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Reg.No.....

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DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/ COMMERCIAL PRACTICE, APRIL-2022

MEDICAL ELECTRONICS

[Maximum marks: 100] (Time: 3 Hours)

PART – A

Maximum marks : 10

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

1. Illustrate human body as one system.
2. Define diastolic pressure.
3. List the types of ventelators.
4. Name the different methods of blood cell counting.
5. Write any two application of bio-telemetry. (5 x 2 = 10)

PART – B

Maximum marks : 30

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

1. Explain haemopoietic system of human body.
2. Explain resting potential with necessary figure.
3. List the properties of LASER.
4. State the need for pacemakers
5. Write the advantages of SW diathermy
6. Explain the properties of X-ray
7. Draw and explain the block diagram of bio-telemetry system. (5 x 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 action potential with waveform. (8)

(b) Explain the significance and origin of ECG waveform. (7)

OR

IV.(a) Write short notes on needle electrode. (7)

(b) Draw the EEG brain waveform and explain. (8)

UNIT-II

V. (a) Explain measurement of Hematocrit by centrifugal sedimentation method. (8)

(b) List the applications of LASER in medical field. (7)

OR

VI. (a) With the help of energy level diagram explain ND-YAG LASER. (7)

(b) Explain indirect method for measurement of blood pressure. (8)

UNIT-III

VII. (a) Explain the working of Hemodialysis machine with figure. (9)

(b) Compare AC and DC defibrillators. (6)

OR

VIII.(a) Draw and Explain the block diagram of ventricular synchronous pacemaker. (8)

(b) Explain different types of ventilators. (7)

UNIT-IV

IX. (a) Draw the block diagram of X-Ray machine and explain. (9)

(b) Write basic principle of MRI technique. (6)

OR

X. (a) Draw the block diagram of CT Scanner and explain its working. (9)

(b) Write precautions to be taken while handling bio-medical instruments. (6)

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