

[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 dye dilution method for cardiac output measurement. [05]
b) Explain the optical ray diagram of spectrophotometer. [05]
c) Explain the principle of oximetry. [05]
d) Explain pCO₂ electrode. [05]
- Q2. a) Explain electromagnetic method for blood flow measurement. [10]
b) Explain various modes of ventilators. [10]
- Q3. a) Draw and explain the working of Coulter Blood Cell Counter. [10]
b) Explain with a block diagram working of a heart lung machine. [10]
- Q4. a) Explain evoked response audiometry. [10]
b) Explain block diagram of autoanalyzer. [10]
- Q5. a) Explain protein separation technique using electrophoresis. [10]
b) Explain using Spirogram various lung volumes and capacities [10]
- Q6. Write short notes on **any Four**
1. Masking in audiometry. [05]
 2. Beer-Lambert's Law. [05]
 3. Impedance Plethysmography. [05]
 4. ELISA. [05]
 5. Chromatography. [05]
