

Time: 3 Hours

Total Marks: 70

Instruction:

1. All the questions are compulsory.
2. Answer of each section must be written in separate answer books.
3. Figure to the right indicates marks.
4. Assume data, if needed.
5. Conventional terms / notations are used.

Section - I

Que. - 1

12

- a). What are defibrillator analysers? Explain working principle of defibrillator analyzer.
- b). Draw schematic diagram of hemodialysis machine and explain it in brief.

OR

Que. - 1

12

- a). Explain the principle of blood leak detector circuit. Draw neat block diagram of blood leak detector circuit and explain.
- b). Describe different types of electrodes used in Defibrillator giving neat diagram.

Que. - 2

11

- a). What is "General Anesthesia"? Enlist the different gases used for anesthesia. Explain the device is used for flow measurement in anesthesia machine?
- b). What is Pacemaker? Describe the ICHD codes for Pacemaker.

OR

Que. - 2

11

- a). Explain methods to vaporize the anesthetic agent with mixture of gases.
- b). Draw the block diagram of cardiac pacemaker and explain each block.

Que. - 3 Answer any three.

12

- a). How much energy required for external and internal defibrillation? What should be the human body resistance for external and internal defibrillation? Which wave form preferred for defibrillator? Why?
- b). Discuss the various heart blocks. What is rate responsive pacemaker?
- c). What is the function of dialyser? Explain kill dialyser giving neat diagram

- d). What is general and local anesthesia? Draw block diagram of anesthesia machine and explain.

Section – II

Que. – 4

12

- a) Explain the principle of diapulse therapy.
b) Give the difference between nociceptive and neuropathic pain. Give the name of disorders for which SCS used?

OR

*Que. – 4

12

- a) Enlist the different current are used for electrotherapy. Explain each with neat diagram.
b) What should be the complications of mechanical ventilation?

Que. – 5

11

- a) 1. Which are the Ventilator Parameters adjusted to maintain the optimum Minute Ventilation?
2. Which mode of ventilation is triggered by time, limited by pressure and affects inspiration only?
3. Which mode of ventilation "locks out" the patients' efforts to breathe ?
4. Which are the Ventilator Parameters adjusted to maintain the optimum Minute Ventilation?
5. Minute ventilation is equal to _____
b) Write the short note on electrodes used in surgical diathermy.

OR

Que. – 5

11

- a) Explain with neat diagram principle of surgical diathermy.
b) Explain the mechanism of pain with necessary figure.

Que. – 6

12

- a) Define i) Tidal volume ii) Respiratory rate/frequency iii) Minute volume iv) Inspiration to expiration ratio v) peak airway pressure
b) Explain bladder stimulators in detail.

END OF PAPER