

**MANIPAL UNIVERSITY**  
**FIRST YEAR B.Sc. M.L.T./ B.Sc. N.M.T./ B.Sc. R.T./ B.Sc. M.I.T.**  
**DEGREE EXAMINATION – JUNE 2008**

**SUBJECT: ANATOMY**

Monday, June 09, 2008

Time: 1½ Hrs.

Max. Marks: 40

- ✍ **Answer all the questions.**
- ✍ **Draw neat labeled diagram wherever necessary.**

1. Classify the joints giving examples to each variety. Discuss the structure of a typical synovial joint.

(8 marks)

2. Name the fissures and lobes of the right lung. Name the structures related to the mediastinal surface of right lung.

(2+6 = 8 marks)

3. Answer briefly on:

3A. Multipolar neuron

3B. Trachea

3C. Interior of the right ventricle

3D. Stomach

3E. Spleen

3F. Uterus

3G. Functional areas of cerebrum

3H. Right kidney

(3×8 = 24 marks)



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FIRST YEAR B.P.T./B.O.T./B.Sc.M.L.T./B.Sc.N.M.T/B.Sc.R.T.T. DEGREE EXAMINATION – JUNE 2008

**SUBJECT: PHYSIOLOGY**

Tuesday, June 10, 2008

Time available: 3 Hours.

Max. Marks: 80

**1. Essay:**

- 1A. Describe the origin and conduction of impulse in the human heart. Relate these events to waves of ECG.
- 1B. Draw labeled diagram showing the origin, course and termination of the corticospinal pathway. Mention three characteristic features of damage to this pathway.

(10+(7+3) = 20 marks)

**2. Write short notes on the following:**

- 2A. Cerebrospinal fluid.
- 2B. Neuromuscular junction.
- 2C. Functions of skin.
- 2D. Carbon dioxide transport in blood.
- 2E. Types of transport mechanisms across cell membrane.
- 2F. Composition of blood.
- 2G. Salivary secretion-composition and regulation.
- 2H. Ovarian hormones.

(5×8 = 40 marks)

**3. Write brief answers to the following:**

- 3A. List any four functions kidney.
- 3B. Define ovulation. Mention two methods to detect the time of ovulation.
- 3C. Name four hormones that increase plasma glucose level.
- 3D. List two adverse effects of mismatched blood transfusion.
- 3E. Define sensory receptor. List two properties of sensory receptor.
- 3F. What is hemophilia?
- 3G. List two functions of middle ear.
- 3H. Draw a diagram of the motor unit.
- 3I. Mention two causes of tachycardia.
- 3J. Define the following:

- i) Hypoxia
- ii) Apnea

(2×10 = 20 marks)

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FIRST YEAR B.P.T./B.O.T/ B.Sc. M.L.T./ B.Sc. N.M.T./ B.Sc. R.T./ B.Sc. M.I.T.  
DEGREE EXAMINATION – JUNE 2008

SUBJECT: BIOCHEMISTRY  
(NEW REGULATIONS)

Wednesday, June 11, 2008

Time available: 1½ Hours

Max. Marks: 40

✍ Answer ALL questions.

1. Classify polysaccharides. Give TWO examples for each with their functions. (4 marks)
2. Write the reactions of the citric acid cycle. Add a note on its energetics. (8 marks)
3. Mention TWO physiologically important compounds each derived from glycine, tyrosine, histidine and tryptophan. (4 marks)
4. Give the RDA, sources, biochemical functions and disorders for Vitamin A. (6 marks)
5. Give the normal serum level and TWO conditions in which they are altered for glucose and protein. (3 marks)
6. Write the reactions involved in the oxidation of palmitic acid. (6 marks)
7. What is the diagnostic importance of serum creatine kinase and alanine transaminase? (3 marks)
8. What is biological value of a protein? Mention protein sources with high biological value. (2 marks)
9. Mention the causes for lactose intolerance. Describe the clinical features and biochemical changes occurring after the intake of milk in these patients. (4 marks)



**MANIPAL UNIVERSITY****FIRST YEAR B.Sc. M.L.T. DEGREE EXAMINATION – JUNE 2008****SUBJECT: BIOMEDICAL INSTRUMENTATION TECHNIQUES**

Thursday, June 12, 2008

Time: 3 Hrs.

Max. Marks: 80

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

1. Explain the working of electron microscope in detail.
2. What are the major sub systems in computer tomography systems? Explain the working of a CT scanner with the help of a block diagram.
3. Draw the block diagram of an EEG machine. Explain the digital components and the recording of evoked potential in an EEG machine.

(10×3 = 30 marks)

4. Write detailed notes on:

- 4A. Spectrophotometer
- 4B. Autoclaves
- 4C. MRI scan
- 4D. Bronchoalveolar lavage
- 4E. Darkfield microscope
- 4F. Dialysers
- 4G. FNAC

(5×7 = 35 marks)

5. Write short notes on:

- 5A. Laser applications in medicine
- 5B. pH meter
- 5C. Common balance
- 5D. Ultrasound scan
- 5E. EMG.

(3×5 = 15 marks)

