



TED (15) – 5044

Reg. No.

(REVISION — 2015)

Signature

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/
MANAGEMENT/COMMERCIAL PRACTICE — APRIL, 2019**

MEDICAL ELECTRONICS

[Time : 3 hours]

(Maximum marks : 100)

PART — A

(Maximum marks : 10)

Marks

I Answer *all* questions in one or two sentences. Each question carries 2 marks.

1. Define resting potential.
2. Define diastolic pressure.
3. List the different types of diathermy.
4. Define microshock.
5. List two applications of ultrasonic imaging system.

(5×2 = 10)

PART — B

(Maximum marks : 30)

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

1. Explain the electrodes used for EEG and EMG Recording.
2. Explain about ECG lead configuration.
3. State the microscopic method of blood cell counting.
4. State the need for defibrillators.
5. Write the applications of CT-SCAN.
6. List the safety measures for a patient to the electrical environment.
7. Explain the precautions to be taken by handling biomedical equipments.

(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) Explain ECG machine with block diagram. 8
(b) Draw the block diagram of EMG and Explain. 7

OR

- IV (a) Explain EEG machine with block diagram. 8
(b) Describe the potentials associated with muscle activity. 7

UNIT — II

- V (a) Explain the classification of blood cell. 8
(b) Explain direct and indirect methods of BP measurement. 7

OR

- VI (a) Explain the blood gas analyzer with block diagram. 8
(b) Explain the Applications of Laser in medical field. 7

UNIT — III

- VII (a) Explain the working of portable hemodialysis machine. 9
(b) Draw the block diagram of short wave diathermy and explain. 6

OR

- VIII (a) Draw the schematic diagram of microwave diathermy unit and explain. 9
(b) List the advantages and disadvantages of short wave diathermy. 6

UNIT — IV

- IX (a) Draw the block diagram of CT-SCANNER and briefly explain. 10
(b) Explain the need of biotelemetry. 5

OR

- X (a) Draw the block diagram of MRI-SCANNER and explain. 9
(b) Draw the block diagram of single channel radio telemetry system and explain. 6
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