

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 2010**

SUBJECT: ANATOMY

Monday, June 07, 2010

Time: 10.00-11.30 Hrs.

Max. Marks: 40

1. Name the parts of respiratory system. Briefly explain the right lung.

(2+6 = 8 marks)

2. Describe the right atrium in detail.

(8 marks)

3. **Write briefly on:**

3A. Large intestine

3B. Kidney

3C. CSF circulation

3D. Epithelium

3E. Synovial joints

3F. Spinal cord

3G. Pleura

3H. Thyroid gland

(3×8 = 24 marks)



MANIPAL UNIVERSITY**FIRST SEMESTER B.Sc. H.I.A. / FIRST YEAR B.Sc. C.V.T. / B.Sc. M.I.T
DEGREE EXAMINATION – JUNE 2010****SUBJECT: PHYSIOLOGY**

Wednesday, June 09, 2010

Time: 10:00 – 11:30 Hours

Maximum Marks: 40

1. Essay questions:

- 1A. Mention any four functions of hypothalamus. Explain any one.
- 1B. With the help of a neat labeled diagram of the neuromuscular junction, describe the sequence of events of neuromuscular transmission.
- 1C. Draw a labeled graph showing left ventricular pressure changes during a cardiac cycle and explain the same.
- 1D. Describe the composition and functions of blood.

(5×4 = 20 marks)

2. Write short answers for the following:

- 2A. List any TWO functions of estrogen.
- 2B. Define GFR. Give its normal value.
- 2C. Draw a neat labeled diagram of the sensory pathway that carries pain and temperature sensations from various parts of the body to the brain.
- 2D. Mention TWO factors that shift the oxygen dissociation curve to the right.
- 2E. List any FOUR functions of liver.
- 2F. Mention the functions of middle ear.
- 2G. Mention the normal value of heart rate in adults. Give one condition where heart rate is increased.
- 2H. What is facilitated diffusion? Give an example for the same.
- 2I. Mention any TWO clinical features of diabetes mellitus.
- 2J. What is stroke volume? Give its normal value.

(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./ B.Sc.C.V.T
DEGREE EXAMINATION – JUNE 2010**

**SUBJECT: BIOCHEMISTRY
(NEW REGULATIONS)**

Friday, June 11, 2010

Time: 10.00-11.30 Hours

Max. Marks: 40

1. With the help of graphs, explain the effect of competitive and non competitive inhibitors on enzyme activity. (4 marks)
2. Classify lipids giving one example for each class. (3 marks)
3. Tabulate THREE similarities and THREE differences between starch and glycogen. (3 marks)
4. With the help of schematic diagram, explain the biochemical changes taking place in a patient with lactose intolerance after the intake of milk. (4 marks)
5. Explain with reactions, the process of glycolysis. (7 marks)
6. Write short notes on the importance of dietary fibers. (3 marks)
7. Explain the process of protein digestion in the stomach. (3 marks)
8. List four similarities and four differences between marasmus and kwashiorkor. (4 marks)
9. Write the reactions of the urea cycle. (5 marks)
10. Describe the Watson and Crick model of DNA. (4 marks)



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FIRST YEAR B.Sc. M.I.T. DEGREE EXAMINATION – JUNE 2010

SUBJECT: RADIATION PHYSICS

Monday, June 14, 2010

Time: 10.00-13.00 Hrs.

Max. Marks: 80

✍ **Answer all questions.**

✍ **Each question carries equal marks.**

1A. Explain the processes of x-ray generation in detail.

1B. Define heel effect and its significance in medical imaging.

2. Shorts notes on:

2A. T.L.D

2B. Ionization chamber

3. Define grid. Explain the types of grid in detail.

4A. What is Transformer? Explain autotransformer in detail with diagram.

4B. Explain tube current and filament current, mention saturation potential.

5. Write notes on the following:

5A. Image intensifier with diagram.

5B. Soft x- rays and its control.



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FIRST YEAR B.Sc. M.I.T. DEGREE EXAMINATION – JUNE 2010

SUBJECT: DARK ROOM TECHNIQUES

Wednesday, June 16, 2010

Time: 10.00-13.00 Hrs.

Max. Marks: 80

✍ **Answer all the questions.**

✍ **Each question carries 16 marks.**

1. Compare manual and automatic processing.
2. Silver recovery.
3. Describe the structure of a double coated film and identify the differences between a double coated and a single coated film.
4. Mention the different constituents of a fixer solution with their uses. List the factors affecting fixing.
5. **Write short notes on the following:**
 - 5A. Screen unsharpness
 - 5B. Cleaning of a screen
 - 5C. Vacuum cassette
 - 5D. Safe light tests



MANIPAL UNIVERSITY**FIRST YEAR B.Sc. M.I.T. DEGREE EXAMINATION – JUNE 2010****SUBJECT: IMAGING PHYSICS AND RADIOGRAPHIC POSITIONING**

Friday, June 18, 2010

Time: 10:00-11:30 Hrs.

Max. Marks: 40

✍ Answer ALL questions.

1. Write a note on safety consideration on CT with the explanation of universal precautions.
(8 marks)
2. Write a note on modes of ultrasonic image display.
(8 marks)
- 3A. Explain the radiological anatomy of temporal bone.
3B. Describe the view for zygomatic arch.
(4×2 = 8 marks)
4. List the radiographic views for chest radiography with the explanation of PA view and differentiate PA view from AP view.
(8 marks)
5. List the radiographic views for shoulder and explain 'Y- view' of scapula with the related anatomy.
(8 marks)

