

Sem VIII
1815116

Biomedical ETRX

ETRX

Elective

CBAS

Q.P. Code : 718602

(3 Hours)

[Total Marks : 80

N.B. : (1) Question No.1 is **compulsory**.

(2) Answer **any Three** out of remaining **Five** questions.

(3) **Figures** on the **right** indicate **full marks**.

(4) Assume **data** wherever **necessary**.

1. (a) Draw and explain the generation of Nerve Action Potential. 5
- (b) Explain the construction and working of X-ray Tube. 5
- (c) Draw neat labelled diagram of Electrocardiogram with amplitudes and time durations of every peak in Lead II configuration. 5
- (d) Explain what do you understand by Micro and macro shock. 5

2. (a) Draw and explain ECG recording in 12 Lead configuration. 10
- (b) Explain Ultrasonic Blood flow measurement technique. 10

3. (a) Explain the A,B, M and TM Mode of Ultrasound. 10
- (b) Explain using suitable diagram working of Haemodialysis machine. 10

4. (a) Design a variable gain preamplifier for ECG Signals. 10
- (b) Explain using suitable diagram, indirect method of blood pressure measurement using sphygmomanometer. 10

5. (a) Draw and explain various types of electrodes and their applications for Bio-potential measurement. 10
- (b) Explain the working of a pacemaker using suitable block diagram. Also mention various modes of pacemaker. 10

6. Write short notes on (**any Three**) : 20
 - (a) Dye dilution method.
 - (b) D.C defibrillator.
 - (c) Cardiovascular system.
 - (d) Methods of accident prevention by electrical safety.