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SIXTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION JUNE 2007  
  
AI 04 603 BIOMEDICAL INSTRUMENTATION  
2004 admissions)  
  
Time Three Hours. Maximum:100 Marks  
  
1.  
  
a) What are the important characteristics of medical instrumentation system?  
  
b) Explain the propagation of action potentials.  
  
c) Explain the indirect measurement of blood pressure.  
  
d) Explain the blood pressure measurement based on electromagnetic induction.  
  
e) Briefly discuss the anatomy of the nervous system.  
  
f) Write short note on Electromyogram.  
  
g) Explain the basic principle of ultrasonic imaging system.  
  
h) Briefly explain the tests on blood cells.  
  
(8x5=40 marks)  
  
11.   
(a) Explain the main instrument system with the help of a block diagram.(8 marks)  
  
(b) Give a brief discussion of the physiological systems of the body.(7 marks)  
  
Or  
  
(a) Explain Resting potential and action potentials. (8 marks)  
  
(b) Explain skin surface electrodes.(7 marks)  
  
111.  
  
(a)Explain with the help of a block diagram the operation of ECG machine. (15 marks)  
  
Or  
  
(a)Explain any one method to measure blood pressure directly.(8 marks)  
  
(b)Explain how heart sound is measured.(7 marks)  
  
  
1V.  
  
(a)Explain EEG measurement.(8 marks)  
  
(b)Discuss the physiology of respiratory system.(7 marks)  
  
Or  
  
Explain in detail the theory of pacemakers and their classification.(15 marks)  
  
V. Explain the principle of generation of X-rays. What are the uses of X-rays. (15 marks)  
  
Or  
  
(a) Explain the ultrasonic imaging system.(8 marks)  
  
(b) Write notes of telemedicine.