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TED (15) - 3241

(REVISION - 2015)

Reg. No. ....

Signature .....

THIRD SEMESTER DIPLOMA EXAMINATION IN BIOMEDICAL  
ENGINEERING — APRIL, 2017

BASIC MEDICAL SCIENCE

[Time : 3 hours

(Maximum marks : 100)

PART — A

(Maximum marks : 10)

Marks

I Answer the following questions in one or two sentences. Each question carries 2 marks.

1. Define biophysics.
2. Define bradycardia.
3. Memorize the term "dead space".
4. Name the light sensing chemical found in a cone cell.
5. Identify systolic and diastolic pressure.

(5 × 2 = 10)

PART — B

(Maximum marks : 30)

II Answer any five of the following questions. Each question carries 6 marks.

1. Classify different types of muscular tissue.
2. Discuss about ECG electrodes.
3. Explain the structure of human heart.
4. Draw and label a nerve fiber.
5. Describe the mechanism of ventilation.
6. Draw and label the parts of a human ear.
7. Describe body equilibrium balance.

(5 × 6 = 30)

## PART — C

(Maximum marks : 60)

(Answer *one full* question from each unit. Each full question carries 15 marks.)

## UNIT — I

- III (a) Describe different types of EEG electrode. 7  
 (b) Classify the elementary tissues of the body and mention their functions. 8  
 OR  
 IV (a) Explain the structure of a human cell with diagram. 7  
 (b) Discuss the photochemistry of vision. 8

## UNIT — II

- V (a) Explain electromyography. 8  
 (b) Classify the types of arrhythmia. 7  
 OR  
 VI (a) Summarize the electrical activity of human brain. 8  
 (b) Explain cardiac cycle. 7

## UNIT — III

- VII (a) Explain the function of a nephron with a diagram. 9  
 (b) Discuss the physiology of respiration. 6  
 OR  
 VIII (a) Interpret different lung volumes and capacities with a spirogram. 10  
 (b) Explain the process of water balance in body. 5

## UNIT — IV

- IX (a) Explain human digestive system with a diagram. 12  
 (b) Distinguish the function of rod and cone cells. 3  
 OR  
 X (a) Explain the structure of a human eye with a diagram. 8  
 (b) Describe protein digestion in the human body. 7