

**Printed Pages : 3**



**EEE-051**

**(Following Paper ID and Roll No. to be filled in your Answer Book)**

**PAPER ID : 121855**

**Roll No.**

--	--	--	--	--	--	--	--	--

**B. Tech.**

**(SEM. VIII) THEORY EXAMINATION, 2014-15**  
**BIO INSTRUMENTATION**

**Time : 3 Hours]**

**[Total Marks : 100**

**Note : Attempt all questions.**

**1 Attempt any four parts. 5×4=20**

- a) Explain different types of physiological systems of the body.
- b) List the various problems encountered in the measurement of living body.
- c) What do you mean by man-Instrument system? Explain with block diagram.
- d) What is bio electric potential ? Explain with suitable diagrams.
- e) What do you mean by transducers? Explain active and passive transducers.
- f) What is ECG? Draw its distribution graph.

**121855]**

**1**

**[ Contd...**

- 2 Attempt any four parts. 5×4=20
- a) What are electrodes? Explain.
  - b) Explain the biochemical transducers.
  - c) What do you mean by cardiovascular system? Draw its circulation diagram.
  - d) What are the various characteristics of blood flow? Discuss briefly.
  - e) What do you mean by 'ECG' recording? What are the methods of it ?
  - f) Explain Heart sounds.
3. Attempt any four parts. 5×4=20
- a) Write short notes on anatomy of Nervous system.
  - b) What is the procedure of measurement of neuronal firing with suitable diagrams?
  - c) Explain the different components of EMG measurement.
  - d) Describe the desired features of Electromyography.
  - e) Explain clinical applications of ECG in detail.
  - f) Explain ultrasonic measurements in Human beings.
- 4 Attempt any two parts ; 10×2=20
- a) Eye Pressure measurement.
  - b) Intensive Care Unit? Draw its block diagram.
  - c) Bio telemetry & Applications in patient care.

5 Attempt any two parts.

10×2= 20

- a) Write short notes on radiation therapy.
- b) Write short notes on following.
  - (i) Biomedical computer applications.
  - (ii) Method of accident prevention.
- c) Write short notes on any two.
  - (i) Automation of chemical tests.
  - (ii) Instrumentation for diagnostic X Rays.
  - (iii) Interfacing computer with medical instrumentation and other equipments.

