

Seat
No.

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मधुर - 039

Medical Electronics
(1010)

P. Pages : 2

Time : Three Hours

Max. Marks : 100

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Answersheet should be written with blue ink only. Graph or diagram should be drawn with the same pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Solve **any two** sub questions from each unit.
5. Draw diagram wherever necessary.
6. Assume suitable data if required.

UNIT - I

1. a) Explain the following with neat circuit diagram 10
 - i) Transformer isolation amplifier.
 - ii) Chopper amplifier
- b) Explain the X - Y Recorder with block diagram in detail. 10
- c) Explain the digital storage oscilloscope with block diagram. 10

UNIT - II

2. a) Draw ECG waveforms and explain the same in detail. 10
- b) Write notes on : 10
 - i) Ventricular synchronous demand pacemaker.
 - ii) Beside monitoring system.
- c) Write notes on : 10
 - i) analog cardiometer
 - ii) Average Heart rate meter.

UNIT - III

3. a) Explain with block diagram EEG machine in detail. 10
b) Explain CNS. 10
c) Explain EMG with block diagram in detail. 10

UNIT - IV

4. a) Explain ultrasonic blood flow meter and magnetic blood Flow meter with block diagram. 10
b) Explain In vitro - oximetry with it's two types. 10
c) Explain Nitrogen gas analyzer with it's diagram. 10

UNIT - V

5. a) Explain the terms A - scan display, B- scan display in detail. 10
b) Explain PET Scanner in detail. 10
c) Explain X-Ray machine with block diagram. 10
