

16172

3 Hours / 100 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
 - (2) Illustrate your answers with neat sketches wherever necessary.
 - (3) Figures to the right indicate full marks.
 - (4) Assume suitable data, if necessary.

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|---|--------------|
| 1. (A) Attempt any THREE : | 12 |
| (a) Define Pacemaker. Write down need of Pacemaker. | |
| (b) Differentiate between A.C & D.C. defibrillator. (4 points) | |
| (c) Write down the applications of suction apparatus. | |
| (d) Draw a neat labelled block diagram of bedside monitor. | |
| (B) Attempt any ONE : | 6 |
| (a) Draw the circuit diagram of D.C. Defibrillator. State function of each block. | |
| (b) Draw schematic diagram of Heart lung bypass machine and explain in detail. | |
| 2. Attempt any FOUR : | 16 |
| (a) State different types of pacemaker. Draw block diagram of any one. | |
| (b) Draw the block diagram of baby incubator. | |
| (c) List any four technical specifications of suction apparatus. | |
| (d) Explain the need of central monitor. | |
| (e) Describe the need of baby incubator. | |
| (f) Differentiate between internal and external pacemaker. | |

- 3. Attempt any FOUR :** **16**
- (a) Differentiate between endocardial & myocardial leads.
 - (b) Write down steps for trouble shooting of defibrillator.
 - (c) Draw block diagram of nebulizer and explain its working.
 - (d) Draw block diagram of programmable microprocessor based infusion pump.
 - (e) List the technical specifications of Heart-lung machine.
- 4. (A) Attempt any THREE :** **12**
- (a) Differentiate between synchronous and asynchronous pacemaker.
 - (b) List technical specifications of ventilator.
 - (c) Write down need of central monitor.
 - (d) Draw a labelled block diagram of suction apparatus.
- (B) Attempt any ONE :** **6**
- (a) Give steps for maintenance of Defibrillator.
 - (b) Draw a neat block diagram of Haemodialysis machine. List the technical specifications of it.
- 5. Attempt any FOUR :** **16**
- (a) Draw block diagram of atrial synchronous pacemaker.
 - (b) Explain following modes of ventilator :
 - (i) Assist
 - (ii) Assist/Control
 - (c) State the trouble shooting steps carried out for bedside monitor.

- (d) Describe the concept of AED.
- (e) List different types of oxygenators and give its importance.
- (f) State the need of :
 - (i) Anaesthesia machine
 - (ii) Suction apparatus

6. Attempt any FOUR :

16

- (a) Draw neat diagram of Anaesthesia machine.
 - (b) Write down need of Pacemaker leads. State different leads used for pacemaker.
 - (c) Draw the block diagram of conventional method and closed loop control drug delivery system.
 - (d) Write technical specifications of baby incubator.
 - (e) Describe the concept of heart block.
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