

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION MAY 2017
(Fourth Semester)

Branch- ELECTRONICS

MEDICAL ELECTRONICS

Time : Three Hours

Maximum : 75 Marks

SECTIONS (20 Marks)

• Answer ALL questions

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

- 1 - What is an action potential?
- 2 Write down the types of electrodes.
- 3 Where the 50Hz interface is used?
- 4 What is a base line shift?
- 5 What are the disadvantages of high blood pressure?
- 6 What is the use of plethysmography?
- 7 Draw the basic ECG waveform.
- 8 What is the concept of endoscopy?
- 9 Define the principle of imaging.
- 10 Write two uses of angiogram. .

SECTION - B (25 Marks)

Answer ALL Questions

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

- 11 a Explain about the electrical activity of cells.
OR
b Write short note on biomedical transducers.
- 12 a Write a short note on magnetic components of interference.
OR
b Define the principle of filters.
- 13 a Write short note on process of indirect blood pressure measurement.
OR
* b Explain the temperature measurement process. .
- 14 a Write short note on electrode used in the ECG.
OR
b What is dialyses and explain its process?
- 15 a Explain the construction of X- ray unit.
OR
b Describe about the application of audiometer.

SECTION - C (30 Marks)

/ " Answer any THREE Questions

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

- 16 Explain briefly about the characteristics of tissues, muscles and nervous system.
- 17 Describe in detail about how the patient body is used as a path of least resistance.
- 18 What is respiration rate and explain how it is measures?.
- 19 Explain the operation of defibrillators with neat diagram.
- 20 What is magnetic resonance imaging and explain its importance?