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H – 3392

Eighth Semester B.Tech Degree Examination, November 2019

(2008 Scheme)

08.816 : BIOMEDICAL ENGINEERING (T)

Time : 3 Hours

Max. Marks : 100

PART – A

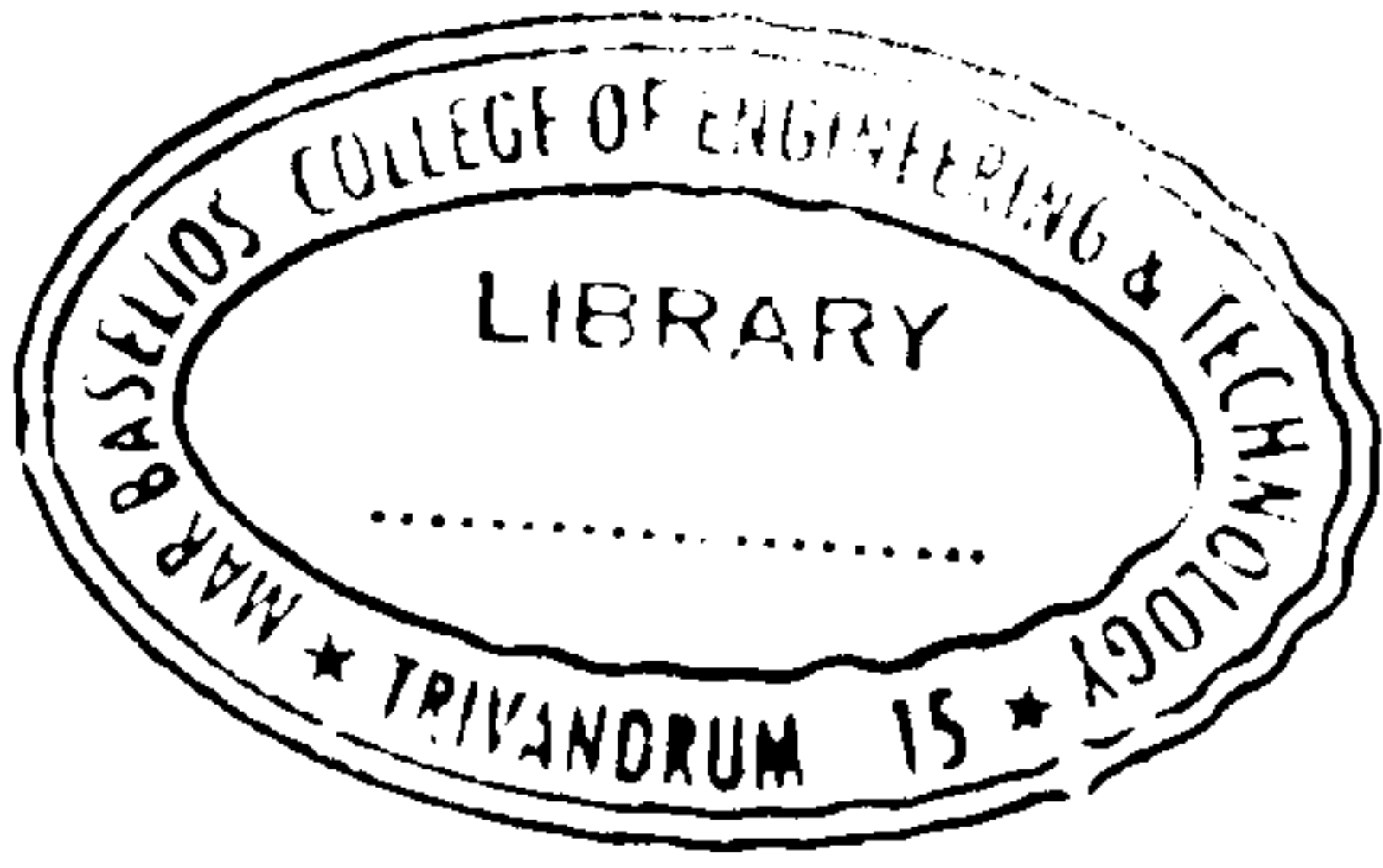
Answer all questions. Each question carries 4 marks

1. Explain about ECG, EEG and EMG.
2. Define half-cell potential? Describe the factors that give rise to half-cell potential?
3. Describe input guarding? How does it work?
4. What are the uses of isolation amplifiers?
5. Distinguish between central nervous system and peripheral nervous system?
6. Describe the EEG amplitudes and frequency bands?
7. Distinguish between microshock and macroshock?
8. What are the application of X-rays in Medicine.
9. What are the advantages and limitations of MRI imaging.
10. What is computed tomography scanning.

(10 × 4 = 40 Marks)

P.T.O.





PART – B

Answer **any two** questions from each Module. Each question carries **10** marks

Module –I

11. (a) Explain polarization, repolarization and depolarization? **5**
(b) Explain resting and action potentials? **5**
12. (a) Draw an electrocardiogram of a normal person labelling the amplitudes and time intervals? **5**
(b) What is a pacemaker? Explain the various classifications of pacemakers? **5**
13. Explain the indirect method of measuring blood pressure. With a neat sketch. **10**

Module II

14. Explain the 10-20 electrode configuration for the measurement of EEG? **10**
15. What is a Spirometer? With a neat diagram, explain the operation of a Spirometer **10**
16. With a diagram, explain the working of Hemodialysis machine. **10**

Module -III

17. Explain the different scanning modes used by ultrasound devices? **10**
18. Describe the working of X-ray imaging system with a neat sketch. **10**
19. Draw the block diagram of a biotelemetry system and explain. **10**

(6 × 10 = 60 Marks)

