KATHMANDU UNIVERSITY
End Semester Examination
May/June, 2022

Level : B.Pharm.
Year : II
Time : 2 hrs. 30 mins.

Course : PHAR 224
Semester : II
F.M. : 55

SECTION "B"
[5Q. × 3 = 15 marks]

Attempt *ANY FIVE* questions.

1. What is anchimeric assistance in the metabolism of acetylcholine?
2. How can you enhance the stability of β-phenylethylamine class of sympathomimetic drugs against COMT and MAO? [1.5 + 1.5]
3. Why enalapril and lisinopril can be taken through oral route? [1.5 + 1.5]
4. The 1R, 2S-α-methylnorepinephrine has to be administered as a prodrug. Explain.
5. Why some drug formulation contains racemic mixture whereas some are enantiomerically pure?
6. Justify the advantage of deleting chiral center in drug design.
7. Mention the difference between promoiety and bioprecursor based prodrugs.

SECTION "C"
[5Q. × 5 = 25 marks]

Attempt *ANY FIVE* questions.

8. Explain forces involved in drug receptor interaction.
9. Highlight the importance of keeping the pka value of local anaesthetic drugs between 7.5 to 9.0. What will be the influence of Log P in their activities?
10. Discuss the importance of solubility in drug design. What are the Structure Modification Strategies to Improve Solubility of drugs?
11. Discus, in short, the role of sympatholytic drug in hypertension. Write down the SAR of Aryloxypropanolamines.
12. Illustrate the mechanism of action of 2-PAM. Why a person poisoned with organophosphorous needs an immediate treatment with 2-PAM?
13. Explain the reductive and hydrolytic reaction in drug metabolism.
14. Write a note on:
    a. Glutathione conjugation
    b. Methylation conjugation in Phase II drug metabolism.

SECTION "D"

[2Q. × 7.5 = 15 marks]

Attempt *ANY TWO* questions.

15. Discuss Cytochrome P450 enzyme system along with its nomenclature. [4.5 + 3]

16. List out the advantage of prodrug. Discuss the functional groups amenable to prodrug design. [2.5 + 5]

17. Discuss the role of isosterism, pKa, and hydrophobic interaction in drug development. [2.5 + 2.5 + 2.5]