

**MANIPAL UNIVERSITY****FIRST YEAR B.Sc. M.R.T. DEGREE EXAMINATION – AUGUST 2012****SUBJECT: BASIC SCIENCE: ANATOMY****(NEW REGULATION)**

Tuesday, August 21, 2012

Time: 10:00-13:00 Hrs.

Max. Marks: 80

- ✍ **Answer ALL questions.**  
✍ **Draw diagrams wherever necessary.**

1A. Classify the synovial joint, giving one example for each type.

1B. List the parts of gastrointestinal system and describe the stomach.

(8+12 = 20 marks)

2A. Name the parts of respiratory system. Describe the lungs in detail.

2B. Describe the position, external features, capsules, relations and blood supply of right kidney.

(10+10 = 20 marks)

3. **Write briefly on:**

3A. Liver

3B. Thoracic duct

3C. Maxillary air sinuses

3D. Tongue

3E. Suprarenal gland

(5×5 = 25 marks)

4. **Write short note on:**

4A. Testis

4B. Third ventricle

4C. Salivary glands

4D. Cardiac muscle

4E. Meninges of the spinal cord

(3×5 = 15 marks)



**MANIPAL UNIVERSITY**  
**FIRST YEAR B.Sc. M.R.T DEGREE EXAMINATION – AUGUST 2012**  
**SUBJECT: BASIC SCIENCE: PHYSIOLOGY**  
**(NEW REGULATION)**

Wednesday, August 22, 2012

Time: 10.00-11.30 Hours.

Max. Marks: 40

✍ **Answer ALL questions. Draw diagrams wherever necessary.**

**1. Essay questions:**

- 1A. With the help of a schematic diagram, explain the process of intrinsic pathway of blood coagulation.
- 1B. Draw a neat labeled diagram of neuromuscular junction. Describe the events that occur during neuromuscular transmission in the form of flow chart.
- 1C. Mention three functions of middle ear. Describe any one.
- 1D. List any four hormones secreted by anterior pituitary and explain the actions of any one hormone.

(5×4 = 20 marks)

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

- 2A. Explain facilitated diffusion with an example.
- 2B. Mention two functions of lymph.
- 2C. Discuss two properties of sensory receptors.
- 2D. Define cardiac output. Give its normal value.
- 2E. Mention any two clinical features of Addison's disease.
- 2F. Describe the second stage of deglutition.
- 2G. List two functions of kidneys.
- 2H. What are the different types of hypoxia?
- 2I. Name the receptors for smell and taste. Where are they located?
- 2J. Mention any two actions of progesterone.

(2×10 = 20 marks)



**MANIPAL UNIVERSITY****FIRST YEAR B.Sc. M.R.T. DEGREE EXAMINATION – AUGUST 2012****SUBJECT: RADIOBIOLOGY****(NEW REGULATION)**

Thursday, August 23, 2012

Time: 10:00-11:30 Hrs.

Max. Marks: 40

**1. Answer the following questions:**

- 1A. What are the effects of radiation on hematopoietic system?
- 1B. Write briefly about Pair production.
- 1C. Define and describe  $LD_{50(30)}$ .
- 1D. Describe the effect of radiation on human skin.

(5×4 = 20 marks)

**2. Answer the following question:**

- 2A. Discuss the interaction of radiation with water molecule.
- 2B. With reference to cell survival curve answer following:
  - i) Definition
  - ii) Draw a typical shouldered in vitro mammalian cell survival curve and explain the parameters  $D_0$ ,  $D_q$  and  $N$ .

(10×2 = 20 marks)

