

**MANIPAL UNIVERSITY**  
**FIRST YEAR B.Sc. (RENAL REPLACEMENT THERAPY AND DIALYSIS TECHNOLOGY)**  
**DEGREE EXAMINATION – MAY/JUNE 2012**

**SUBJECT: BDT 101 – ANATOMY**

Tuesday, May 29, 2012

Time: 10.00-11.30 Hrs.

Max. Marks: 40

☞ **Answer ALL the questions.**

1. Name the parts of urinary system. Describe the right kidney.

(2+6 = 8 marks)

2. Name the parts of gastrointestinal tract. Describe the stomach in detail.

(2+6 = 8 marks)

3. **Write briefly on:**

3A. Panaceas

3B. Testis

3C. CSF circulation

3D. Fallopian tube

3E. Structure of a typical synovial joint

3F. Arch of aorta

3G. Trachea

3H. Thin skin

(3×8 = 24 marks)



**MANIPAL UNIVERSITY****FIRST YEAR B.Sc. RRT & DT DEGREE EXAMINATION – MAY/JUNE 2012****SUBJECT: BDT 102 – PHYSIOLOGY**

Thursday, May 31, 2012

Time: 10.00-11.30 Hours.

Max. Marks: 40

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

**1. Essay questions:**

- 1A. Draw a labeled diagram of the nerve action potential. Mention the ionic basis for the different phases.
- 1B. In the form of a flow chart write the sequence of events occurring during the excitation contraction coupling of a skeletal muscle.
- 1C. Describe the changes seen in the ovary during menstrual cycle.
- 1D. Explain the various types of movements in the small intestine.

(5×4 = 20 marks)

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

- 2A. What are anticoagulants? Mention any two anticoagulants.
- 2B. Mention any two functions of basal ganglia.
- 2C. Write any two properties of cardiac muscle.
- 2D. Define cardiac output and give the normal value.
- 2E. Define alveolar ventilation and pulmonary ventilation.
- 2F. Name the hormones of posterior pituitary. Mention one action of any one hormone.
- 2G. Mention the cause and two features of clinical features of diabetes mellitus.
- 2H. Define GFR and mention the normal value.
- 2I. Draw a diagram to depict a reflex arc.
- 2J. List any two common errors of refraction. Describe any one.

(2×10 = 20 marks)



**MANIPAL UNIVERSITY****FIRST YEAR B.Sc. RRT & DT DEGREE EXAMINATION – MAY/JUNE 2012****SUBJECT: BDT 103 – BIOCHEMISTRY**

Saturday, June 02, 2012

Time: 10.00-11.30 Hours

Max. Marks: 40

✍ **Answer ALL the questions.**✍ **Draw diagrams and flow charts wherever appropriate.**1. Discuss  $\beta$ -oxidation of palmitic acid under the following headings:

1A. Site and sub-cellular site

1B. Activation and transport

1C. Reactions

(1+3+4 = 8 marks)

2. Describe the complete digestion of carbohydrates in the GIT.

(6 marks)

3. **Answer the following:**

3A. Explain with diagrams the secondary structure of proteins.

3B. Define isoenzymes and explain the isoenzymes of LDH with its clinical significance.

3C. Write the reactions of the four key enzymes of gluconeogenesis.

3D. Discuss the RDA, sources and biochemical functions of vitamin D.

(4×4 = 16 marks)

4. **Answer the following:**

4A. Define steatorrhea and give its causes.

4B. Write a note on the regulation of glycolysis.

4C. Classify amino acids based on nutritional requirement with ONE example each.

4D. Define specific dynamic action of food and give values for the major macronutrients.

4E. Give normal serum levels of glucose in fasting and post-prandial states.

(2×5 = 10 marks)



**MANIPAL UNIVERSITY****FIRST YEAR B.Sc. RRT & DT DEGREE EXAMINATION – MAY/JUNE 2012****SUBJECT: BDT 104 – OVERVIEW OF RENAL FAILURE AND BASICS OF DIALYSIS  
THERAPY, RENAL REPLACEMENT THERAPY**

Tuesday, June 05, 2012

Time: 10.00-13.00 Hrs.

Max. Marks: 80

**1. Long essay questions:**

- 1A. Describe blood group testing and crossmatching and their clinical significance.
- 1B. Derive the Henderson Hasselbach equation.
- 1C. Describe the principles of Peritoneal dialysis and its complications.

(10×3 = 30 marks)

**2. Short essay questions:**

- 2A. Define anemia and list its complications.
- 2B. Describe the excretion of water by the kidney.
- 2C. Define and classify AKI.
- 2D. What are the complications of Erythropoietin therapy and how is treatment monitored?
- 2E. Describe the development of the kidney in brief.
- 2F. How is access recirculation measured?

(5×6 = 30 marks)

**3. Short note questions:**

- 3A. What are the principles of dialysis?
- 3B. List the indications for dialysis.
- 3C. Mention four complications of End stage renal disease.
- 3D. What are the actions of angiotensin II?
- 3E. What is estimated GFR?
- 3F. List the causes of anemia in the dialysis patient.
- 3G. What are the indications for dialysis?
- 3H. Which is the best access for hemodialysis and why?
- 3I. Mention four causes of hypotension in the hemodialysis patient.
- 3J. What are the stages of CKD?

(2×10 = 20 marks)

