

**B.TECH. SEM -VI BIO MEDICAL 2014 COURSE (CBCS) :  
WINTER - 2017**

**SUBJECT : BIOMEDICAL ELECTRONICS – II**

Day : **Thursday**  
Date : **23/11/2017**

Time : **10.00 AM TO 01.00 PM**  
Max. Marks : 60

**W-2017-2243**

**N.B.:**

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Assume suitable data if necessary.

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**Q.1** Draw the block diagram of potentiometric recorder and explain. Write the frequency range also. [10]

**OR**

Explain following with applications: [10]

- a) Curvilinear and rectilinear recording
- b) Electrostatic recorder

**Q.2** a) What are the advantages of touch screen display system? Explain the basic principle used in it. [05]

b) Explain the importance of Ambulatory monitoring system. [05]

**OR**

Draw and explain the block diagram of central monitoring system. Also draw the typical display on patient information center and discuss its advantages. [10]

**Q.3** a) What are the differences and advantages of spectrophotometer over colorimeter? [05]

b) Write a short note on : “Artificial Kidney”. [05]

**OR**

List and explain the types of dialyzers used in hemodialysis machine. [10]

**Q.4** a) Give the applications of scanning modes used in ultrasonography. [05]

b) Discuss the biological effects of ultrasound. [05]

**OR**

Draw and explain ESU with cut, coag and blend mode. Also draw waveforms and give frequency for above modes. [10]

**Q.5** a) What are the applications of Ventilator? What is assist mode and assist control mode in ventilator? [05]

b) Write a note on Inhalator’s significance to save life. [05]

**OR**

a) Draw and explain plethysmograph. What are its applications? [07]

b) SIMV mode of ventilator. [03]

**Q.6** What are the advantages of DC defibrillator over AC defibrillator? Explain AC and DC defibrillator with diagram. [10]

**OR**

a) What is the function of SA node? Explain the role of pacemaker. [05]

b) Write a note on need of programmable pacemaker. [05]

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