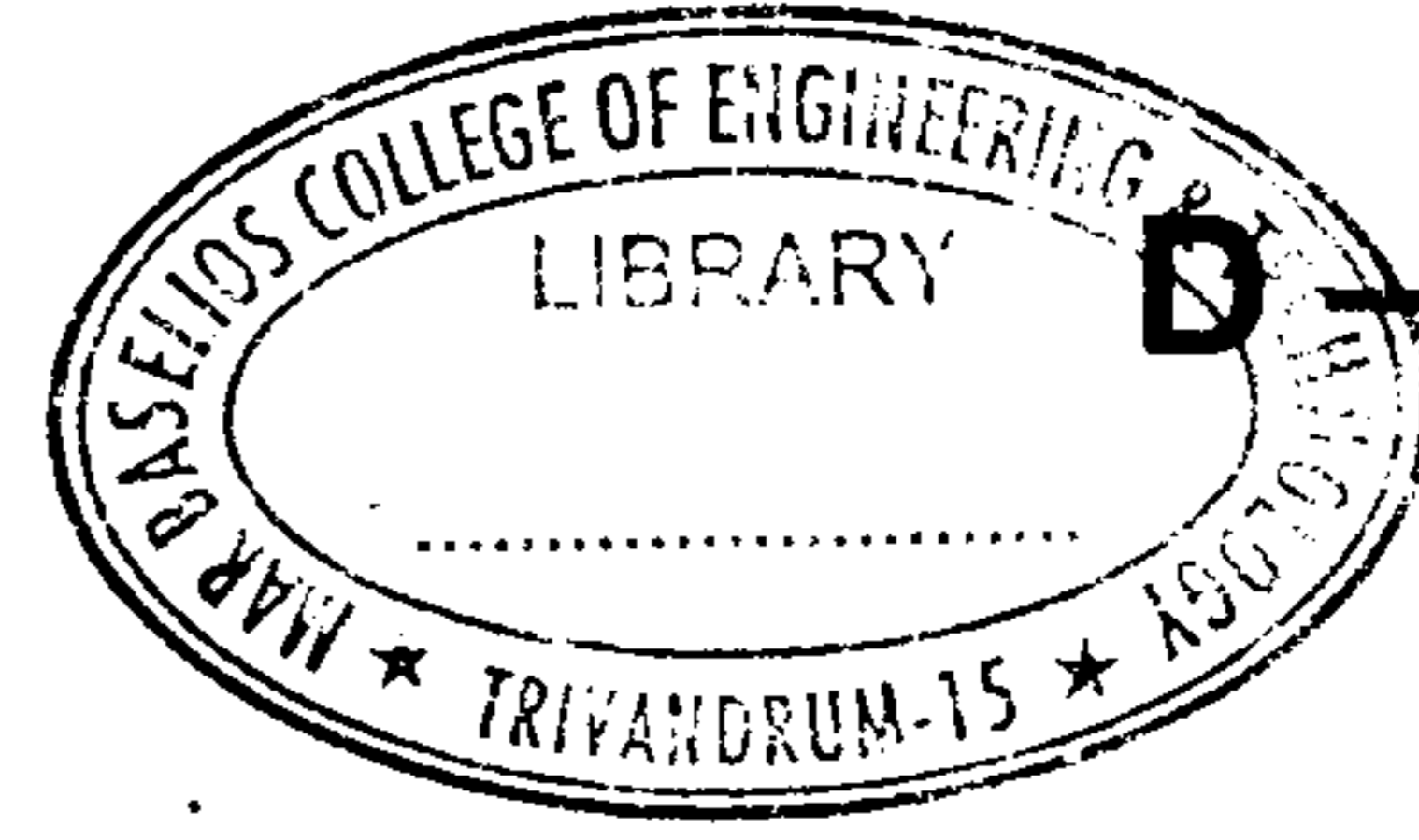




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Reg. No. : .....

Name : .....

**Eighth Semester B.Tech. Degree Examination, December 2017  
(2008 Scheme)**

**08.816 : BIOMEDICAL ENGINEERING (T)**

Time : 3 Hours

Max. Marks : 100

**PART – A**

Answer **all** questions. **Each** question carries **4** marks.

1. What is meant by resting potential and action potential ?
2. Write the procedure of measuring blood pressure.
3. Write short notes on needle electrodes.
4. Explain briefly about nebulizer.
5. I) What is meant by REM sleep ?  
II) List out the EEG waves classification in accordance to the frequency.
6. Distinguish between micro and macro shock. What is meant by let go current ?
7. Discuss about the circulation of blood in human body.
8. How electromagnetic interference become a source of noise to bio signals ?  
Briefly explain how it can be eliminated.
9. What is Biotelemetry ? Give the block diagram of a bio-telemetry system.
10. Enumerate the applications of X-Rays in the medicine field. **(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) Describe the 12-lead ECG system with reference to the Einthoven triangle.  
B) Draw the block diagram of ECG machine explaining the function of each block.
12. What are chopper amplifiers ? Draw a non-mechanical chopper amplifier and explain its working.
13. What is defibrillator ? Explain the operation of DC defibrillator.

**Module – II**

14. With a neat sketch explain the recording setup of EEG waves.
15. Write a short notes on hemodialysis.
16. Explain how the electrical hazards protection can be provide in the biomedical instrumentation systems.

**Module – III**

17. Explain the working principle of CT scan with neat sketch.
  18. Explain biotelemetry system with a block diagram.
  19. With necessary diagrams explain the A-mode and M-mode display modes used in ultrasonic imaging systems. **(6×10=60 Marks)**
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