

**B.TECH. SEM -VI BIO MEDICAL 2014 COURSE (CBCS) :**  
**SUMMER - 2018**

**SUBJECT : BIOMEDICAL ELECTRONICS – II**

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

**S-2018-2455**

Time : **02.30 PM TO 05.30 PM**  
Max. Marks : 60

**N.B.:**

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

**Q.1** Which frequency signals are recorded with the help of UV recorders? Explain its basic principle and its block diagram. [10]

**OR**

Explain in short : i) Inkjet recorder ii) Thermal array recorder. [10]

**Q.2** What are the characteristics of biomedical oscilloscope? How it is different than general oscilloscope. Also write specifications of cardioscope. [10]

**OR**

Draw the diagram of instrumentation at Central Console. Also explain Communication between Central Console and patient monitoring. [10]

**Q.3** State the principle used in Coulter Counter and explain its block diagram. [10]

**OR**

Explain flame photometer with circuit diagram. Also write the table for ionic concentration in terms of wavelength in nm and  $^{\circ}$ A unit. [10]

**Q.4** Draw the constructional diagram of ultrasound transducer and explain each part. Also give the frequency range application wise. [10]

**OR**

Write short notes on : [10]

- a) Electrodes used for surgical unit
- b) Absorption and attenuation of ultrasound energy

**Q.5** Enlist the modes of ventilators and explain any three in detail. [10]

**OR**

What are the applications of pneumotachograph and plethysmograph. [10]

**Q.6** Explain the following terms with respect to Defibrillator: [10]

- i) Electrodes
- ii) Calibration

**OR**

Explain fixed and on-demand type of pacemaker. [10]

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