1. Answer any three of the following: 18
   (a) Discuss alkylating agents and antimetabolites used as antineoplastics.
   (b) Explain SAR of 8-amino and 4-amino analogues of antimalarial.
   (c) Give the synthesis of:
       (i) Mechorethamine
       (ii) 6-mercaptopurine
       (iii) Cyclophosphamide.
   (d) Name the pathogens causing human malaria. Discuss the structural variation among 4- and 8-amino derivatives of quinoline antimalarials.
2 Answer any three of the following:
   (a) Aldosterone inhibitors and xanthines are useful as diuretics. Explain.
   (b) What are hypoglycaemic agents? Discuss structural variation among biguanide derivatives.
   (c) Give the synthesis of:
       (i) Acetazolamide
       (ii) Sorbitrate
       (iii) Tolbutamide.
   (d) Discuss structural variation in antidiabetic sulfonul urea derivatives. Discuss the role of insulin in controlling sugar.

3 Answer any three of the following:
   (a) How metals and its complexes are useful as therapeutic agents in antimalarial drugs?
   (b) Discuss the production of radio isotopes and measurement of radioactivity.
   (c) Define the term drug delivery system and explain liposomes and nanoparticle drug delivery system.
   (d) How metals and their complexes are useful as therapeutic agents? Describe them as antimalarial agents.

4 Answer any three of the following:
   (a) Enlists the drug delivery systems and discuss any two of them.
   (b) Explain the cancer chemotherapy and give the synthesis of Daraprim and Chloroquine.
   (c) Give an account on nasal and transdermal drug delivery system.
   (d) Give the classification of antineoplastics.