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MANIPAL UNIVERSITY

FIRST YEAR B.Sc. M.L.T./B.Sc. R.T./B.Sc. M.R.T./B.Sc. M.I.T./B.Sc. C.V.T./
B.Sc. R.R.T & D.T. DEGREE EXAMINATION – AUGUST 2015

SUBJECT: ANATOMY

Wednesday, August 26, 2015

Time: 10.00 – 11.30 Hrs.

Max. Marks: 40

✍ **Answer ALL the questions.**

1. Name the components (parts) of female reproductive system. Describe the position, parts, relations, blood supply and lymphatic drainage of uterus.

(2+8 = 10 marks)

2. **Write short notes on:**

- 2A. Classification and structure of bones
2B. Lungs
2C. Aorta
2D. Anal canal
2E. Pituitary gland
2F. Lobes and functional areas of cerebral hemisphere

(5 marks × 6 = 30 marks)



MANIPAL UNIVERSITY

**FIRST YEAR BOT / B.Sc. MLT / B.Sc. CVT / B.Sc. MIT / B.Sc. RT / B.Sc. NMT /
B.Sc. RRT & DT / B.Sc. MRT / DEGREE EXAMINATION – AUGUST 2015**

SUBJECT: PHYSIOLOGY

Thursday, August 27, 2015

Time: 10.00 – 11.30 Hours.

Max. Marks: 40

✍ **Answer ALL questions. Draw diagrams and flow chart wherever appropriate.**

1. Essay Questions:

- 1A. Explain the intrinsic mechanism of blood clotting.
- 1B. Draw and label a normal electrocardiogram from limb lead II and mention the causes for each wave.
- 1C. Mention any three functions of cerebellum. List any two features of cerebellar lesion.
- 1D. List four actions of thyroid hormones. Name the condition that results due to deficiency of thyroid hormones in adults.

(5 marks × 4 = 20 marks)

2. Short Answer Questions:

- 2A. Describe rigor mortis
- 2B. Describe primary active transport mechanism with an example
- 2C. List two features of erythroblastosis fetalis
- 2D. What are the two different forms of carbon dioxide transport in blood?
- 2E. Define cardiac output. Mention its normal value
- 2F. Name the components of vestibular apparatus
- 2G. List any two functions of liver
- 2H. Mention any two actions of testosterone
- 2I. Define glomerular filtration rate. Give its normal value
- 2J. Mention two properties of sensory receptors

(2 marks × 10 = 20 marks)



MANIPAL UNIVERSITY**FIRST YEAR BPT / BOT / B.Sc. MLT / B.Sc. RT / B.Sc. MIT / B.Sc. CVT /
B.Sc. RRT & DT DEGREE EXAMINATION – AUGUST 2015****SUBJECT: BIOCHEMISTRY**

Friday, August 28, 2015

Time: 10.00 – 11.30 Hours

Max. Marks: 40

✍ **Answer ALL the questions.**

✍ **Draw diagrams and flow charts wherever appropriate.**

1. Explain the oxidation of acetyl CoA in the TCA cycle and add a note on its energetics.
(8 marks)

2. Give a detailed account of the process of emulsification and absorption of lipids in the intestine.
(6 marks)

3. **Write short notes on the following:**
 - 3A. Classification of lipoproteins based on density and their functions
 - 3B. Ketolysis and its significance
 - 3C. Basal metabolic rate
 - 3D. Differences between DNA and RNA(4 marks × 4 = 16 marks)

4. Write brief answers for the following:
 - 4A. Give the Henderson- Hasselbalch equation of bicarbonate buffer system with normal values of the components.
 - 4B. Give normal serum level of calcium and mention THREE hormones involved in its regulation.
 - 4C. Define essential amino acids with THREE examples.
 - 4D. Classify polysaccharides giving ONE example each.
 - 4E. Describe the effect of temperature on enzyme activity with a suitable graph.
(2 marks × 5 = 10 marks)



MANIPAL UNIVERSITY

FIRST YEAR B.Sc. R.T. DEGREE EXAMINATION – AUG/SEP 2015

SUBJECT: PHARMACOLOGY
(2010 SCHEME)

Saturday, August 29, 2015

Time: 10.00 – 13.00 Hrs.

Max. Marks: 80

1. Describe how skeletal muscle relaxants are classified. Give four uses of them.
(5+4 = 9 marks)
2. Classify the drugs used for the treatment of Congestive heart failure.
(6 marks)
3. List the drugs used for Bronchial asthma with the mechanism of action of Sympathomimetics.
(8 marks)
4. Give two uses and two adverse effects of:
 - 4A. Tetracyclines
 - 4B. Loop diuretics
 - 4C. Morphine
 - 4D. Benzodiazepines
 - 4E. Propofol
(4 marks × 5 = 20 marks)
5. Classify local anesthetics. List three uses and three side effects.
(5+5 = 10 marks)
6. What are the different uses of NSAIDs? Give four examples and two side effects.
(10 marks)
7. Give five examples of drugs used for cough.
(5 marks)
8. **Define the following:**
 - 8A. Drug absorption
 - 8B. Bioavailability
 - 8C. Agonist
 - 8D. Plasma clearance
(3 marks × 4 = 12 marks)



MANIPAL UNIVERSITY**FIRST YEAR B.Sc. R.T. DEGREE EXAMINATION – AUG/SEP 2015****SUBJECT: PATIENT CONTACT TECHNIQUES
(2010 SCHEME)**

Monday, August 31, 2015

Time: 10.00 – 13.00 Hrs.

Max. Marks: 80

✍ Draw diagrams wherever necessary.**1. Define:**

- 1A. Hyperkalemia
- 1B. Hypocalcemia
- 1C. Hybernatremia
- 1D. Albuminuria
- 1E. Anemia
- 1F. Leucocytosis
- 1G. Thrombocytopenia
- 1H. Leukemia

(2 marks × 8 = 16 marks)

2. Assessment of cardiovascular system and heart sounds. Add a note on cardiac murmurs.

(8+8 = 16 marks)

3. Write short notes on:

- 3A. Lung sounds
- 3B. Components of history taking of patients
- 3C. Indications of Bronchial hygiene therapy. Describe steps of Bronchial hygiene therapy.
- 3D. Enumerate equipments required for endotracheal suctioning. Describe steps involved in endotracheal suctioning.
- 3E. Define universal precautions. What are the universal precautions that should be followed while performing endotracheal suction in a patient with retro viral illness?
- 3F. Chain of survival in adult basic life support.

(8 marks × 6 = 48 marks)



MANIPAL UNIVERSITY**FIRST YEAR B.Sc. R.T. DEGREE EXAMINATION – AUG/SEP 2015****SUBJECT: RESPIRATORY THERAPY SCIENCE – I
(2010 SCHEME)**

Tuesday, September 01, 2015

Time: 10:00 – 13:00 Hrs.

Max. Marks: 80

✍ **Answer the following questions.**

✍ **Draw diagrams wherever necessary.**

1. Calculate the time duration of an E cylinder when the cylinder is being used to deliver 2l/min of oxygen and the cylinder pressure is 1500 psig? Draw a neat labeled diagram of medical gas cylinder and discuss the safety systems used in the cylinder?

(8+4+4 = 16 marks)

2. Discuss the various types of artificial airways.

(16 marks)

3. **Write short notes on:**

- 3A. Indications, complications of aerosol therapy
3B. Indications, Contraindications of Endotracheal Intubation
3C. Oxygen Analyzer
3D. Small-Volume Nebulizer
3E. Oxygen Flowmeters
3F. Pressure reducing valves

(8 marks × 6 = 48 marks)

