Graphic Era HILL UNIVERSITY
Established by an Act of the State Legislature of Uttarakhand (Adhiniyam Sankhya 12 of 2011)
University under section 2(f) of UGC Act, 1956

Sessional II (Even) Semester Examination May 2025

Roll no.....

Name of the Course: B. Pharm.
Semester: VI
Name of the Paper: Medicinal Chemistry-III
Paper Code: BP601T
Time: 1.5 hour **Maximum Marks: 30**

Note:
(i) This question paper contains three sections
(ii) All the sections are compulsory

Section-A

MULTIPLE CHOICE QUESTION **10 X 1 = 10 MARKS**

S.N	QUESTIONS	Cos
1.	Isoniazid requires activation by which mycobacterial enzyme? a) DNA gyrase b) KatG peroxidase–catalase c) Pyrazinamidase d) Arabinosyl transferase	CO-3
2.	Capreomycin is classified as a: a) Aminoglycoside b) Cyclic peptide c) Thioamide d) Fluoroquinolone	
3.	Moxifloxacin differs from ciprofloxacin by having a) A methoxy at C-8 and a bulky heterocycle at C-7 b) No C-6 fluorine c) A free phenolic OH at C-5 d) A saturated piperazine at C-1	
4.	Zidovudine (AZT) is classified as a a) Nucleoside reverse transcriptase inhibitor (NRTI) b) Non-nucleoside reverse transcriptase inhibitor (NNRTI) c) Protease inhibitor d) Fusion inhibitor	
5.	Acyclovir is selectively activated to its triphosphate form by a) Viral thymidine kinase followed by host kinases b) Host DNA polymerase alone c) Viral neuraminidase d) Host deoxycytidine kinase	
6.	Amphotericin B exerts its fungicidal effect by a) Inhibiting β-glucan synthase b) Binding ergosterol to form transmembrane pores c) Blocking chitin synthesis d) Inhibiting lanosterol 14α-demethylase	CO-4
7.	Tinidazole is a derivative of: a) Quinine b) Sulphonamides c) Imidazole d) Chloroquine	

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8.	In Mebendazole, the carbamate moiety is attached to which position of the benzimidazole nucleus? a) N-1 position b) C-2 position c) C-5 position d) C-6 position	
9.	The general structural requirement for antibacterial sulfonamides is a para-amino benzene sulfonamide structure plus: a) An unsubstituted aniline ring at N_1 for maximal activity b) A heterocyclic or aryl substituent at N_1 to enhance lipophilicity c) A carboxyl group at the ortho position for renal excretion d) A bulky tert-butyl at para to slow acetylation	
10.	Dapsone's mechanism of action is most similar to sulfonamides, inhibiting a) Dihydrofolate reductase b) Dihydropteroate synthase c) DNA gyrase d) Topoisomerase IV	

Section B

Short Questions: Attempt any two **2x5 = 10 marks**

SN	QUESTIONS	CO's
1.	Define and classify antiviral agents. Describe the structures and therapeutic uses of Acyclovir and Zidovudine.	CO3
2.	Give synthesis and uses of the following drugs: a) Miconazole b) Diethylcarbamazine citrate	CO4
3.	Discuss the following: a) Urinary tract anti-infective agents b) Anti-protozoal Agents	CO3 & CO4

Section C

Long questions: Attempt any one **1x10 = 10 marks**

SN	QUESTIONS	CO's
1.	What are anti-tubercular agents? Classify with examples. Give synthesis and mechanism of action of isoniazid and Para amino salicylic acid.	CO3
2.	Write down the historical development, classification, and Structure-Activity Relationship (SAR) of sulphonamides.	CO4