

Duration: 03 Hours.**Total marks: 80****Instructions to the candidates if any:-**

- N. B.** (1) Question No. 1 is compulsory.
 (2) Answer any **Three** out of remaining questions.
 (3) Assumptions made should be **clearly** stated.

Q. No.	Marks
Q. 1 Solve any Four	20
a) Classify Human Nervous System b) Explain propagation of Action Potential c) Explain Half Cell Potential and over potential of Electrode d) What is Hounsfield Number in CT? e) Compare direct and indirect blood pressure measurement	
Q. 2) a) Explain correlation of heart sounds with electrical and mechanical events of cardiac cycle	10
b) What is evoked potential? Explain EEG recording with suitable block diagram	10
Q. 3) a) Explain EMG measurement with block diagram	10
b) Explain Electrode –Skin interface with its equivalent circuit diagram	10
Q.4) a) Explain C.T. imaging technique with suitable block diagram	10
b) Explain modes of ultrasound imaging	10
Q. 5) a) Explain rate responsive pacemaker with block diagram	10
b) Explain working of artificial kidney and precautions to be taken	10
Q.6) a) What is cardiac output? Explain its measurement	10
b) Explain physiological effects of varying values of electric current?	10