

Reg. No.									
----------	--	--	--	--	--	--	--	--	--

## 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 – AUGUST 2011

**SUBJECT: ANATOMY**

Monday, August 22, 2011

Time: 10.00-11.30 Hrs.

Max. Marks: 40

1. List the endocrine glands in the human body. Briefly describe any two of the endocrine glands.

(2+3+3 = 8 marks)

2. List the parts of digestive system. Explain the internal features of the pharynx.

(2+6 = 8 marks)

**3. Answer briefly on:**

3A. Typical spinal nerve

3B. Trachea

3C. Pericardium

3D. Male urethra

3E. Arch of the aorta

3F. Uterine tube

3G. External features of spinal cord

3H. Middle ear

(3×8 = 24 marks)



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

Tuesday, August 23, 2011

Time: 10.00-11.30 Hrs.

Max. Marks: 40

**1. Essay questions:**

- 1A. Draw and label lateral spinothalamic tract. Mention the sensations carried by the same.
- 1B. Explain the neural regulation of respiration.
- 1C. Mention the types of granulocytes. Mention the normal value of each in circulation. Mention any two functions of granulocytes.
- 1D. Explain the nerve action potential with the help of a graph.

(5×4 = 20 marks)

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

- 2A. Define cardiac output. What is the normal value in an adult?
- 2B. What is Cushing's syndrome? Name one feature of this syndrome.
- 2C. Mention two actions of aldosterone.
- 2D. Mention any two functions of middle ear.
- 2E. Mention the hormones of posterior pituitary.
- 2F. Mention two functions of platelets.
- 2G. List two functions testosterone.
- 2H. Which hormone is responsible for the ejection of milk from mammary gland? What is the source of this hormone?
- 2I. Mention the type of deafness.
- 2J. Draw and label a reflex arc.

(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.****DEGREE EXAMINATION – AUGUST 2011****SUBJECT: BIOCHEMISTRY**

Wednesday, August 24, 2011

Time: 10.00-11.30 Hours

Max. Marks: 40

- ✍ **Answer ALL the questions.**  
✍ **Draw diagrams and flow charts wherever appropriate.**

1. Write in detail the synthesis of glucose from pyruvate.

(8 marks)

2. Discuss the metabolism of calcium under the following headings:

2A. Factors favouring and hindering absorption.

2B. **SIX** functions.

(3+3 = 6 marks)

3. **Answer the following:**

3A. With the help of a graph describe the effect of substrate concentration on enzyme activity.

3B. Write the reactions of ketogenesis.

3C. Explain the structure of Watson and Crick model of DNA.

3D. Name the lipoproteins and mention the function of each.

(4×4 = 16 marks)

4. **Answer the following:**

4A. Mention four differences between kwashiorkor and marasmus.

4B. Write short notes on the principle buffer system of the ECF.

4C. Write four functions of essential fatty acids.

4D. Define transamination reaction. Give one example.

4E. Give the co-enzyme form and the deficiency manifestations of thiamine and niacin.

(2×5 = 10 marks)



Reg. No.

--	--	--	--	--	--	--	--	--	--

## MANIPAL UNIVERSITY

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

SUBJECT: RADIATION PHYSICS

Thursday, August 25, 2011

Time: 10.00-13.00 Hrs.

Max. Marks: 80

✍ **Answer all questions.**

✍ **Each question carries equal marks.**

1. Explain in detail about the parts of an x-ray tube.
2. Write a note on radiographic quality including factors affecting it.
3. Write a note on radiation protection.
4. Draw a labeled diagram of x-ray circuits. Add a note on auto transformer.
5. **Write short notes on the following:**
  - 5A. Grid cutoff.
  - 5B. Pitting of the target of an x-ray tube.
  - 5C. Wedge filter.
  - 5D. Difference between cone and cylinder.



--	--	--	--	--	--	--	--	--	--	--

# MANIPAL UNIVERSITY

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

**SUBJECT: DARK ROOM TECHNIQUES**

Friday, August 26, 2011

Time: 10.00-13.00 Hrs.

Max. Marks: 80

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

1. What is development? Explain the factors affecting development.
2. Silver recovery.
3. Darkroom illuminations.
4. Explain the processing cycle in automatic processor. Explain in detail the function of each constituent used.
5. **Write short notes on the following:**
  - 5A. Safe light tests.
  - 5B. Replenishment.
  - 5C. Rare earth screens.
  - 5D. Types of hangers.





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

Saturday, August 27, 2011

Time: 10:00-11:30 Hrs.

Max. Marks: 40

- 
1. Define CT Number. Write a note on Image display in CT.

(8 marks)
  
  2. Describe the basic principle of Ultrasonography and describe the structure of an ultrasonic transducer.

(8 marks)
  
  - 3A. List the facial bones with the explanation of the radiological anatomy of mandible.
  - 3B. Explain the view for temporomandibular joint.

(4×2 = 8 marks)
  
  - 4A. Explain the landmarks for the radiography of thorax with the labeled diagram.
  - 4B. Explain PA view of Chest radiography. Differentiate expiratory film from inspiratory film.

(4×2 = 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)

