

M.Sc. (Part-II) Semester-III (CBCS) Examination
PHARMACEUTICAL CHEMISTRY
(Medicinal Chemistry-I)
Paper-3 SA 2

Time : Three Hours]

[Maximum Marks : 80

N.B. :— (1) All questions are compulsory and carry equal marks.

(2) Explain the reaction, mechanism wherever necessary.

1. (a) Discuss the phases of Metabolism citing examples. 8
- (b) Provide the method of nomenclature of new drugs. 4
- (c) How differences in the structure of a molecule affect its clinical activity ? Explain with example. 4

OR

- (p) Comment on :
 - (i) Sites of metabolism.
 - (ii) Routes of elimination. 8
- (q) How stereochemistry play an important role in the clinical activity of a drug ? Explain with example. 4
- (r) Discuss in brief : The historical development of pharmaceutical chemistry. 4
2. (a) Discuss the structure activity relationship with the help of suitable examples. 8
- (b) What are drug receptors ? Explain their nature. 4
- (c) Discuss one statistical method to study SAR. 4

OR

- (p) Discuss the history and development of QSAR. 8
- (q) Comment on structure and localization of drug receptors. 4
- (r) Discuss the Free and Wilson analysis. 4
3. (a) Discuss the role of Quantum mechanism in the drug design. 8
- (b) Write in brief on :
 - (i) Design of stereo isomers.
 - (ii) Fragment of lead molecule. 8

OR

- (p) Comment of Bioisosteric replacement and rigid analog in drug designing. 8
- (q) Write in brief on :
- (i) Molecular modelling.
 - (ii) Design of geometric isomers during drug designing. 8
4. (a) Enlighten on gastro-intestinal absorption and distribution of drugs. 8
- (b) What are biopharmaceutical aspects ? Elaborate their importance. 4
- (c) What are pro-drugs ? How are they converted into active compound (drug) ? 4

OR

- (p) What are different modes of drug administrations ? Discuss two of them in detail. 6
- (q) Explain the role of pharmacokinetics in overall efficacy of drugs. 6
- (r) Explain transdermal absorption with the help of suitable example. 4
5. (a) What are antineoplastic agents ? Explain the role of thiotepa and mercaptopurine in the treatment of cancer. 8
- (b) What are antihypertensive agents ? Discuss the method of synthesis and mode of action of any one. 4
- (c) Draw the structure of acyclovir antiviral agent. Explain its mode of administration and action. 4

OR

- (p) What are antiviral drugs ? Discuss the chemistry of cytarabine and amantadine hydrochloride. 8
- (q) How are anti-cancer agents classified ? Give the importance of mustard drugs in treatment of cancer. 4
- (r) Discuss synthesis, mode of action and side effects of one antihypertensive drug. 4