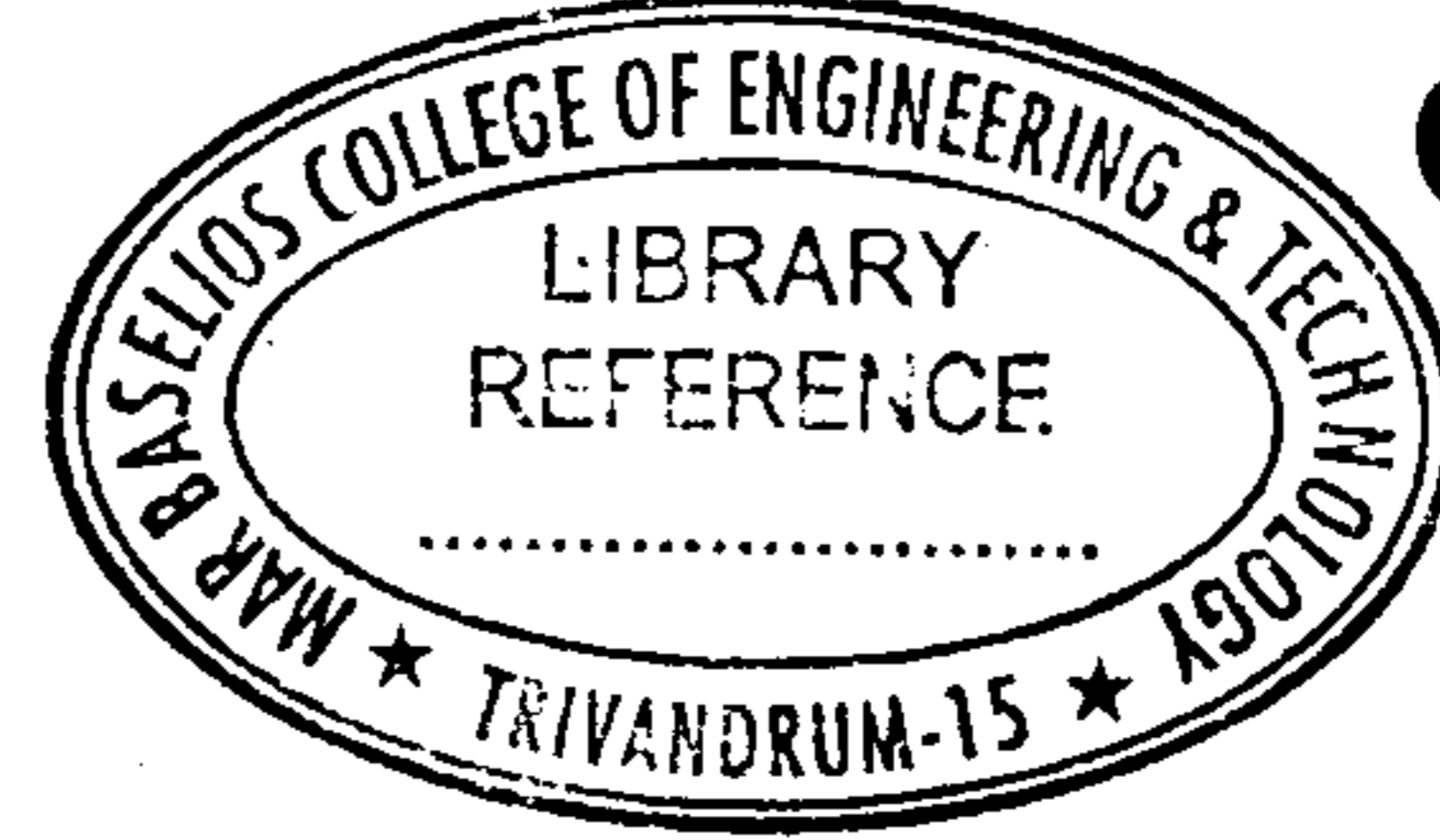




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C – 2465

Reg. No. :

Name :

Eighth Semester B.Tech. Degree Examination, May 2017
(2013 Scheme)
13.806.2 : BIOMEDICAL ENGINEERING (T)
(Elective VI)

Time : 3 Hours

Max. Marks : 100

PART – A

Answer **all** questions. **Each** question carries **2** marks.

1. Draw a typical ECG waveform representing PQRST.
2. Define the working principle of unbounded strain gauge pressure transducer.
3. Compare between active and passive transducer.
4. List the characteristics required for blood flow meter.
5. Explain the working principle of plethysmograph.
6. List the features of X-ray which makes it suitable for medical use.
7. Explain pulse doppler mode of transmission in ultrasound.
8. List any four application of MRI.
9. Explain the working principle of ventilator.
10. Mention any one application of telemetry.

PART – B

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

Module – I

11. a) Explain the propagation of action potential through nerves. 10
b) Draw the waveform of cell action potential. Explain the cell resting and action potential. 10

OR

P.T.O.



12. a) Compare the working of limb, floating, pre gelled disposable, pasteless electrodes. 10
b) Explain any two transducers used for temperature measurement. 10

Module – II

13. a) Draw a typical phonocardiogram recording and explain how heart sounds originate. 10
b) With schematic diagram explain electromagnetic blood flow meter. 10

OR

14. a) Explain how Blood Pressure (BP) occurs in the arterial system of the body. 5
b) Explain the indirect BP measurement using Korotkoff's method. 15

Module – III

15. a) Explain the physical structure, working of spiral CT scanner. 15
b) Explain about the X-ray source in a CT scanner. 5

OR

16. a) Explain the block diagram of basic pulse echo system of a ultrasound scanner. 15
b) List any five advantages of MRI system. 5

Module – IV

17. Explain the working principle and component details of Hemodialysis machine with a help of neat diagram. 20

OR

18. Explain the concept of Telemedicine, essential parameters and applications of telemedicine. 20
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