEAR B.Sc. R.T. DEGREE EXAMINATION – JUNE 2010

SUBJECT: RESEARCH METHODOLOGY AND STATISTICS

Monday, June 14, 2010

Time: 14:00-17:00 Hrs.

Max. Marks: 80

- 1A. Explain the usefulness of Literature survey in research.
- 1B. State the characteristics of Ordinal scale. Classify the followings as examples under nominal, ordinal, Interval and ratio scales- Anxiety, Blood glucose level, Blood group, Temperature, Grading of severity of a disease and Height.

(5+(2+3) = 10 marks)

- 2A. Distinguish between discrete and continuous variable with one example each.
- 2B. Discuss the advantages of random sampling over nonrandom sampling.

(5+5 = 10 marks)

3. Following is the birth weight of 30 children:

Birth weight (in Kg) of 30 babies				
3.5	4.2	2.6	3.0	4.3
2.9	2.3	2.3	2.7	4.0
2.8	2.1	2.9	2.7	3.3
3.5	3.	2.1	3.1	2.9
3.2	3.1	2.8	2.4	2.8
2.8	3.1	2.0	3.1	3.9

- i) Prepare a frequency table with class intervals 2-2.5, 2.5-3, 3-3.5...etc.
- ii) Represent the data by a Histogram.

(5+5 = 10 marks)

- 4A. Followings are the height in inches of 10 patients admitted to a hospital.

65, 68, 63, 66, 64, 62, 65, 62, 69, 66

Compute mean and median for the above data.

- 4B. Explain with the help of a suitable example the need for measure of dispersion in data summarization.

(6+4 = 10 marks)

- 5A. Given the height of females is approximately normally distributed with a mean of 64 inches and a S.D. of 2 inches. What percent of the males are (i) taller than 66 inches (ii) in the range 62 - 66 inches?

5B. Explain positive and negative correlation with example.

(5+5 = 10 marks)

6A. Define health information system. List the requirements to be satisfied by the health information systems.

6B. Explain the terms prevalence and incidence with example.

((2+3)+5 = 10 marks)

7A. What is a hypothesis? What are the characteristics of a good hypothesis?

7B. During the year 2008, there were 30 deaths in a town. The estimated mid-year population for 2008 was 33000. Calculate the crude death rate. What are the limitations of crude death rate?

((1+4)+(3+2) = 10 marks)

8. Define epidemiology. What is descriptive epidemiology? State its uses.

(2+5+3 = 10 marks)



MANIPAL UNIVERSITY**THIRD YEAR B.Sc. R.T. DEGREE EXAMINATION – JUNE 2010****SUBJECT: PSYCHOLOGY**

Wednesday, June 16, 2010

Time: 14:00-17:00 Hrs.

Max Marks: 80

1. Answer any SIX of the following:

- 1A. What is psychotherapy? Discuss the principles and objectives of supportive psychotherapy.
- 1B. What is stress? Discuss the common causes of, and coping mechanisms employed in dealing with stress.
- 1C. What is counseling? Outline its types and objectives with a special emphasis on bereavement counseling.
- 1D. Discuss the concept of mental health from the ancient Indian perspective.
- 1E. Briefly outline the biological management of psychiatric disorders.
- 1F. Discuss the applications of learning principles in the management of Psychological problems.
- 1G. What is mental retardation? Explain the importance of intelligence tests as diagnostic tools in this condition.
- 1H. Describe any three methods of clinical psychology.

(10×6 = 60 marks)

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

- 2A. Cognitive behavior therapy.
- 2B. Psychodynamic psychotherapy.
- 2C. Psychosocial rehabilitation.
- 2D. DSM IV.
- 2E. Mood disorders.
- 2F. Family therapy.

(5×4 = 20 marks)



MANIPAL UNIVERSITY
THIRD YEAR B.Sc. R.T. DEGREE EXAMINATION – JUNE 2010
SUBJECT: RESPIRATORY THERAPY SCIENCE – III

Friday, June 18, 2010

Time: 14:00-17:00 Hrs.

Max Marks: 80

✕ **Answer all questions. Draw diagrams where necessary.**

1. List two differences between high frequency ventilation and conventional ventilation. Draw a labeled diagram of a high frequency oscillator (HFO). Write briefly about the 5 parameters that are set on the ventilator during high frequency oscillatory ventilation.

(2+4+10 = 16 marks)

2. Describe the therapeutic basis and current status of liquid ventilation in the management of acute respiratory distress syndrome. Add a note on the role of perfluorocarbons as a respiratory medium during liquid ventilation.

(12+4 = 16 marks)

3. Write short notes on:
 - 3A. Rationale behind use of hyperbaric oxygen therapy in carbon monoxide poisoning.
 - 3B. Adverse effects of permissive hypercapnia.
 - 3C. Bilevel positive airway pressure.
 - 3D. With the help of diagrams, describe a normal pressure-volume loop during volume controlled ventilation and pressure controlled ventilation; and how this changes in a patient with decreased lung compliance.
 - 3E. Calibration procedures to be performed on a ventilator prior to use on a patient.
 - 3F. Open lung concept in mechanical ventilation.

(8×6 = 48 marks)

