

S.B. Roll. No.....

MEDICAL ELECTRONICS
6th Exam/ECE/4616/Jun'2022
(For 2018 Batch Onwards)

Duration: 3Hrs.

M.Marks:75

SECTION-A

Q1. Give answer in one line.

15x1=15

- a. Name the electrode used for recording EMG.
- b. List the types of electrodes.
- c. Define half-cell potential.
- d. What is EEG?
- e. How many electrodes are used in modern EEG unit?
- f. What is a defibrillator?
- g. Define CMRR.
- h. For what purpose isolation amplifier is used?
- i. Define depolarization?
- j. What is a tissue?
- k. What are the uses of blood flow meters?
- l. Discuss about microelectrodes.
- m. What does the ECG reflect?
- n. List the types of electrodes systems for ECG lead configurations.
- o. What is EMG?

SECTION-B

Q2. Attempt any six questions.

6x5=30

- i. How blood pressure is measured? Explain in brief.
- ii. Differentiate between ECG, EEG and EMG.
- iii. What are the various safety aspects of medical instruments?
- iv. What are Pressure Transducers? Explain any one.
- v. What is the basic principle of EEG?
- vi. Discuss types of temperature transducers.
- vii. Explain any one diagnostic and therapeutic equipment.
- viii. List and explain various types of electrodes used in medical electronics.
- ix. What do you understand by bio-electric signals? List various types of bio-electric signals.
- x. Write the precautions to minimize electric current shock hazards.

SECTION-C

Q3. Attempt any three questions.

3x10=30

- a. Explain the working of temperature transducer and pulse sensor. List their applications in medical electronics.
- b. With the help of block diagram, explain the working of ECG machine.
- c. With the help of block diagram, explain the working of EEG machine.
- d. Explain Heart Rate measurement and Respiration rate measurement
- e. Discuss about the different types of electrode used in biomedical.