

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2018
(Fourth Semester)

Branch – ELECTRONICS

MEDICAL ELECTRONICS

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (10 x 2 = 20)

- 1 Define intra and extra cellular fluid.
- 2 Define electrode.
- 3 Define electric component.
- 4 Write types of filters.
- 5 Write the equation of the diameter of the blood vessel and velocity of blood flow.
- 6 Draw the graph for temperature measurement.
- 7 Define ECG.
- 8 Write any four types of external defibrillator.
- 9 Define A-mode display in echocardiography.
- 10 Draw the basic block diagram of x-ray machine.

SECTION - B (25 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 5 = 25)

- 11 a Give a short note about transport of ions through the cell membrane.
OR
b Explain the function of bio electric potentials.
- 12 a Explain about the lead as a path of least resistance.
OR
b Write about carrier current & line noise.
- 13 a Write the basic principle of blood flow meter.
OR
b Explain the function of measurement of pulmonary function.
- 14 a Explain the types of brain waves with graphical representation.
OR
b Write the difference types of commonly available endoscopy.
- 15 a Explain the construction of an ultrasonic transducer.
OR
b Draw the basic x-ray tube and explain the principle.

SECTION - C (30 Marks)

Answer any THREE Questions

ALL Questions Carry EQUAL Marks (3 x 10 = 30)

- 16 Explain the function of action and resting potential with diagram.
- 17 Explain about magnetic component.
- 18 Briefly explain about the measurement of temperature with its types.
- 19 Explain the functions and recording set up for electromyography.
- 20 Explain the function of the magnetic resonance imaging.