

Con. 2268-10.

(OLD COURSE)

MX-8518

(2 Hours)

[Total Marks : 35

N.B. : (1) Question No. 1 is **compulsory**.(2) Answer any four of the remaining **six** questions.

1. Give **one** example with structure of the following (any **seven**) :- 7
 - (a) Give a combination therapy for treatment of T.B.
 - (b) Give the active form of the antiviral agent Ara-A.
 - (c) An antiamebic agent which is a derivative of acetanilide.
 - (d) An antifungal antibiotic.
 - (e) A third generation cephalosporin.
 - (f) An antimetabolite of uracil
 - (g) Thymidylate synthase enzyme inhibitor.
 - (h) A broad spectrum anthelmintic agent.

2. (a) Draw the structure, give the generic name and write the therapeutic use of the following (any **three**) :- 6
 - (i) 4 - Amino - 3 - isoxagolidinone
 - (ii) 1 - [2 - (ethylsulfonyl) - 2 - methyl] - 5 - nitroimidazole
 - (iii) 8 - [(4 - Amino - 1 - methyl butyl) amino] - 6 - methoxy quinoline
 - (iv) 6 - Cyclohexyl - 1 - hydroxy, 4 - methyl 2 - (H) pyridinone.
- (b) Give the structure of ethambutol. 1

3. (a) Discuss the steps in life-cycle of the plasmodium in brief. 3
- (b) Classify antiviral agents giving example for each class with structure. 4

4. (a) Outline the degradation pathway for the Penicillins in acidic medium and explain with two examples how modification can prevent degradation. 4
- (b) Give reactions explaining the mechanism of action of the nitrosoureas as alkylating anticancer agents. 3

5. (a) Mention the drugs used to treat filariasis and worm infections in man. (Write the structure of the drugs). 3
- (b) Give the structure and mechanism of action of Ciprofloxacin. 2
- (c) Outline the structural features of macrolide antibiotic. 2

6. (a) Explain why the pKa values of sulfonamide antibacterials is important for their activity. 3
- (b) Write mechanism of action of azole antifungal agents. 2
- (c) Mention the sources and mechanism of action of Paclitaxel. 2

7. Outline the detailed synthesis of any **two** of the following :- 7
 - (a) Methotrexate
 - (b) Cloxacillin
 - (c) Mebendazole.