

M.Sc.(Chemistry) (CBCS Pattern) Sem-III
PSCHT12.5 - Medicinal Chemistry Paper-XII

P. Pages : 2

Time : Three Hours



GUG/W/22/11346

Max. Marks : 80

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1. a) What are cardiovascular drugs? Give detail synthesis of Verapamil and Methyldopa. 8
- b) Write a note on significance of drug metabolism in medicinal chemistry. Give a detail account of the use of computer in drug design. 8

OR

- c) Give the synthetic steps and uses of amyl nitrate 4
- d) Write a note on molecular modelling and drug design. 4
- e) Write a short note on cardiovascular diseases. 4
- f) Write a note on prodrugs, give the different phases in prodrug action. 4
2. a) What are Antineoplastic agents? How are they classified? Which are the different chemical causing cancer? Explain the role of antimetabolites in the treatment of cancer. 8
- b) Explain Type - I and Type - II diabetes. Write a note on the use of Insulin and Thiazolidinediones as antidiabetic agents. 8

OR

- c) Give the synthetic pathway of Melphalan. 4
- d) Give the synthesis and use of Ciglitazone. 4
- e) Write a short note on Cancer Chemotherapy. 4
- f) Comment on the "Role of Alkylating agent" in the treatment of cancer. 4
3. a) Explain the synthesis and uses of following. 8
- i) Sulphonamides and
- ii) Phenylbutazone
- b) Write a note on loop Diuretics? Focus on the mode of action & synthesis of Bumetanide. 8

OR

- c) What are analgesic drugs? Give the uses and mode of action of Phenacetin. 4
- d) Write the synthetic pathways of Griseofulvin an anti - infective drug. 4
- e) Give the synthesis, uses and mode of action of Aspirin. 4
- f) Write the synthesis & uses of Ethacrynic acid. 4

4. a) Write a note on Central Nervous Stimulants. Give the synthesis of 8
i) Bromazepam and
ii) Phenobarbital
- b) Write the synthesis and uses of 8
i) Coumarins and
ii) Indanediones

OR

- c) Write down the factors affecting coagulation and anticoagulation of blood. 4
- d) Write the structure & uses of Vitamin K₁ & Vitamin K₂. 4
- e) Explain the mode of action of Barbiturates and hydantoin as CNS depressants. 4
- f) Give the synthesis and uses of Diazepam. 4
5. a) Write the structure and use of Atenolol. 2
- b) What do you understand by clinical studies with respect to drugs. 2
- c) Write the structure of Thiotepe and Lomustine. 2
- d) Write the structure of Insulin & Thiazolidinediones. 2
- e) Write the structure and mode of action of Quinethazone. 2
- f) Define Antipyretic with suitable examples. 2
- g) What are psychoactive drugs give any two examples. 2
- h) Give the difference between Coagulants & anticoagulants. 2
