KATHMANDU UNIVERSITY
End Semester Examination [C]
November/December, 2023

Marks Scored:

Level : B.Pharm.
Year : III
Course : PHAR 324
Semester : II
Exam Roll No. :
Time: 30 mins.
F. M. :20

Registration No.:
Date 3 0 NOV 2023

SECTION "A"
[20 Q. × 1 = 20 marks]

Choose and encircle the most appropriate option.

1. Chloramphenicol is not recommended to young infants because
   a. It is excreted unabsorbed
   b. It cannot be formulated in liquid dosage
   c. Infants have underdeveloped glucuronidation pathway
   d. Infants have over developed glucuronidation pathway

2. Sulfonamide have structural similarity with
   a. Prostaglandins b. PABA c. Dopamine d. 5-HT

3. Aztreonam does not have good activity against gram positive bacteria because
   a. It is relatively lipophilic in nature
   b. It is relatively hydrophilic in nature
   c. It is immediately effluxed out
   d. Gram positive bacteria does not have enzymes for it to act

4. One of the following is common among Metronidazole, Tinidazole and Nitazoxanide
   a. They contain imidazole b. They are prodrug
   c. They are mutagenic d. They are orphan drug

5. Which one of the following is penem based beta lactam antibiotic?
   a. Sulbactam b. Cloxicillin c. Thienamycin d. Oxacillin

6. Which one of the following is folic acid antagonist?
   a. Methotrexate b. Mercaptopurine c. 5-FU d. Cisplatin

7. An oligosaccharide based drug used in diabetes is
   a. Metformin b. Acarbose c. Linagliptin d. Pioglitazone

8. The susceptibility of GLP-1 toDPP-IV is because it contains in the penultimate N-terminal position
   a. Alanine b. Proline c. Histidine d. Serine

9. Piperazines based antihistaminic drug is
   a. Phenindamine b. Diphenhydramine c. Chloropyramine d. Cyclizines

10. The drug that is reported to interfere with uric acid excretion therefore, is suggested to be used with great caution in patients with hyperuricemia or gout is
   a. INH b. AZT c. Indomethacin d. Pyrazinamide

11. Exenatide, a GLP-1 Analog is a/an
   a. Polysaccharide based drug b. Peptide based drug
   c. Flavonoid based drug d. Iminosugar based drug

12. The inorganic pyrophosphate based antiviral drug is
   a. Foscarnet b. Cidofovir c. Nevirapine d. Acyclovir

13. The macrocyclic lactones used as an antifungal drug is
   a. Praziquantel b. Ivermectin c. Mebendazole d. Nitazoxanide

14. The Anaerobic bacteria are resistant to the aminoglycosides because
   a. They do not have uptake system for it
   b. They have developed lactamase enzyme against it
   c. They have very high expression of aminoacetyltransferases enzymes
   d. They have very high expression of phosphotransferases enzymes

15. The M-type resistance is for
   a. Penicillin b. Fluoroquinolol c. Macrolide d. Cephalosporin

16. The pharmacophore for histamine at H1 receptor is
   a. Nτ-H tautomer b. Nπ-H tautomer c. 1,3-tautomeric d. 1,4-tautomeric

17. Which one of the following inactivate COX-1 enzyme irreversibly?
   a. Aspirin b. Ibuprofen c. Diclofenac d. Piroxicam

18. Anticancer drug with Phenylalanine incorporated in its structure for better absorption is
   a. Thiotepa b. Fludarabine c. Melphalan d. Mechlorethamine

19. The thyroid-releasing hormone (TRH) is
   a. Monomeric amino acid b. Dipeptide
   c. Tripeptide d. tetrapeptide

20. The anticancer drug that combine with mRNA to interfere with its translation into protein
   a. Angiogenesis Inhibitors b. Asparaginase
   c. Antimetabolites d. Antisense

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F. M. : 55

SECTION "B"

[5 Q. × 3 = 15 marks]

Attempt *ANY FIVE* questions.

1. Write a note on selective COX-I inhibitors.
2. Discuss the advantage and disadvantage of acetoxyl group at C-3 position of cephalosporin.
3. Why Erythromycin is not stable in acid? How Azithromycin has addressed this problem? [1+2]
4. Write down the metabolic pathway of thyroid hormones.
5. Give the chemical classification of 1st generation antihistaminic drugs.
6. Write a note on drugs that inhibit mycolic acid synthesis.
7. Discuss the toxicity of metabolite of Cyclophosphamide.

SECTION "C"

[5Q. × 5 = 25 marks]

Attempt *ANY FIVE* questions.

8. Give three the structural advantage that the Carbapenem has over beta lactam. Why meropenem is more efficient than Thienamycin? [2.5+2.5]
9. Write down the mechanism of action of valacyclovir. What is the advantage of Cidofovir over valacyclovir [3+2]
10. Discuss the chemistry of Azole Antifungal Agents.
11. Discuss the stability of Insulin.
12. Explain the Crystalluria due to sulfonamide drugs.
13. Discuss the chemistry of DPP-IV Inhibitors used in the treatment of diabetes.
14. Write down the synthesis of [3+2]
    a. Ibuprofen b. Sulfathiazole

SECTION "D"

[2 Q. × 7.5 = 15 marks]

Attempt *ANY TWO* questions:

15. How can we provide acid stability to the beta lactam antibiotics? Write a note on beta lactamase enzyme highlighting the importance of B type beta lactamase in antibiotic resistance. [4+3.5]

16. Discuss the mechanism of action of NSAIDs. Give its chemical classification. Write down the synthesis of Indomethacin. [2+2.5+3]

17. Explain the chemistry of alkylating agents used as anti-cancer drugs. Discuss the future approaches in the treatment of cancer. [3+4.5]