1.   **Define the following terms:**

1A.   Half life
1B.   Therapeutic Index
1C.   Pharmacodynamics
1D.   Hypersensitivity

(3 marks × 4 = 12 marks)

2.   **Give the drug classification and one indication for the following drugs:**

2A.   Ipratropium bromide
2B.   Metoprolol
2C.   Mannitol
2D.   Propofol

(4 marks × 4 = 16 marks)

3.   Define shock, types of shock and drugs used in shock.

(2+5+5 = 12 marks)

4.   Definition, pathophysiology and management of congestive heart failure.

(2+3+5 = 10 marks)

5.   Classify Anti-hypertensive drugs and give one example for each.

(10 marks)

6.   Explain the mechanism of action of an anticholinergic drug. List any three drugs and their adverse effect.

(3+3 = 6 marks)

7.   Explain Dissociative anaesthesia.

(5 marks)

8.   Explain the rationale for the use of adrenaline in combination with local anaesthesia.

(5 marks)

9.   Enumerate the routes of drug administration.

(4 marks)

✍   **Answer ALL the questions.**

1.   Describe the reactions of TCA cycle. Mention its site and subcellular site.

(8 marks)

2.   Classify enzymes giving one example for each class.

(6 marks)

3.   **Write short notes on the following:**

3A.   Digestion of dietary polysaccharides
3B.   Components of the complexes in electron transport chain
3C.   Biochemical basis of symptoms in diabetes mellitus
3D.   Structure of DNA with diagram

(4 marks × 4 = 16 marks)

4.   **Answer the following questions:**

4A.   Write normal serum levels of total protein and urea. Mention one condition each in which they are altered.
4B.   Define saturated and unsaturated fatty acids with one example each.
4C.   Define positive nitrogen balance with one example.
4D.   Define gluconeogenesis and name two precursors for it.
4E.   Name the serum lipoproteins.

(2 marks × 5 = 10 marks)