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MANIPAL UNIVERSITY

FIRST YEAR B.Sc. R.T. DEGREE EXAMINATION – MAY/JUNE 2013

SUBJECT: ANATOMY

Tuesday, May 28, 2013

Time: 10.00-11.30 Hrs.

Max. Marks: 40

✍ Answer ALL the questions.

1. Describe the lobes and functional areas of cerebral hemisphere.

(2+6 = 8 marks)

2. Describe the position, lobes, surfaces, relations, blood supply and nerve supply of liver.

(1+2+1+2+1+1 = 8 marks)

3. Write briefly on:

3A. Ureter

3B. Spermatic cord

3C. Breast

3D. Cartilage

3E. Thoraco-abdominal diaphragm

3F. Retina

3G. Superior vena cava

3H. Pituitary gland

(3×8 = 24 marks)



MANIPAL UNIVERSITY**FIRST YEAR B.Sc. RT DEGREE EXAMINATION – MAY/JUNE 2013****SUBJECT: PHYSIOLOGY**

Thursday, May 30, 2013

Time: 10.00-11.30 Hours.

Max. Marks: 40

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

1. Essay questions:

- 1A. Classify leucocytes. Mention one function of each.
- 1B. Draw a neat labeled diagram of the visual pathway.
- 1C. Mention the site of formation and circulation of cerebrospinal fluid. List any two functions of cerebrospinal fluid.
- 1D. List five actions of cortisol.

(5×4 = 20 marks)

2. Write short answers for the following:

- 2A. Mention any two transport mechanisms across the cell membrane.
- 2B. Mention any two differences between the first and second heart sounds.
- 2C. Enumerate any two differences between skeletal and smooth muscles.
- 2D. Mention any two anticoagulants.
- 2E. Define stroke volume. Give its normal value.
- 2F. Mention the different forms in which oxygen is transported in the blood.
- 2G. List any two functions of liver.
- 2H. Define alveolar ventilation. Mention its normal value.
- 2I. List any two functions of placenta.
- 2J. Define renal threshold. Mention the renal threshold for glucose.

(2×10 = 20 marks)



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FIRST YEAR B.Sc. R.T. DEGREE EXAMINATION – MAY/JUNE 2013

SUBJECT: BIOCHEMISTRY

Saturday, June 01, 2013

Time: 10.00-11.30 Hours

Max. Marks: 40

1. Write in detail the reactions of urea cycle. Add a note on two disorders of urea cycle.
(8 marks)
2. Explain the metabolism of ketone bodies.
(6 marks)
3. **Write short notes on the following:**
 - 3A. Structure of DNA
 - 3B. Secondary structure of proteins
 - 3C. Digestion of starch
 - 3D. Reactions of β - oxidation of palmitic acid in mitochondria
(4×4 = 16 marks)
4. **Answer the following:**
 - 4A. Give two functions of dietary fibers.
 - 4B. Name two important products each derived from tyrosine and glycine.
 - 4C. List four functions of calcium.
 - 4D. Write the normal serum levels of total protein, uric acid, creatinine and total cholesterol.
 - 4E. What are proenzymes? Give two examples.
(2×5 = 10 marks)



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FIRST YEAR B.Sc. R.T. DEGREE EXAMINATION – MAY/JUNE 2013

SUBJECT: PHARMACOLOGY

Tuesday, June 04, 2013

Time: 10.00 – 13.00 Hrs.

Max. Marks: 80

1. Classify Nonsteroidal anti-inflammatory drugs. Give the name of two drugs used in:
 - 1A. Acute rheumatoid arthritis pain
 - 1B. Postoperative pain

(6+2+2 = 10 marks)

2. List five general anesthetics and their uses.

(2×5 = 10 marks)

3. What do you mean by sedatives? Classify them giving two examples for each.

(2+6 = 8 marks)

4. **Write briefly on:**
 - 4A. Acute morphine poisoning
 - 4B. Treatment of congestive heart failure

(4+8 = 12 marks)

5. Describe the different routes of administration with one example for each route.

(6+4 = 10 marks)

6. **Give name of the drug used in:**
 - 6A. Glaucoma
 - 6B. Diagnosis of Myasthenia gravis
 - 6C. Acute Asthma
 - 6D. Organophosphorous poisoning

(3×4 = 12 marks)

7. Classify drugs used in Bronchial Asthma. Give the mechanism of action of any one group.

(6+6 = 12 marks)

8. Classify antibacterial drugs.

(6 marks)



MANIPAL UNIVERSITY

FIRST YEAR B.Sc. R.T. DEGREE EXAMINATION – MAY/JUNE 2013

SUBJECT: PATIENT CONTACT TECHNIQUES

Thursday, June 06, 2013

Time: 10.00-13.00 Hrs.

Max. Marks: 80

1. You are doing your morning rounds in the ward. Suddenly you saw a patient next to you collapsing on the floor after having a cardiac arrest, who got up from his bed to go to the toilet. Describe in detail how you will assess and manage this patient.
(16 marks)
2. What do you mean by the term Chest Physical Therapy (CPT)? What are the indications and contraindications for CPT? Write a short note on components of CPT.
(2+4+10 = 16 marks)
3. **Write a short note on:**
 - 3A. Stages of patient interview
(8 marks)
 - 3B. Characteristics of normal breath sounds
(8 marks)
 - 3C. Glasgow coma scale
(8 marks)
 - 3D. Equipment needed for suctioning. Indications for use of closed suctioning techniques.
(5+3 = 8 marks)
 - 3E. Mechanism behind abnormal heart sounds
(8 marks)
 - 3F. Bronchopulmonary segments
(8 marks)



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FIRST YEAR B.Sc. R.T. DEGREE EXAMINATION – MAY/JUNE 2013

SUBJECT: RESPIRATORY THERAPY SCIENCE – I

Saturday, June 08, 2013

Time: 10:00-13:00 Hrs.

Max. Marks: 80

Answer the following questions.

Draw diagrams wherever necessary.

1. Define flow meters. With the help of a diagram describe the parts of the flow meter. Mention the working principle, types and indications of flow meters. As a respiratory therapist how would you set 10l/min flow for 80:20 helioxy mixture on an oxygen flow meter?
(2+4+6+4 = 16 marks)

2. Define aerosol and state the aim of medical aerosol therapy. Describe the key mechanisms of aerosol deposition. What are the types of aerosol delivery devices available? Write a short note on ultrasonic nebulizers.
(2+2+4+4+4 = 16 marks)

3. **Write short notes on:**
 - 3A. Capnometry
(8 marks)
 - 3B. Oxygen toxicity
(8 marks)
 - 3C. With the help of a diagram write the parts, selection and insertion techniques of LMA and COMBI TUBE.
(4+4 = 8 marks)
 - 3D. Oxygen analyzers
(8 marks)
 - 3E. State Graham's law. Mention factors affecting diffusion. What is Reynold's number? Mention factors affecting turbulent flow.
(2+2+2+2 = 8 marks)
 - 3F. Write the guidelines applied for the storage of cylinders and for using the cylinder for transport.
(4+4 = 8 marks)

