



B.E DEGREE EXAMINATIONS: NOV 2015

(Regulation 2009)

Seventh Semester

ELECTRONICS AND INSTRUMENTATION ENGINEERING

EIE121: Bio Medical Instrumentation

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Which organelle is called the powerhouse of the cell?
 - a) Lipid
 - b) Lysosome
 - c) Mitochondria
 - d) Ribosome
2. Identify the naturally occurring piezo-electric crystal.
 - a) Quartz
 - b) Lead Zirconate Titanate
 - c) Barium Titanate
 - d) Lithium Sulphate Monohydrate
3. Which electrode is preferred to measure bioelectric potentials from muscles?
 - a) Microelectrodes
 - b) Surface electrodes
 - c) Needle electrodes
 - d) Depth electrodes
4. Name the EEG wave that is recorded in deep sleep?
 - a) Alpha wave
 - b) Beta wave
 - c) Delta wave
 - d) Theta wave
5. What is the normal blood pressure value?
 - a) 150/80
 - b) 150/90
 - c) 80/120
 - d) 120/80
6. Choose the equipment which measures blood PCO₂ and PO₂ values?
 - a) Doppler blood flow meter
 - b) Pulmonary function analyzer
 - c) Spirometer
 - d) Blood gas analyzer
7. Which imaging technique does not involve ionizing radiations?
 - a) X-ray
 - b) CT
 - c) Endoscopy
 - d) Ultrasonography

23. a) Explain 3 direct methods of blood pressure measurement.

(OR)

b) Explain the principle of a plethysmograph with a schematic diagram.

24. a) Explain the principle of production of CT images with the help of a neat diagram.

(OR)

b) Explain a frequency multiplex telemetry system with the help of a neat diagram.

25. a) Explain the working of a servo ventilator with a neat diagram.

(OR)

b) Explain the working of a heart – lung machine with a neat block diagram.
