Total No. of Questions :5] [Total No. of Printed Pages :2

Roll No

EI - 604

B.E. VI Semester

Examination, June 2015

Medical Instrumentation

Time : Three Hours

Maximum Marks : 70

Note: i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.

ii) All parts of each question are to be attempted at one place.

iii) All questions carry equal marks, out of which part A and B (Max.50 words) carry 2 marks, part C (Max.100 words) carry 3 marks, part D (Max.400 words) carry 7 marks.

iv) Except numericals, Derivation, Design and Drawing etc.

Unit - I

1. a) What is Neuromuscular?
   b) What is PH value of Blood?
   c) What is transducer? Also explain its use in Biomedical field?
   d) What is the respiratory system? Also explain the instrumentation part use in respiration system.

OR

Describe different types of electrode? Also compare the PO_2 and PCO_2 measuring electrodes?

Unit - II

2. a) What is Cardiac output?
   b) What is phonocardiography?
   c) Explain the Techniques of measures the Blood pressure.

   d) Explain the working and types of defibricator.

OR

What is pacing modes of pacemaker? Also explain the working of pacemaker.

Unit - III

3. a) What is Electromyography?
   b) Which types of Electrodes is used in EEG?
   c) Explain the technique of measuring the gas volume?
   d) What is Respiratory Mechanism? Also explain the CO_2 and O_2 measuring techniques.

OR

What is EEG? Also explain the characteristic of EEG.

Unit - IV

4. a) What is ESR?
   b) What is GSR?
   c) Explain How the PH-value of Blood is measured by PH-meter?
   d) Explain the working of GSR measurement instrument? Also write the applications.

OR

What is Laser? Also explain the Laser techniques used in medical field in detail.

Unit - V

5. a) Which type of transducer is used in US system?
   b) What is Tomography?
   c) Explain the patient monitoring system.
   d) Explain the working of pulse-Echo system. Also explain various display modes of imaging.

OR

Explain the magnetic Resonance of imaging. Also explain the image Reconstruction techniques of imaging.

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