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Total No. of Questions : 09

Total No. of Pages : 03

Max. Marks: 100

M.Sc. (Chemistry) (2015 to 2017) (Sem.-3) MEDICINAL CHEMISTRY Subject Code : MSCH-312 Paper ID : [72626]

Time: 3 Hrs.

INSTRUCTION TO CANDIDATES :

- 1. Candidate is required to attempt 5 (FIVE) questions in ALL.
- 2. Attempt ONE question each from SECTION A, B, C and D.
- 3. Section E is compulsory. All questions carry EQUAL marks.

SECTION-A

- 1. a) What are antibacterial compounds? Explain mechanism of action of antibacterials.
 - b) What are penicillins? Classify penicillins according to their spectrum of antimicrobial activity. Describe general chemistry of penicillins. (8+12)
- 2. a) What are DNA polymerase inhibitors? Explain giving suitable examples.

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- b) Explain the chemistry of the following
 - i) Amprenavir

ii) Retrovir

- c) Write note on the following
 - i) Acyclovir

ii) Ziduvidine (6+8+6)

SECTION-B

- 3. a) What are anti-malarial drugs? How are these classified? Give suitable examples in each catagory.
 - b) What are Cinchona alkaloids? Describe the chemistry of Cinchona alkaloids.
 - c) What are sulfonamides? Explain the chemistry of sulfonamides. (6+7+7)
- 4. a) Explain the synthesis of the following drugs :



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i) Pamaquine	ii) Pyremethamine	
b) Write note on the following :		
i) 9-Aminoacridines	ii) Proguanil	(10+10)
SECTIO	N-C	
a) What are depressants of the central nervous	s system? Explain giving suita	able examples.
b) What are Barbiturates? Explain their stru- action.	cture-activity relationship and	d mechanism of
c) What are anti-convulsants? How would mechanism of action?	you classify these on the	basis of their (6+9+5)
a) What are psychoactive drugs? Explain givi	ng suitable examples.	
b) Explain the following :		
i) Tricyclic antidepressants	ii) Indolethylamines	
c) Describe the commercial synthesis of oxaz	epam.	(4+9+7)
SECTIO	N-D	
a) What are diuretics? How would you class mechanism of action?	sify them on the basis of the	eir structure and
b) Explain the chemistry of the following diu	retics :	
i) Purines and related heterocycles.		
ii) Benzothiadiazines.		(6+7+7)
a) Describe the commercial synthesis of the f	ollowing :	
i) Chlorothiazide	ii) Furosemide	
b) Write a note on Endocrine Antagonists.		(7+7+6)
	 b) Write note on the following : i) 9-Aminoacridines a) What are depressants of the central nervous b) What are Barbiturates? Explain their structuraction. c) What are anti-convulsants? How would mechanism of action? a) What are psychoactive drugs? Explain givines b) Explain the following : i) Tricyclic antidepressants c) Describe the commercial synthesis of oxaze SECTION a) What are diuretics? How would you class mechanism of action? b) Explain the chemistry of the following diure i) Purines and related heterocycles. ii) Benzothiadiazines. a) Describe the commercial synthesis of the following diure ii) Chlorothiazide	 b) Write note on the following : i) 9-Aminoacridines ii) Proguanil SECTION-C a) What are depressants of the central nervous system? Explain giving suitable with a central nervous system? The system of action? a) What are psychoactive drugs? Explain giving suitable examples. b) Explain the following : i) Tricyclic antidepressants ii) Indolethylamines c) Describe the commercial synthesis of oxazepan. SECTION-D a) What are diuretics? How would you classify them on the basis of the mechanism of action? b) Explain the chemistry of the following diuretics : i) Purines and related heterocycles. ii) Benzothiadiazines. a) Describe the commercial synthesis of the following : i) Chlorothiazide ii) Furosemide

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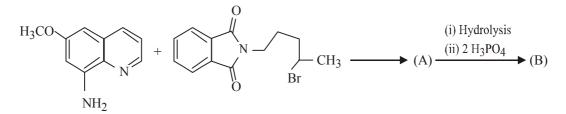
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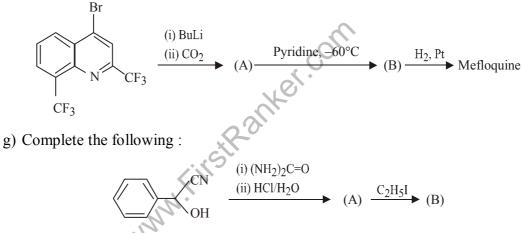
SECTION-E

9. Answer briefly :

- a) Name any two drugs used for treatment of Herpes infections?
- b) Give the structure of lamivudine.
- c) What are acid stable penicillins? Give ONE example.
- d) Give the chemical structure of sulfadoxine.
- e) What are (A) and (B) in the following reaction?



f) What are (A) and (B) in the following reaction?



h) Complete the following :

$$\underbrace{(i) C_2H_5OH/H^+}_{(ii) (C_2H_5)_2NH} ?$$

- i) Give the chemical structure of Ameloride.
- j) What are acidifying salts diuretics?