



3. (a) (i) A pacemaker is given a code 'VAT'. Identify the type of the pacemaker and explain the same in detail. (8)  
(ii) What is the output voltage provided by the Lithium Iodide battery source? (1)
- (b) (i) Draw and explain the two basic types of cardiac defibrillator electrodes. (5)  
(ii) With a neat block diagram, explain the DC defibrillator which is synchronized with the ECG signal. (6)
4. (a) Explain the following i) Thermography ii) Otoscope iii) CPAP iv) Dark packing fraction v) Desiccation (5)
- (b) (i) Explain the different processes that can cause heat loss from the neonates' body. (4)  
(ii) Differentiate positive pressure ventilator from a negative pressure ventilator. (4)
- (c) Explain the non-invasive type of lithotripsy in detail. (7)
5. (a) (i) Explain the hollow-fiber type of hemodialyser in detail. (4)  
(ii) Mention the proportion of water and concentrate used in the dialysate (in fixed ratio type) (1)
- (b) (i) With a neat block diagram, explain the bionic ear. (7)  
(ii) Explain the evoked response audiometers in detail. (8)
6. (a) List the electroacoustic properties of the hearing aids and explain the same in detail. (7)
- (b) (i) Explain with a block diagram, the echocardiograph. (7)  
(ii) List and explain the medical applications of thermography. (6)