

**MANIPAL UNIVERSITY**  
**THIRD YEAR B. Sc. R.T. DEGREE EXAMINATION – MAY/JUNE 2012**  
**SUBJECT: RESEARCH METODOLOGY AND STATISTICS**  
 Monday, May 28, 2012

Time: 10:00-13:00 Hrs.

Max. Marks: 80

1. What are the principles of qualitative research? (5 marks)
2. Write a note on Validity and Reliability. (5 marks)
3. Describe qualitative and quantitative variables with examples. (5 marks)
4. Classify the following into different scales of measurements (Nominal, Ordinal, Interval and Ratio).
  - 4A. Weight
  - 4B. Temperature ( $^{\circ}$ K)
  - 4C. Stages of Cancer
  - 4D. IQ
  - 4E. Telephone number (5 marks)
5. Explain simple random sampling. (5 marks)
- 6A. Present the data given below on percentage of children benefitted by polio immunization in a country from 2006 – 2010 by a simple bar diagram.
 

Year	2006	2007	2008	2009	2010
Polio (%) Immunization	80	83	88	95	98
- 6B. Form a frequency table along with relative frequencies for the ages of 48 patients given below. (Class intervals: 0–15, 15–30, 30–45, so on).
 

31	07	39	43	62	30	38	10	36	29	40	22
40	65	15	30	39	53	47	64	33	46	17	32
36	42	76	50	30	34	25	36	39	36	42	47
32	39	24	57	37	47	27	43	43	54	40	39

(5+5 = 10 marks)

- 7A. List the merits and demerits of mean and median.
- 7B. Following are the weights (in kg) of a sample of 10 students

45 64 60 69 46 64 61 65 52 54

Compute range and standard deviation of the above data.

(5+5 = 10 marks)

8. Suppose the systolic blood pressure of adult males is approximately normally distributed with mean 130 mmHg and standard deviation 10 mmHg. In a sample of 600 apparently normal adult males, how many will be with systolic blood pressure?

8A. More than 140 mmHg

8B. In the range 120 – 150 mmHg

(5 marks)

9. How do you interpret correlation with the help of scatter diagram?

(5 marks)

10. Discuss sample registration system as a source of health information system.

(5 marks)

11. Distinguish between incidence and prevalence with an example. Write a short note on rates and ratios.

(10 marks)

12. Define descriptive epidemiology. Describe the different methods in epidemiology.

(10 marks)



**MANIPAL UNIVERSITY****THIRD YEAR B.Sc. R.T. DEGREE EXAMINATION – MAY/JUNE 2012****SUBJECT: PULMONARY REHABILITATION**

Wednesday, May 30, 2012

Time: 10:00-13:00 Hrs.

Max Marks: 80

**✍ Answer the following questions:**

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.

(2+7+7 = 16 marks)

2. Discuss about the nutritional assessment and support in pulmonary rehabilitation.

(16 marks)

**3. Write short notes:**

- 3A. Metered dose inhalers.  
3B. Ventilator muscle training.  
3C. Medications to treat tobacco dependence.  
3D. Surgical therapy for COPD patients.  
3E. Ventilator muscle evaluation for patients with neuromuscular disorders.  
3F. Non invasive ventilation.

(8×6 = 48 marks)



**MANIPAL UNIVERSITY****THIRD YEAR B.Sc. R.T. DEGREE EXAMINATION – MAY/JUNE 2012****SUBJECT: CARDIOPULMONARY INTENSIVE CARE INCLUDING ADVANCED CARDIAC LIFE SUPPORT**

Friday, June 01, 2012

Time: 10:00-13:00 Hrs.

Max Marks: 80

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

1. What are the types of cardiac pacing? Write in detail indications of inserting pacemaker. Write the procedure in detail.  

(3+5+8 = 16 marks)
2. Define acute renal failure. Write the causes of acute renal failure. Write in detail the management of acute renal failure.  

(2+6+8 = 16 marks)
3. **Write short notes on the following:**
  - 3A. Write the management of septic shock.
  - 3B. Write the mechanism of action, indications and complications of vasopressors in shock.
  - 3C. Write the morphology and treatment of Atrial flutter.
  - 3D. Write in detail the management of flail chest.
  - 3E. Write in detail about colloid Vs crystalloid.
  - 3F. Write different techniques of dialysis in detail.

(8×6 = 48 marks)



**MANIPAL UNIVERSITY**  
**THIRD YEAR B.Sc. R.T. DEGREE EXAMINATION – MAY/JUNE 2012**  
**SUBJECT: ADVANCED NEONATAL RESPIRATORY CARE**

Monday, June 04, 2012

Time: 10:00-13:00 Hrs.

Max. Marks: 80

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

1. What is CPAP? What are the indications for CPAP? How do you initiate CPAP? Mention its complications.

(2+5+5+4 = 16 marks)

2. Define apnoea of prematurity. What are the different types of apnoea? How do you manage a 1500-gram, 34-week preterm neonate found to be apnoeic at 2 hours of life?

(2+6+8 = 16 marks)

3. **Write briefly on:**

3A. Prevention of heat loss in preterm neonate.

3B. Mention the equipment needed and the method of resuscitation of a 2500-gram term baby found to be apnoeic at birth with a heart rate of 80 beats per minute.

3C. Bronchopulmonary dysplasia.

3D. Endotracheal suction and general care of a baby on ventilator for primary pulmonary hypertension (PPHN).

3E. Foetal circulation.

3F. Complications of meconium aspiration.

(8×6 = 48 marks)





**3. Write short notes on any SIX of the following:**

- 3A. Counseling
- 3B. Client –centered psychotherapy
- 3C. Family therapy
- 3D. Assessment of cognitive function
- 3E. Euthanasia
- 3F. Personality disorders
- 3G. Grief management
- 3H. ICD classification
- 3I. Cognitive model of mental disorders

(5×6 = 30 marks)

**4. Write essay on any TWO of the following:**

- 4A. Describe the concept of normality and abnormality from various perspectives.
- 4B. Discuss the effects of stress and its management.
- 4C. Explain various crisis intervention strategies.

(15×2 = 30 marks)



**MANIPAL UNIVERSITY**  
**THIRD YEAR B.Sc. R.T. DEGREE EXAMINATION – MAY/JUNE 2012**  
**SUBJECT: RESPIRATORY THERAPY SCIENCE – III**

Friday, June 08, 2012

Time: 10:00-13:00 Hrs.

Max Marks: 80

1. Write the basic principles by which these modalities of ventilation helps patients:
  - 1A. Hyperbaric oxygenation therapy
  - 1B. Heliox therapy
  - 1C. Nitric oxide therapy
  - 1D. Liquid ventilation

(4×4 = 16 marks)
  
2. Draw ventilatory graphics evident during following conditions:
  - 2A. Air leak
  - 2B. Decreased compliance and increased resistance
  - 2C. Auto- PEEP
  - 2D. Secretions

(4×4 = 16 marks)
  
3. **Write short notes on:**
  - 3A. Draw pressure- volume curve and label. Explain with diagrams the changes seen on P-V loop during hyperinflation and Auto- PEEP.
  - 3B. Write the indications, initiation and contraindications of non- invasive ventilation.
  - 3C. High frequency oscillatory ventilation.
  - 3D. Write briefly about adaptive support ventilation and adaptive pressure ventilation.
  - 3E. Write in detail about the different types of humidification systems available in intensive care units.
  - 3F. A patient with closed head injury arrives at the casualty. The physician intubates the patients and asks you to set the ventilator for the patient. ABG is normal with acceptable oxygenation and retained carbondioxide. The patient is unconscious.

(8×6 = 48 marks)

