

Question Paper

Exam Date & Time: 29-Apr-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

~~IV Year Pharm D / I Pharm D Post Baccalaureate~~

University Examination April 2023

Medicinal Chemistry [PCH 3.5T-S2]

Marks: 70

Duration: 180 mins.

A: Long Answer Questions

Answer all the questions.

Draw diagrams wherever necessary

- 1) Write the structures of various classes of semi synthetic penicillins. (5)
 - a)
 - b) What are beta lactamase inhibitors ? Write the structure of two beta lactamase inhibitors and outline the synthesis of piperacillin (5)
- 2) Write the structure and uses of two 2nd and 3rd generation cephalosporin derivatives . (5)
 - a)
 - b) Discuss the mechanism of action of DNA alkylators class of antineoplastic agents and outline the synthesis of sulphapyridine. (5)
- 3) Classify diuretics with examples giving one structure from each class and write the synthesis of clofibrate. (10)

B: Short Answer Questions

Answer all the questions.

- 4) Classify antifungal drugs giving one structure from each class and outline the method of synthesis of proguanil. (5)
- 5) Explain the MOA of action of aminoglycoside antibiotics with one structure and give the route of synthesis of sulphamethoxazole. (5)
- 6) Write the structure and uses of the following (5)
 - a) Acyclovir b) Sulphasalazine c) Mebendazole d) Niclosamide
- 7) Give the synthesis of Amiloride and Metformin. (5)
- 8) Classify oral hypoglycemic agents with examples, giving their structures. (5)
- 9) Write a note on the following: (5)
 - a) QSAR b) Virtual HTS

C. Give Reasons for the Following

Answer all the questions.

- 10) Methicillin is resistant to penicillinase enzyme. (2)
- 11) Ten percent population is allergic to benzyl penicillin. (2)
- 12) Reason for Ceftriaxone's nonlinear pharmacokinetic property. (2)
- 13) Osmotic diuretics mainly excrete water in urine whereas spironolactone is known as potassium (2)

sparing diuretic.

- 14) Sulfonylureas and non-sulfonylureas are ineffective in Type-1 diabetic patients. (2)

-----End-----