

MANIPAL UNIVERSITY

**FIRST YEAR B.Sc. M.L.T./ B.Sc. N.M.T./ B.Sc. R.T./ B.Sc. M.I.T./ B.Sc. C.V.T.
DEGREE EXAMINATION – JUNE 2011**

SUBJECT: ANATOMY

Monday, June 06, 2011

Time: 10.00-11.30 Hrs.

Max. Marks: 40

Answer all the questions:

1. List the parts of the respiratory system. Describe the features, blood supply and nerve supply of the lateral wall of the nose.

(1+3+2+2 = 8 marks)

2. Explain the external features of the heart with the help of a diagram. Add a note on the internal features of right atrium.

(4+4 = 8 marks)

3. **Answer briefly on:**

3A. Classification of synovial joints.

3B. Pleura.

3C. Superior mediastinum.

3D. Azygos vein.

3E. Rectum.

3F. Vas deferens.

3G. Ovary.

3H. Corpus striatum.

(3×8 = 24 marks)



MANIPAL UNIVERSITY**FIRST YEAR B.Sc. M.I.T. DEGREE EXAMINATION – JUNE 2011****SUBJECT: PHYSIOLOGY**

Wednesday, June 08, 2011

Time: 10.00-11.30 Hrs.

Max. Marks: 40

1. Essay questions:

- 1A. Draw and label a spirogram showing the various lung volumes and capacities.
- 1B. Define blood pressure. Give its normal value and mention three factors influencing blood pressure.
- 1C. Explain the synaptic transmission in the form of a flow chart.
- 1D. Mention any two functions of thyroid hormones. List three clinical features of myxedema.

(5×4 = 20 marks)

2. Write short answers for the following:

- 2A. Classify white blood cells.
- 2B. Mention the components of blood.
- 2C. Define hypoxia and mention any two types of hypoxia.
- 2D. List two functions of middle ear.
- 2E. Define cardiac output. Give its normal value.
- 2F. List the functions of basal ganglia.
- 2G. List two muscle proteins.
- 2H. Name any four hormones produced by anterior pituitary.
- 2I. Write the components of reflex arc.
- 2J. Mention the components of vestibular apparatus and give its functions.

(2×10 = 20 marks)



MANIPAL UNIVERSITY**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./ B.Sc.C.V.T****DEGREE EXAMINATION – JUNE 2011****SUBJECT: BIOCHEMISTRY**

Friday, June 10, 2011

Time: 10.00-11.30 Hours

Max. Marks: 40

✍ **Answer ALL the questions.**

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

1. Write the reactions of synthesis of glucose from lactate.

(8 marks)

2. Write the reactions of urea cycle.

(6 marks)

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

3A. Structure of DNA.

3B. Activation of zymogens in the GIT.

3C. Mechanisms of glucose absorption in the small intestine.

3D. Biochemical functions and deficiency manifestations of vitamin D.

(4×4 = 16 marks)

4. **Write briefly on:**

4A. Basal metabolic rate.

4B. Inhibitors of electron transport chain.

4C. Dietary fibers.

4D. Transamination reaction.

4E. Emulsification of fats.

(2×5 = 10 marks)



MANIPAL UNIVERSITY**FIRST YEAR B.Sc. M.I.T. DEGREE EXAMINATION – JUNE 2011****SUBJECT: RADIATION PHYSICS**

Monday, June 13, 2011

Time: 10.00-13.00 Hrs.

Max. Marks: 80

✍ **Answer all questions.**

✍ **All questions carry equal marks.**

1. Write short notes on the following:
 - 1A. Factors influencing quality and intensity of x-ray beam.
 - 1B. Line focus principle.

- 2A. Explain radioactivity in detail.
- 2B. Write a note on x-ray spectra.

3. Write short notes on the following:
 - 3A. Attenuation of x-ray beam.
 - 3B. Primary barrier and secondary barrier.

4. What is fluoroscopy? Explain image intensifier.

5. Draw a labeled diagram of an x-ray tube. Explain Anode.



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FIRST YEAR B.Sc. M.I.T. DEGREE EXAMINATION – JUNE 2011

SUBJECT: DARK ROOM TECHNIQUES

Wednesday, June 15, 2011

Time: 10.00-13.00 Hrs.

Max. Marks: 80

✍ Answer all the questions. Each question carries 16 marks.

1. Draw and explain automatic processor and its functioning.
2. Draw and explain the construction of a radiographic film.
3. What are the essential characteristics for a radiographic image? Write in detail about image contrast.
4. Film artifacts.
5. **Write short notes on the following:**
 - 5A. Safe light filter.
 - 5B. Gelatin.
 - 5C. Phosphors.
 - 5D. Photographic effect.



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MANIPAL UNIVERSITY**FIRST YEAR B.Sc. M.I.T. DEGREE EXAMINATION – JUNE 2011****SUBJECT: IMAGING PHYSICS AND RADIOGRAPHIC POSITIONING**

Friday, June 17, 2011

Time: 10:00-11:30 Hrs.

Max. Marks: 40

1. Write the anatomical land marks of skull with a labeled diagram. Explain the views for Zygomatic arch.
(8 marks)
2. What is the view taken for adenoids explain?
(8 marks)
3. Explain in detail views for scaphoid.
(8 marks)
4. What are the types of detectors used in CT scanner? Compare the advantages and disadvantages.
(8 marks)
5. Explain the principle behind ultrasound imaging and Doppler imaging.
(8 marks)

