





12. a) Explain the principle of following :
- i) Auto analyzer (8)
  - ii) PO<sub>2</sub> measurement (8)
- (OR)
- b) i) Explain auscultatory blood pressure measurement and write its advantages and disadvantages. (8)
- ii) Write the principle of coulter counter and with block diagram explain multi parameter coulter counter. (8)
13. a) i) Explain working principle of demand pacemaker with a diagram. (8)
- ii) Explain the DC defibrillator. (8)
- (OR)
- b) Explain the heart lung machine with neat block diagram and discuss about the different types of oxygenators. (16)
14. a) i) Draw the block diagram of short wave diathermy unit and explain it. (8)
- ii) Explain the working of a biotelemetry system with sub-carrier. (8)
- (OR)
- b) Define Leakage current. Explain the impact of leakage in cardiac patient and discuss about the prevention methods. (16)
15. a) i) Discuss the various applications of lasers in different fields of medicine. (8)
- ii) Discuss the benefits and limitations of telemedicine. (8)
- (OR)
- b) With neat sketch explain the following :
- i) Thermograph (8)
  - ii) Endoscopy unit. (8)