BRAINWARE UNIVERSITY

Term End Examination 2023
Programme – B.Pharm-2019/B.Pharm-2020
Course Name – Medicinal Chemistry III/Medicinal Chemistry III – Theory
Course Code - BP601T
(Semester VI)

Full Marks : 75 **Time : 3:0 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question) 1 x 20=20

1. *Choose the correct alternative from the following :*

(i) Alkali hydrolysis of Penicillin produces

a) Penicillenic acid b) Penillic acid
c) Penicilloic acid d) Penilloic acid

(ii) Clavulanic acid has a beta lactum ring fused with

a) Oxazole system b) Thiadiazole system
c) Oxazolidine system d) Thiazolidine

(iii) All of the following antibiotics bind to the 50S subunit of the ribosome thereby inhibiting protein synthesis except

a) Chloramphenicol b) Erythromycin
c) Linezolid d) Doxycycline

(iv) Substitution of bulky groups on the alpha carbon of side chain of Penicillin provides

a) beta lactamase resistance b) acid resistance
c) Penicillinase resistance d) both (a) and (b)

(v) Select the answer-An electron withdrawing substituent on the alpha carbon of side chain of Penicillin provides

a) beta lactamase resistance b) acid resistance
c) Penicillinase resistance d) both (a) and (b)

(vi) Resistance to Penicillin and other β lactams is due to

a) Modification of target PBPsabove, b) Impaired penetration of drug to target PBPs
c) Presence of an efflux pump d) All of the

(vii) Select among the following is not a second generation cephalosporin

a) Ceftazidime b) Cephalothin
c) Cefotaxime, d) Cefaclor

(viii) The cephalosporin with the highest activity against gram positive cocci is

a) Ceftazidime b) Cephalothin
c) Cefotaxime, d) Cefaclor

(ix) Identify the right one Regarding the penicillins

a) Penicillin ix excreted into breast milk to levels 3-15% of those present in the serum,
b) Absorption of amoxyl is impaired by food,
c) Benzathine penicillin is given PO,
d) Penicillins are 90% excreted by glomerular filtration,

(x) Choose among of the following is considered to be bacteriostatic

a) Penicillin
b) Chloramphenicol
c) Ciprofloxacin,
d) Cefoxitin

(xi) Identify the correct answer regarding Flucloxacillin

a) Is ineffective against streptococci
b) Is active against enterococci and anaerobes
c) Blocks transpeptidation and inhibits peptidoglycan synthesis
d) Is poorly absorbed orally

(xii) Find from the following i.e is a second generation cephalosporin

a) Cefaclor
b) Ceftazidime
c) Cephalexin
d) Cefotaxime

(xiii) Demeclocycline differs from chlortetracycline only by

a) absence of – CH3 group on carbon 6
b) presence of – OH group on carbon 6
c) absence of – N (CH3)2 group on carbon 4
d) absence of – OH group on carbon 3

(xiv) The semi synthetic penicillin is active against penicillinase

a) ampicillin,
b) cloxacillin,
c) amoxicillin,
d) penicine V,

(xv) The full form of 6-APA is stated as

a) 6-amino penicillanic-acid,
b) 6-amino penicilloic-acid,
c) 6-amino penicillanic_x005F anhydride,
d) 6-aceto penicillanic-acid,

(xvi) All of the following inhibit nucleic acid synthesis except

a) Norfloxacillin,
b) Chloramphenicol,
c) Trimethoprim,
d) Rifampicin,

(xvii) Choose the drug which is a ester derivative

a) aspirin,
b) methadone,
c) methoxyflurane,
d) adrenaline,

(xviii) Select the source from where -Chloramphenicol is obtained

a) Streptomyces capreolus,
b) Streptomyces venezulae,
c) Streptomyces orchidaceus,
d) Streptomyces griseus,

(xix) Choose the Starting material for the synthesis of chloroquine

a) p-chloro aniline,
b) m-chloro aniline,
c) o-chloro aniline,
d) aniline.,

(xx) Modification at the primary alcoholic group on C-1 atom of Chloramphenicol results in

a) Increase in activity,
b) decrease in activity,
c) No change in activity,
d) Abolishing activity,

Group-B

(Short Answer Type Questions) 5 x 7=35

Answer all the questions

2. Classify the prodrug with suitable structural example of each class. (5)
3. Explain the Mechanism of action of Primaquine as a antimalarial with schematic diagram. (5)
4. Describe the historical development and chemistry of Sulphonamides. (5)
5. Define antibiotic with the description of the chemical classification of antibiotics (5)
6. Write a short note on structure based drug design (5)
7. Focus on classification and SAR of Sulfonamides: (5)

OR

Illustarte on Pharmacophore modeling and docking techniques. (5)

8. Explain the steps involve in the synthesis of sulphacetamide (5)

OR

Estabish the strcutute activity relationship study of antifungal antibiotics (5)

Group-C

(Long Answer Type Questions) 10 x 2=20

Answer all the questions

9. Enumerate the details of different steric paramerts associated to QSAR (10)
10. Illustrate in details stepwise degradation of cephalosporins (10)

OR

Explain the details steps involved in the synthesis of Chloroquine and also mentioned the dose regimen. (10)

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