

**MANIPAL UNIVERSITY**FIRST YEAR B.Sc. N.M.T./ B.Sc. R.T./ B.Sc. M.I.T./ B.Sc. C.V.T. DEGREE EXAMINATION – AUGUST 2010**SUBJECT: ANATOMY**

Monday, August 23, 2010

Time: 10.00-11.30 Hrs.

Max. Marks: 40

1. Explain the parts, relations, blood supply and nerve supply of stomach.

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

2. Describe the blood supply of heart.

(8 marks)

3. **Answer briefly on:**

3A. Intrinsic muscles of larynx

3B. Parts and external features of uterus

3C. Nerve supply of tongue

3D. Functional lobes of cerebellum

3E. Circulation of CSF

3F. Middle mediastinum

3G. Functions of hypothalamus

3H. Relations of left kidney

(3×8 = 24 marks)



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## MANIPAL UNIVERSITY

FIRST YEAR B.Sc. C.V.T. / B.Sc. M.I.T DEGREE EXAMINATION – AUGUST 2010

SUBJECT: PHYSIOLOGY

Tuesday, August 24, 2010

Time: 10:00 – 11:30 Hours

Maximum Marks: 40

### 1. Essay questions:

- 1A. Mention two functions of cerebellum. List any three features of cerebellar lesion.
- 1B. Define Landsteiner's law. Mention any three hazards of mismatched blood transfusion.
- 1C. List two properties of cardiac muscle. Discuss any one property in detail.
- 1D. Name the hormones of adrenal cortex. Mention four actions of these hormones.

(5×4 = 20 marks)

### 2. Write short answers for the following:

- 2A. Mention two functions of placenta.
- 2B. Define GFR. What is the normal value of GFR?
- 2C. Name the receptors involved in vision and hearing.
- 2D. Mention the forms of carbon dioxide transport.
- 2E. List two functions of cerebrospinal fluid (CSF).
- 2F. Mention any two factors required for erythropoiesis.
- 2G. List two differences between first and second heart sounds.
- 2H. Describe facilitated diffusion.
- 2I. Mention any two functions of saliva.
- 2J. Draw a labeled diagram of the neuromuscular junction.

(2×10 = 20 marks)



## MANIPAL UNIVERSITY

FIRST YEAR B.P.T/ B.O.T/ B.Sc. N.M.T./ B.Sc. R.T./ B.Sc. M.I.T./ B.Sc.C.V.T  
DEGREE EXAMINATION – AUGUST 2010

SUBJECT: BIOCHEMISTRY  
(NEW REGULATIONS)

Wednesday, August 25, 2010

Time: 10.00-11.30 Hours

Max. Marks: 40

✂ Answer ALL questions.

✂ Draw diagrams and flow charts wherever appropriate.

1. Discuss urea cycle under the following headings:

1A. Site and subcellular site.

1B. Reactions.

1C. Mention **TWO** disorders of urea cycle and their defective/deficient enzyme.

(1+5+2 = 8 marks)

2. Classify enzymes giving **ONE** example for each class.

(6 marks)

3. Write briefly on:

3A. Reactions of ketolysis.

3B. **FOUR** differences between marasmus and kwashiorkor.

3C. Causes and biochemical findings of metabolic acidosis.

3D. Dietary sources and functions of vitamin C.

(4×4 = 16 marks)

4. Explain the following with an example

4A. Essential fatty acids.

4B. Specific dynamic action.

4C. Positive nitrogen balance.

4D. Proenzymes.

4E. Mutual supplementation of proteins.

(2×5 = 10 marks)



**MANIPAL UNIVERSITY**  
**FIRST YEAR B.Sc. M.I.T. DEGREE EXAMINATION – AUGUST 2010**  
**SUBJECT: RADIATION PHYSICS**

Thursday, August 26, 2010

Time: 10.00-13.00 Hrs.

Max. Marks: 80

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✍ **Answer all questions.**

✍ **Each question carries equal marks.**

1. Write short notes on the following:
  - 1A. Biological effects of radiation
  - 1B. Units of measurement of radiation and its effect
2. What is fluoroscopy? Explain in detail about image intensifier.
3. Write a short note on radiographic quality. Explain in detail about factors affecting radiographic quality.
4. Explain the basic interactions between x-ray and matter.
5. Explain the following in short with diagram:
  - 5A. Wage filter
  - 5B. Focusing cup
  - 5C. Line focus principle
  - 5D. Bremsstrahlung radiation



**MANIPAL UNIVERSITY****FIRST YEAR B.Sc. M.I.T. DEGREE EXAMINATION – AUGUST 2010****SUBJECT: DARK ROOM TECHNIQUES**

Friday, August 27, 2010

Time: 10.00-13.00 Hrs.

Max. Marks: 80

**✍ Answer all the questions.**

1. Explain the film construction. Write in detail about intra oral films.  
(16 marks)
2. Identify film artifacts and the causes for them.  
(16 marks)
3. How will you describe a radiographic cassette? What are the type's cassettes available?  
(16 marks)
4. What is a darkroom? Explain the equipments used in a darkroom.  
(16 marks)
5. **Write short notes on the following:**
  - 5A. Factors of screen construction affecting speed and sharpness.
  - 5B. Clearing time.
  - 5C. Restrainers.
  - 5D. Health and safety in processing areas.  
(16 marks)



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## MANIPAL UNIVERSITY

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

SUBJECT: IMAGING PHYSICS AND RADIOGRAPHIC POSITIONING

Saturday, August 28, 2010

Time: 10:00-11:30 Hrs.

Max. Marks: 40

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1. Write a note on CT detector.  
(8 marks)
2. List the Ultrasonography control keys with function. Explain Time Gain Compensation.  
(8 marks)
- 3A. Describe the radiological anatomy of orbit and list the radiographic views for the same.  
3B. Describe PA view of orbit.  
(4×2 = 8 marks)
4. List the radiographic views for Sacroiliac joint. Explain posterior oblique view with related anatomy.  
(8 marks)
5. List the radiographic views for hip joint. Explain AP view for both hips mentioning the effect of internal and external hip rotation.  
(8 marks)

