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M – 6276

Reg. No.

Name :

Sixth Semester B.Tech. Degree Examination, December 2021

(2008 Scheme)

08.606.B : BIOMEDICAL INSTRUMENTATION (E)

Time : 3 Hours

Max. Marks : 100

PART – A

Answer all questions.

1. What are resting and action potentials?
2. Define all or nothing law.
3. What is EMG? What are its applications?
4. What are the methods used to measure Blood Pressure directly?
5. What is Korotkoff sound? Briefly explain.
6. Draw Einthoven triangle, what is its significance?
7. What are the methods used for measuring cardiac output?
8. Define a macro shock.
9. Briefly explain types of ultrasound imaging used in Medicine.
10. What are the applications of C.T.?

(10 × 4 = 40 Marks)

P.T.O.



PART – B

Answer any one question from each module. Each question carries 20 marks.

Module – I

11. (a) What are the direct and indirect methods to measure Blood Pressure? Explain with neat diagram any one direct method for Blood pressure measurement. 10
- (b) Explain the ultrasonic and resistive type transducer used for clinical applications. 10

OR

12. (a) With neat sketches explain the different types of electrodes used for measuring bio-electric potentials. 10
- (b) Explain the factors to be considered in the selection of transducer for a biomedical application and explain any one type of passive transducer for temperature measurement. 10

Module – II

13. (a) Explain about the lead systems used for ECG recording. 10
- (b) Draw and explain the block diagram of an ECG machine. 10

OR

14. (a) Explain about 10-20 system of EEG measurement and the recording methods. 10
- (b) Draw and explain the block diagram of an EEG machine and the different EEG waveforms with their significance. 10



Module – III

15. (a) Describe with diagram, the working of a cardiac pacemaker. **10**
- (b) Explain in detail about electrical safety in biomedical measurements and working. **10**

Or

16. (a) Briefly explain the principle and working of X-ray imaging. **10**
- (b) Draw and explain the block diagram of an X-ray machine. **10**

(3 × 20 = 60 Marks)

