

Roll No .....

**EI/IC - 604**  
**B.E. VI Semester**  
Examination, June 2016  
**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 questions 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**

- a) What do you understand by physiology of cardiac?  
b) Define respiratory system.  
c) Differentiate between nervous and muscular systems.  
d) What are criterion for the selection of transducers for biomedical applications.

OR

Name the different types of electrodes used in biomedical applications. Explain any one of them with neat diagrams.

**Unit - II**

- a) What is electrocardiography?  
b) What is phonocardiography?  
c) Discuss computer applications in biomedical engineering.  
d) Write a detailed note on cardiac pace-maker.

OR

Describe the complete method for the measurement of blood pressure.

**Unit - III**

- a) What are the different electrical activities in muscles?  
b) What is respiratory controller?  
c) Write the procedure for measurement of gas volume.  
d) Discuss Electroencephalograph and their interpretation.

OR

With the block diagram explain how EEG is recorded.

**Unit - IV**

- a) Bring out the clinical applications of endoscope.  
b) What is Lasersur medicine?  
c) What is meant by ESR?  
d) How measurement of pH value of blood is done?

OR

Why do we need to measure the GSR? What is its procedure?

**Unit - V**

- a) What is ultrasound?  
b) What is MRI?  
c) Show how computer tomography has revolutionised the field of diagnoses explaining its salient features.  
d) What are the steps taken after the patient has suffered from electrical shock?

OR

Write short note on Biotelemetry.

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