

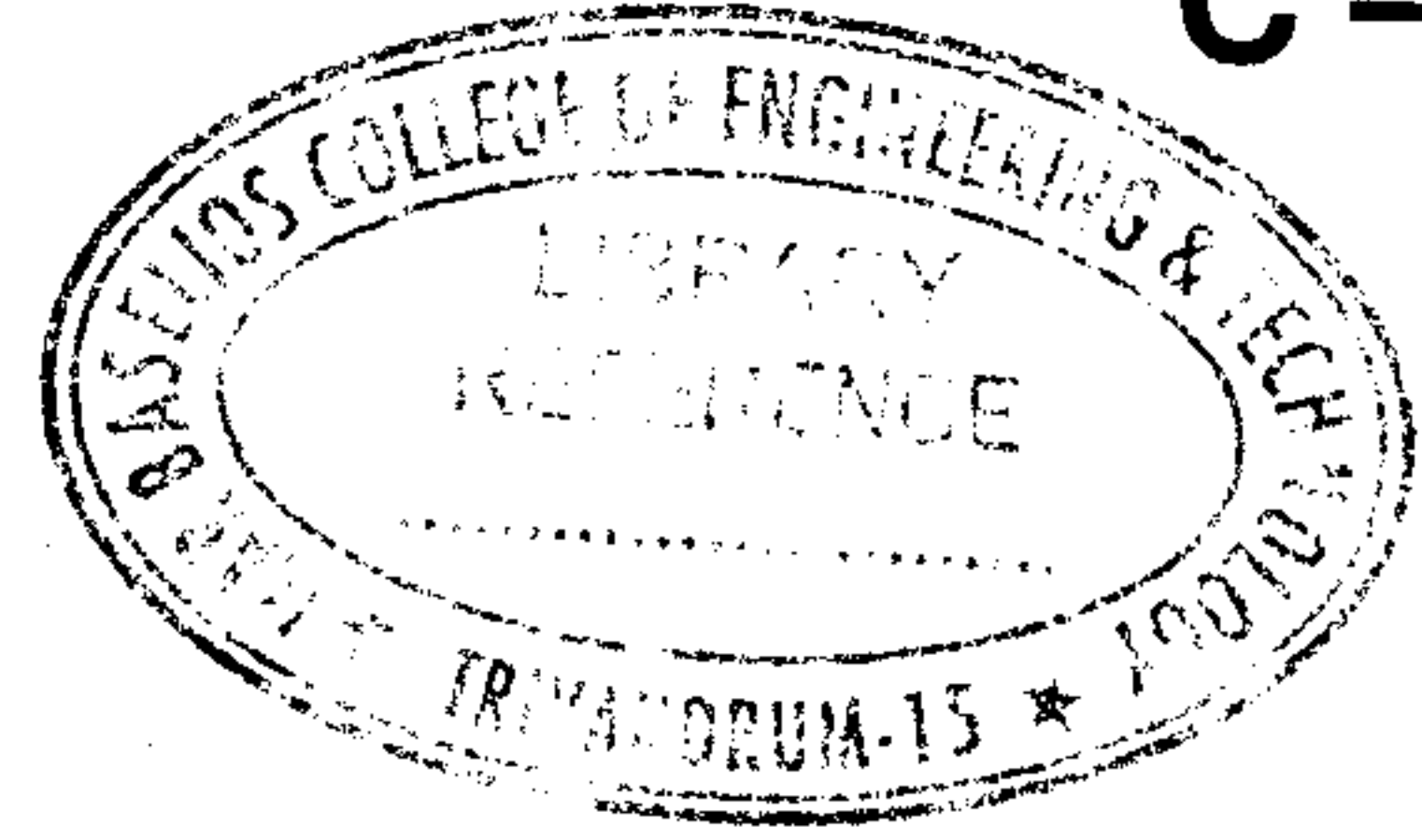


(Pages : 2)

C – 2762

Reg. No. :

Name :



Sixth Semester B.Tech. Degree Examination, June 2017
13.606.1 : BIOMEDICAL INSTRUMENTATION (E)
(2013 Scheme)

Time : 3 Hours

Max. Marks : 100

PART – A

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

1. Explain the principle of piezo electric transducer.
2. Give two factors affecting physiological variables.
3. What are the applications of needle electrodes ?
4. Explain the different heart sounds.
5. What are different types of electrodes used in biomedical instruments ?
6. What is vital capacity of lungs ?
7. Name the EEG waves.
8. Explain the working of a bed side monitor.
9. Give the principle of Ultrasound scanner.
10. Explain how leakage current is taken care of in biomedical instruments.

PART – B

Answer **any one full** question from **each** module.

Module – I

11. a) Write a note on electrodes. 10
- b) Explain in detail the problems encountered in measuring living systems. 10

OR

P.T.O.



12. a) Write a note on transducers. 10
b) Explain how action potentials are developed and propagated. 10

Module – II

13. a) Explain the working of heart with neat diagrams. 10
b) Sketch the ECG waveform and explain it. 10

OR

14. a) Explain respiratory rate measurement. 10
b) Explain various lead configurations in ECG measurement. 10

Module – III

15. a) Explain in detail neuronal communication. 10
b) Explain using block diagram EEG recorder. 10

OR

16. a) Write a note on brain computer interfacing. 10
b) Write a note on EMG. 10

Module – IV

17. a) Explain hemo dialysis. 10
b) What is defibrillation ? Explain a defibrillator. 10

OR

18. a) Write a note on PET scanning. 10
b) Write a note on artificial kidney. 10
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