

Roll No.

MSCCH-12 (M.Sc. Chemistry)
Second Year, Examination-2015
CHE-554

Drugs and Pharmaceuticals

Time : 3 Hours

Maximum Marks : 60

Note : This paper is of sixty (60) marks divided into three (03) sections A, B, and C. Attempt the questions contained in these sections according to the detailed instructions given therein.

Section - A

(Long Answer Type Questions)

Note : Section 'A' contains four (04) long-answer-type questions of fifteen (15) marks each. Learners are required to answer any two (02) questions only. (2×15=30)

1. What is an agonist drug ? Discuss briefly about the general principles involved in the design of agonists.
2. Write short notes on :
 - (a) High throughput screening (HTS)
 - (b) Cluster significance analysis (CSA)
 - (c) Adrenergic blockers
 - (d) Rigidification of structure
 - (e) Mechanism of action of penicillins

3. (a) Write down in brief the process of fermentation production of amino acids and carbohydrates.
- (b) Discuss the merits and demerits of QSAR
- (c) Write a note on transcriptase enzyme inhibitors.
4. Write down the synthesis of the following :
 - (a) Acetylcholine (b) Salbutamol
 - (c) Captopril (d) Homatropine
 - (e) (s)-propranolol

Section - B

(Short Answer Type Questions)

Note : Section 'B' contains eight (08) short-answer-type questions of five (05) marks each. Learners are required to answer any four (04) questions only. (4×5=20)

1. Explain the mechanism of action of antipyretics and analgesics.
2. Write a note on lead discovery.
3. What is relationship between chirality and biological activity ?
4. What are prodrugs ? What is the principle of pro drug design.
5. How NMR and mass spectroscopy are useful in drug analysis.
6. Explain in brief the ADME study.
7. Describe the binding interaction between receptor and the messenger.
8. What is the importance of ACE ? Explain ACE inhibition.

Section - C

(Objective Type Questions)

Note : Section 'C' contains ten (10) objective-type questions of one (01) mark each. All the questions of this section are compulsory. (10×1=10)

1. Among the following Gram⁺ bacteria is
 - (a) Staphylococcus
 - (b) Plague bacillus
 - (c) Gonococcus
 - (d) None of the above
2. Sulpha drugs are :
 - (a) Bactericide
 - (b) Bacteriostatic
 - (c) Antileprosy drug
 - (d) Antiseptics
3. Which of the following drug has an antimalarial action ?
 - (a) Viomycin
 - (b) Mepacrine
 - (c) Salol
 - (d) Cibazole
4. In which part of the body drug metabolism occurs ?
 - (a) Kidney
 - (b) Heart
 - (c) Pancreas
 - (d) Liver
5. Which of the following is antiviral drug ?
 - (a) Paracetamol
 - (b) Methisazone
 - (c) Benzocaine
 - (d) Promazine
6. Antimetabolite for PABA is :
 - (a) Diuretics
 - (b) Carbohydrates
 - (c) Sulphonamides
 - (d) Analeptic
7. Which slow endemic disease is caused by mycobacterium leprae ?
 - (a) Small pox
 - (b) Typhoid
 - (c) Rabies
 - (d) Leprosy
8. Among the following antibiotics drug is :
 - (a) Chloramphenicol
 - (b) Noscapine
 - (c) p-amino benzoic acid
 - (d) Anterpar

9. Among the following which one is adrenergic blocking agent ?
- (a) Penicillins
 - (b) Methyldopa
 - (c) Propranolol
 - (d) Chloroquine
10. Anti malarial obtained from cinchona bark is :
- (a) Azacrine
 - (b) Paludrine
 - (c) Quinine
 - (d) Primaquine