

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) **Assume** suitable data wherever **necessary**.

(5) Draw sketches / diagrams **wherever necessary**.

(6) Use legible handwriting. Use blue / black ink.

1. (a) Draw using suitable diagram of Nerve action potential. [05]
- (b) Explain how nerve action potential is generated. [05]
- (c) Explain the concept of Telemedicine. [05]
- (d) Draw ECG waveform recorded in LEAD II configuration and label it. [05]
2. (a) Explain the block diagram of apnea detector. [10]
- (b) Draw and explain the block diagram of Fetal monitoring system [10]
3. (a) Explain using suitable diagram 12 lead electrode system in ECG. [10]
- (b) Explain using suitable diagram 10/20 electrode system in EEG, [10]
4. (a) Explain indirect method of BP measurement. [10]
- (b) Explain how instantaneous heart rate is measured. [10]
5. (a) Explain using suitable block diagram Biotelemetry transmitter. [10]
- (b) Explain using suitable block diagram ambulatory monitoring system. [10]
6. (a) Explain with suitable diagram instrumentation amplifier. [10]
- (b) Explain how temperature can be monitored. [10]
7. Write short notes on : (Any Four) [20]
 - (a) Baby incubator
 - (b) Micro and macro shock.
 - (c) Phonocardiography
 - (d) Biotelemetry transmitter