

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 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 (1 0 x 2 = 20)

- 1 What are the ingredients of a tissue?
- 2 What is half cell potential?
- 3 Write two points on magnetic component of interference.
- 4 Define base line shift.
- 5 What are the components of high blood pressure?
- 6 Define how the heart sound is measured.
- 7 Write the expansion of EMG and give its importance.
- 8 Write two applications of microwave diathermy.
- 9 Write the abbreviation of CAT.
- 10 What is the principles of Angiogram?

SECTION - B (25 Marks)

Answer ALL Questions

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

- 11 a Explain about the action potential.
OR
b Define the various types of electrode models.
- 12 a Explain how the patient body is used as a path of least resistance.
OR
b Write a note on filters.
- 13 a Explain the measurement of respiration rate and process involved in it.
OR
b What is temperature and how it can be measured?
- 14 a Write short note on EEG.
OR
b Explain the surgical diathermy process.
- 15 a Explain the magnetic resonance imaging if s working.
OR
b Write short note on Audiometer.

SECTION - C (30 Marks)

Answer any THREE Questions

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

- 16 Explain briefly about the biomedical transducers and its uses.
- 17 Describe in detail about carrier current and line noise.
- 18 Define the blood flow measurement and its effect in cardiac output.
- 19 Explain the operation of pacemaker with neat diagram.
- 20 What is X-ray unit and explain its working?