

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

P. Pages : 2

Time : Three Hours



**GUG/W/22/11346**

Max. Marks : 80

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Notes : 1. All questions are compulsory and carry equal marks.

1. a) Explain the significance of drug metabolism in medicinal chemistry. Give a detail account on computer aided drugs. **8**

b) What are cardiovascular drugs? Write down the synthesis of amyl nitrate and verapamil. **8**

**OR**

c) Write a short note on molecular modelling. **4**

d) How methyl dopa is synthesized? Give its adverse effects. **4**

e) Discuss the term "Biological response to drug" **4**

f) Write a note on Medical Formulations. **4**

2. a) What is cancer? Classify cancer and explain cancer chemotherapy along with chemicals causing cancer. **8**

b) What are type I and II diabetics? Comment on the role of insulin in human body why insulin cannot be given orally? **8**

**OR**

c) How is pioglitazone synthesized? **4**

d) Give the synthesis and uses of Lomustine. **4**

e) Write a short note on Thiazolidinediones as antidiabetic agents. **4**

f) Explain the role of alkylating agents in the treatment of cancer. **4**

3. a) Write the synthesis, uses, side effects and mode of action of ciprofloxacin drug. **8**

b) What are analgesics and antipyretics? Write the synthesis and uses of Analgin and phenylbutazone. **8**

**OR**

c) Write a short note on mode of action of diuretics. **4**

d) Give the synthesis and uses of Aminosalicylic acid. **4**

- e) Write the structures and uses of- 4  
i) Indomethacin and  
ii) Phenacetin
- f) Explain the synthesis and side effects of Quinethazone drug. 4
4. a) Write a note on Central Nervous System stimulant drugs. Give the synthesis and side effects of phenobarbital drug. 8
- b) What are the factors affecting and mechanism of coagulation and anticoagulation of blood. 8

**OR**

- c) What is the mode of action of Hydantoin as a CNS depressant drug. 4
- d) Explain the synthesis and uses of coumarins. 4
- e) Discuss the structure of Heparin. 4
- f) Give the synthetic steps & uses of ethosuximide drug. 4
5. a) Write the structure and two uses of atenolol. 2
- b) Define the term Pharmacokinetics and Pharmacodynamics. 2
- c) Write the structure of Thiopental. 2
- d) What are antimetabolites given an example. 2
- e) Write the synthesis and use of Aspirin. 2
- f) Write the structure of Norfloxacin. 2
- g) Write the structure of Griseofulvin. 2
- h) Write two uses and side effects of Indandiones. 2

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