

Regular - May '10

Exam - March - 10 - 2 - 35

Con. 3825-10.

BIOMEDICAL INSTRUMENTATION - II
(REVISED COURSE)
(3 Hours)

AN-4710

Total Marks : 100

- N.B. : (1) Question No. 1 is compulsory.
(2) Attempt any four questions out of remaining six questions.
(3) Figures to the right indicate full marks.
(4) Illustrate answers with sketches whenever required.

1. (a) What do you understand by Bio-potentials ? 10
(b) Explain how action potential is generated and show the difference between nerve impulse and cardiac impulse. 10
2. (a) Draw the block diagram of bedside monitoring system and explain. 10
(b) What is EEG ? Explain 10-20 system with the help of neat diagram, also explain all the frequency components. 10
3. (a) Define Biotelemetry ? Draw a telemetry circuit to transmit ECG signal. What are uses of Biotelemetry and what are the different types of Biotelemetry ? Explain one of them. 10
4. (a) How does ground fault interrupter operate ? Define leakage current. 10
(b) Explain physiological effect of electricity on human body. Explain, what is macro current and micro current. 10
5. (a) Explain principle and operation of ultrasonic FHR measurements. 10
(b) Explain average heart rate monitoring system. 10
6. (a) Explain what you understand of EMG ? Draw block diagram and explain. 10
(b) Write application of EMG and show how NCV is measured. 10
7. Write short notes any three :- 20
(a) Isolation Technique
(b) Instrumentation Amplifier
(c) 12 lead system for ECG
(d) Resting membrane Potential
(e) Bio-feedback system.