

# Question Paper

Exam Date & Time: 13-Jul-2023 (10:00 AM - 01:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

Instructions: Answer ALL questions.

**Medicinal Chemistry [PCH 3.5T-S2]**

**Marks: 70**

**Duration: 180 mins.**

### Section A

**Answer all the questions.**

Long Answer Questions (3 x 10 marks = 30 marks)

- 1) Classify Antimetabolites by giving one structure under each class. Outline the synthesis of mercaptopurine 5M  
Classify anti protozoal drugs by giving examples. Write the synthesis of mebendazole and flucytosine 5M (10)
- 2) Classify and give examples for the following classes of drugs (10)
  1. Diuretic drugs
  2. Anti-arrhythmic drugs
  3. Oral anti-diabetic drugs. 6MHow do you synthesize Clofibrate and Glibenclamide. 4M
- 3) Classify Penicillins by giving one structure under each class. Write the SAR for Fluro quinalones (10)  
Classify antimalarials by giving one structure under each class

### Section B

**Answer all the questions.**

Short Answer Questions (6 x 5 marks = 30 marks)

- 4) Drawing the basic structure of steroids, show the numbering. Write the structure of one anabolic steroid with its use. (5)
- 5) What are pro drugs? Classify them by giving examples and give their applications (5)  
Write the principle and application of combinatorial chemistry
- 6) Classify Radio contrasting agents. Give their specific applications. Outline the synthesis of fluroscein (5)
- 7) Write the structure and uses for the following: Nitrofurantoin, Albendazole, Tolnaftate, INH and Stavudine (5)
- 8) Drawing the general structure, explain the SAR features of Sulphonyl urea derivatives as anti-diabetic drugs. (5)
- 9) Classify Sulpha drugs by giving one structure under each class and outline the synthesis of sulphamethoxazole (5)

### Section C

**Answer all the questions.**

Give Reasons for the Following (5 x 2 marks = 10 marks)

- 10) Antiviral drugs are designed based on the arabinose sugar (2)
- 11) Tamoxifen is used in the treatment of Hyperlipidemia (2)
- 12) Hexamine is inactive as a drug by itself (2)

- 13) Dipyridamole, a vasodilator used as anti-coagulant. (2)
- 14) Beta lactam antibiotics are acylated whereas, penicillinase inhibitors are not acylated (2)

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