

S.B. Roll No.....

MEDICAL ELECTRONICS
6th Exam/ECE/EMP/ECEII/6180/6761/May,2015

Duration: 3 Hours

Max. Marks: 75

Note: Attempt all Questions

Section A

1. Fill in the Blanks

10 × 1.5

- I. The _____ is the largest organ in the human body.
- II. MRI stands for _____.
- III. Bio Electric Potentials are _____ in nature.
- IV. LVDT stands for _____.
- V. A Thermistor is a _____ sensitive resistor.
- VI. EMG stands for _____.
- VII. A Sphygmomanometer is a device used to measure _____.
- VIII. The primary resistance is offered by _____ to the currents in human body.
- IX. An Ultrasonic Flow meter is based on the principle of _____.
- X. EEG machine is used to measure the _____ electrical activity.

Section

2. Attempt any Six Questions

6 × 5

- I. Explain any two diagnostic and therapeutic equipment.
- II. What is Pressure Transducer? Explain any of its two types.
- III. Explain respiration rate measurement.
 - a. Write short note on
- IV. Bio electric signals
- V. Electrode Tissue Interface
 - a. Write short note on
- VI. Gross Current Shock
- VII. Micro Current Shock
 - a. Explain structure and function of Blood Vessels.
 - b. Differentiate between ECG, EEG, EMG.
 - c. Explain Special design from safety considerations.

Section C

3. Attempt any Three Questions

3 × 10

- (i) What is Respiratory system? Draw and explain the Respiratory system of a Human body.
- (ii) Draw and explain the block diagram of ECG Machine.
- (iii) What is Defibrillator? Explain its working principle. Also explain its types.
- (iv) What is Temperature Sensor? Explain its types in detail.