

**B.TECH SEM – VI (2007 COURSE) (BIOMEDICAL ENGG.) :**

**SUMMER - 2018**

**SUBJECT: BIOMEDICAL ELECTRONICS-II**

Day : **Friday**  
Date : **08/06/2018**

**S-2018-2741**

Time : **02.30 PM TO 05.30 PM**  
Max. Marks: 80

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**N. B. :**

- 1) **Q. No.1 and Q. No.5 are COMPULSORY.** Out of the remaining attempt **ANY TWO** questions from Sections.
  - 2) Figures the right indicates **FULL** marks.
  - 3) Answer to both the sections should be written in the **SEPARATE** answer books.
  - 4) Assume suitable data if necessary.
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**SECTION-I**

- Q.1** a) Explain with example when curvilinear and rectilinear recording systems are used. (06)
- b) List any four clinical laboratory instruments with their applications. (04)
- c) What do you mean by ambulatory monitoring system? Give its importance. (04)
- Q.2** a) Describe with the help of block diagram the main elements of general electronic recording system. (07)
- b) Explain electrostatic recorder with the help of diagram. (06)
- Q.3** a) Draw and explain the schematic representation of central monitoring station for ICU beds. (07)
- b) Explain cardioscope with the help of diagram. (06)
- Q.4** a) Draw the arrangement of various components of a spectrophotometric instrument. Explain the various radiation sources and filters. (07)
- b) What is the function of a blood gas analyzer? Why is it necessary to maintain acid base balance in the body? What is the normal blood pH value? (06)

**SECTION-II**

- Q.5** a) What is Doppler effect? Draw and explain it with the help of diagram. (06)
- b) Enlist the different types of pacemakers with its applications. (04)
- c) Define the terms with example: (04)
- i) Inhalator ii) Respirator
- Q.6** a) Draw the block diagram of Electrosurgical unit and explain the modes of ESU. (07)
- b) What are the biological effects of ultrasound? (06)
- Q.7** a) What do you mean by pneumotachograph? How airflow measurement is done? Explain it with neat diagram. (07)
- b) What are the modern respirator technologies? Explain any one. (06)
- Q.8** a) Explain different power sources for implantable pacemaker. (07)
- b) Describe electrodes used for defibrillator. (06)

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