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MANIPAL UNIVERSITY

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

SUBJECT: ADVANCED NEONATAL RESPIRATORY CARE

Tuesday, June 07, 2011

Time: 14:00-17:00 Hrs.

Max. Marks: 80

1. Describe the pathophysiology of hyaline membrane disease. How does CPAP helpful in this disease?

(8+8 = 16 marks)

2. Assessment of adequacy of oxygenation in neonates - purpose and modes of assessment. Describe the non-invasive assessment in detail.

(2+4+10 = 16 marks)

3. **Write short notes:**

3A. Indications and procedure of Bag and mask ventilation. (as per NALS).

3B. Write a note on arterial blood gas.

3C. Ventilator variables with description.

3D. Write a note on effects of meconium on lungs.

3E. Capnography- characteristics, advantages and disadvantages.

3F. Mention the four differences between fetal circulation and neonatal circulation.

(8×6 = 48 marks)



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MANIPAL UNIVERSITY

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

SUBJECT: PULMONARY REHABILITATION

Thursday, June 09, 2011

Time: 14:00-17:00 Hrs.

Max Marks: 80

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

1. Describe the pathophysiology and treatment of tobacco dependence. (4+12 = 16 marks)
2. Describe different aerosol delivery devices. Give an account of their advantages and disadvantages. (4+12 = 16 marks)
3. **Write short notes on:**
 - 3A. Designing an exercise programme for pulmonary rehabilitation.
 - 3B. Strategy for rehabilitation of a paediatric patient with asthma.
 - 3C. Lung volume reduction surgery.
 - 3D. Respiratory muscle aids in pulmonary rehabilitation.
 - 3E. Walk tests.
 - 3F. Methods to measure dyspnoea.

(8×6 = 48 marks)



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MANIPAL UNIVERSITY

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

SUBJECT: CARDIOPULMONARY INTENSIVE CARE INCLUDING ADVANCED CARDIAC LIFE SUPPORT

Saturday, June 11, 2011

Time: 14:00-17:00 Hrs.

Max Marks: 80

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

1. What are the indications for intercostal chest tube? Discuss the techniques of its placement and complications.

(4+8+4 = 16 marks)

2. Describe the causes of cardiac failure. How is it diagnosed? Add a note on drugs used in the treatment of congestive cardiac failure.

(4+8+4 = 16 marks)

3. Write short notes on:

3A. Metabolic acidosis.

3B. Mechanism of septic shock.

3C. Adrenaline.

3D. Hypothermic cardiac arrest.

3E. Ventricular premature contractions.

3F. Oesophageal detector device.

(8×6 = 48 marks)



MANIPAL UNIVERSITY

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

SUBJECT: RESEARCH METODOLOGY AND STATISTICS

Tuesday, June 14, 2011

Time: 14:00-17:00 Hrs.

Max. Marks: 80

- 1A. State the functions and limitations of statistics.
- 1B. Explain the characteristics of ordinal scale of measurement. Give two examples for the same.
(5+(3+2) = 10 marks)
- 2A. Distinguish between discrete and continuous variable with one example each.
- 2B. Define simple random sampling. State the advantages of sampling over census.
(5+5 = 10 marks)
- 3A. Differentiate inclusive and exclusive type class intervals with example.
- 3B. When do you choose pie diagram to represent the data? List the difference between histogram and bar diagram.
(5+(2+3) = 10 marks)
- 4A. Define inter-quartile range. State the qualities of a good measure of variation.
- 4B. What do you mean by central tendency?
Followings are length in inches of 10 babies:
Length in inches: 21, 25, 23, 19, 20, 24, 18, 22, 23, 21, 24
Compute mean and median.
(1+4)+(1+2+2) = 10 marks)
- 5A. Mean of a distribution is 50 and standard deviation is 3.
In a sample of 1000 observations, assuming Normality estimate the number of observations
i) less than 47 ii) between 47 and 56
- 5B. State the advantages of scatter diagram in the study of Correlation.
(5+5 = 10 marks)
- 6A. List any four sources of health information system. Enumerate the uses of health information system.
- 6B. Explain the terms incidence and prevalence with example.
(3+2)+5 = 10 marks)
- 7A. Define Validity. Explain the meaning of any one type of validity.
- 7B. Define Crude Birth rate. What are its uses and limitations?
(2+3)+5 = 10 marks)
8. State the aims of epidemiology. Discuss the usefulness and limitations of Cross-sectional studies.
(3+3+4 = 10 marks)



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

SUBJECT: PSYCHOLOGY

Thursday, June 16, 2011

Time: 14:00-17:00 Hrs.

Max Marks: 80

1. Answer any SIX of following:

- 1A. What is psychotherapy? Describe the components of supportive psychotherapy.
- 1B. What is normality? Outline the concepts of normality and abnormality.
- 1C. Describe any two methods used for data collection in Clinical psychology, highlighting their merits and demerits.
- 1D. Discuss biological and learning models of mental disorders.
- 1E. Discuss the various sources of stress and outline its effect on physical and mental health.
- 1F. Discuss the course and outcome of any two psychotic disorders.
- 1G. Describe the clinical features and management of depression.
- 1H. What is crisis? Explain its stages and management.

(10×6 = 60 marks)

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

- 2A. Marital therapy.
- 2B. Mental retardation.
- 2C. Psychiatric classification.
- 2D. Intelligence tests.
- 2E. Client centered therapy.
- 2F. Psychosocial rehabilitation.

(5×4 = 20 marks)



MANIPAL UNIVERSITY**THIRD YEAR B.Sc. R.T. DEGREE EXAMINATION – JUNE 2011****SUBJECT: RESPIRATORY THERAPY SCIENCE – III**

Saturday, June 18, 2011

Time: 14:00-17:00 Hrs.

Max Marks: 80

Answer all questions. Draw diagrams where necessary.

1. Describe the possible complications of hyperbaric oxygen therapy (HBOT). List three contraindications for its use. How will you monitor for these adverse events while using HBOT?

(7+3+6 = 16 marks)

2. What do you understand by the term *I:E ratio*? What is the rationale for the range of I:E ratios that we normally use during conventional ventilation? Illustrate with the help of examples how the I:E ratio is altered in the Hamilton Galileo™, Bear Adult™ and Bear Cub™ ventilators.

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

3. **Write short notes on:**

- 3A. High frequency percussive ventilation.
3B. Pharmacological action, indications and clinical use of nitric oxide in respiratory care.
3C. Airway pressure release ventilation.
3D. Adaptive support ventilation.
3E. Describe with diagrams the clinical utility of monitoring flow-time scalars and flow-volume loops.
3F. Noninvasive methods of monitoring oxygenation and carbon dioxide elimination in the intensive care unit.

(8×6 = 48 marks)

