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Reg. No.

MANIPAL UNIVERSITY

~~SECOND YEAR B.P.T./B.O.T./B.Sc. R.T./ B.Sc. C.V.T./ B.Sc. R.R.T. & D.T~~
DEGREE EXAMINATION – JUNE 2015

SUBJECT: PATHOLOGY

(2010 SCHEME/2011 BATCH/2010 SCHEME/2011 SCHEME)

Monday, June 15, 2015

Time: 10:00-11:30 Hrs.

Max. Marks: 40

✍ Answer ALL questions.

✍ Illustrate your answers with diagrams wherever necessary.

1. Classify anemia. What are the biochemical investigations and peripheral blood smear picture in iron deficiency anemia.
(3+3+2 = 8 marks)
2. Mention the causative organism of Tuberculosis. Define primary and secondary Tuberculosis. Describe morphology of secondary pulmonary tuberculosis.
(1+2+4 = 7 marks)
3. Write short notes on:
 - 3A. Gangrene
 - 3B. Phagocytosis
 - 3C. Osteoporosis
 - 3D. Types of embolism
 - 3E. Factors influencing fracture healing and its complications
(5 marks × 5 = 25 marks)



MANIPAL UNIVERSITY
SECOND YEAR B.Sc. R.T. DEGREE EXAMINATION – JUNE 2015
SUBJECT: RESPIRATORY THERAPY SCIENCE II
(2010 SCHEME)

Friday, June 26, 2015

Time: 10:00-13:00 Hrs.

Max. Marks: 80

1. Explain with the help of a diagram (Pressure, flow, volume vs time graphs) the changes in the alveoli and pleura during spontaneous, negative and positive pressure?

(12+4 = 16 marks)

2. A 60-year-old man presents with acute exacerbation of COPD. After an hour of ICU admission he appears distressed, worsening dyspnea with use of accessory muscle, ABG on 31% venturi: pH-7.35; $Paco_2$ -60; Pao_2 -72; Hco_3 -30. Elaborate your ventilatory management according to the diagnosis.

(16 marks)

3. **Write short notes on:**

3A. Write a short note on Incentive spirometry

3B. Write a short note on Spontaneous breathing Trial

3C. Differentiate between controlled mandatory ventilation (CMV) Vs. Synchronized Intermittent Mandatory Ventilation.

3D. Causes and steps for management of sudden Respiratory Distress in a patient on mechanical ventilatory support

3E. Physiologic effects of PEEP

3F. Criteria for tracheal intubation and initiation of ventilatory support.

(8 marks × 6 = 48 marks)



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MANIPAL UNIVERSITY
SECOND YEAR B.Sc. R.T. DEGREE EXAMINATION – JUNE 2015
SUBJECT: APPLIED CARDIOPULMONARY ANATOMY AND PHYSIOLOGY
(2010 SCHEME)

Wednesday, June 24, 2015

Time: 10:00-13:00 Hrs.

Max. Marks: 80

1. Describe the cardiopulmonary events occurring during the transition from uterine to extra-uterine life. Add a short note on development of respiratory system.

(10+6 = 16 marks)

2. Describe the primary and secondary muscles of respiration.

(8+8 = 16 marks)

3. **Write short notes on:**
 - 3A. Carbon dioxide transport in blood
 - 3B. Respiratory acidosis
 - 3C. Regulation of blood pressure
 - 3D. Compliance and resistance
 - 3E. Bronchopulmonary segments
 - 3F. Oxygen transport

(8 marks × 6 = 48 marks)



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MANIPAL UNIVERSITY
SECOND YEAR B. Sc. R.T. DEGREE EXAMINATION – JUNE 2015
SUBJECT: DIAGNOSTIC TECHNIQUES
(2010 SCHEME)

Monday, June 22, 2015

Time: 10:00-13:00 Hrs.

Max. Marks: 80

✍ **Draw diagrams wherever necessary.**

1. Explain the rationale behind modified Allen test and how would you perform it. What are the indications and contraindications for obtaining an arterial blood sample? Discuss American Association of Respiratory Care (AARC) clinical practice guideline for obtaining arterial blood sample from a peripheral arterial puncture for analysis.

(4+4+8 = 16 marks)

2. Explain in detail the conduction system of heart. With the help of labeled diagram, describe the normal electrocardiogram. What is the normal rate of SA node and AV node?

(8+6+2 = 16 marks)

3. **Write short notes on:**

3A. Atrial flutter

3B. Different views of chest X- ray

3C. Broncho provocation test

3D. Write the chest x ray characteristics of:

i) Bronchiectasis ii) ARDS

3E. Respiratory alkalosis

3F. Indications and contraindications of PA catheterization

(8 marks × 6 = 48 marks)



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MANIPAL UNIVERSITY
SECOND YEAR B. Sc. R.T. DEGREE EXAMINATION – JUNE 2015
SUBJECT: RESPIRATORY DISEASE PROCESS
(2010 SCHEME)

Friday, June 19, 2015

Time: 10:00-13:00 Hrs.

Max. Marks: 80

- ✍ Answer ALL the questions.
✍ Draw diagrams wherever necessary.

1. Define Pneumothorax. List down the clinical features seen in this condition. Explain the pathophysiology and its appropriate management.
(2+4+6+4 = 16 marks)

2. Define Berlin's definition of acute respiratory distress syndrome (ARDS). Add a note on pathophysiology and management.
(4+6+6 = 16 marks)

3. Write short notes on:
 - 3A. Clinical features and management of pneumonia
(4+4 = 8 marks)
 - 3B. Radiological features and management of pulmonary tuberculosis
(4+4 = 8 marks)
 - 3C. Tetanus
(8 marks)
 - 3D. Dyspnoea management
(8 marks)
 - 3E. Pathophysiology of chronic obstructive pulmonary disease
(8 marks)
 - 3F. Flail chest
(8 marks)



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MANIPAL UNIVERSITY

SECOND YEAR BPT/BOT/B.Sc. RT/B.Sc. CVT/B.Sc. RRT & DT
DEGREE EXAMINATION – JUNE 2015

SUBJECT: MICROBIOLOGY
(COMMON FOR 2010 SCHEME/2011 BATCH/2010 SCHEME/2011 SCHEME)

Wednesday, June 17, 2015

Time: 10:00-11:30 Hrs.

Max. Marks: 40

✍ Answer all questions. Illustrate your answers with neat labeled diagram wherever necessary.

1. Describe the pathogenesis, laboratory diagnosis and prophylaxis of Tetanus.
(3+2+3 = 8 marks)
2. Define and classify immunity. Describe in detail about acquired immunity.
(1+2+4 = 7 marks)
3. Write short notes on:
 - 3A. Bacterial growth curve
 - 3B. Laboratory diagnosis of fungal infections
 - 3C. Bacterial endocarditis
 - 3D. Laboratory diagnosis of Hepatitis B virus infection
 - 3E. Hot air oven(5 marks × 5 = 25 marks)

