

1T00325 - T.E.(BIOMEDICAL)(Sem V) (Choice Based) Diagnostics & Therapeutics Instruments

[3 Hrs]**Total Marks : 80****N.B**

- 1) **Question No. 1 is compulsory.**
- 2) **Attempt any three questions out of remaining five questions.**
- 3) **Figures to the right indicate full marks.**
- 4) **Assume suitable data if necessary, stating your assumption.**

- Q1. a) Explain with suitable diagram Beer-Lambert's Law. [05]
 b) Explain with suitable diagram working of Insulin Pump. [05]
 c) Explain the optical ray diagram of spectrophotometer. [05]
 d) Explain pCO₂ electrode. [05]
- Q2. a) Explain protein separation technique using electrophoresis. [10]
 b) Explain using suitable diagram working of an Auto-analyser. [10]
- Q3. a) Draw and explain the working of Coulter's Blood Cell Counter. [10]
 b) Explain using Spirogram various lung volumes and capacities. [10]
- Q4. a) Elaborate the different techniques of ELISA? Give the applications of ELISA. [10]
 b) Explain various modes of ventilators. [10]
- Q5. a) Explain with suitable circuit diagram working of Shortwave diathermy. [10]
 b) Explain using suitable block diagram working of Hemodialysis machine. [10]
- Q6. **Write short notes on any Four**
- a) Chromatography. [05]
 b) List different types of dialyzers and explain any one. [05]
 c) Peristaltic pump. [05]
 d) Types of current in electrotherapy. [05]
 e) Nitrogen washout technique. [05]
