

Roll No.

CHE-554

Drugs and Pharmaceuticals

M. Sc. CHEMISTRY (MSCCH-12/13/16)

Second Year, Examination, 2017

Time : 3 Hours

Max. Marks : 80

Note : This paper is of **eighty (80)** marks containing **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 nineteen (19) marks each. Learners are required to answer *two* (02) questions only.

1. Explain the characteristics of natural products that make them appropriate material in discovery new drug. Describe vinca alkaloids as an anticancer agent. 19
2. (a) What are the different types of receptors ? Explain the cholinergic receptors. 10
(b) Write a brief note on scope and application of gene therapy. 9
3. (a) What is QSAR ? Give the advantages and disadvantages of QSAR. Explain the free Wilson analysis. 10
(b) Discuss the role of drug design in drug discovery. 9

4. (a) Explain anticancer role of taxol and its derivatives. 7
- (b) Discuss the kinetics of protein binding. 6
- (c) Explain the enzyme immobilisation technique. 6

Section-B

(Short Answer Type Questions)

Note : Section 'B' contains eight (08) short answer type questions of eight (08) marks each. Learners are required to answer *four* (04) questions only.

1. Write a short note on solid phase synthesis of peptide and polypeptides. 8
2. Write a short note on drug design based on antagonism. 8
3. Write the structures of the following : 2 each
 - (a) Penicillin
 - (b) Quinine
 - (c) Sulfadiazine
 - (d) Sulfacetamide
4. Write short notes on the following : 4 each
 - (a) Simplification of structure
 - (b) Rigidification of structure
5. Write a short note on antiinflammatory steroids receptors for steroidal drugs including SAR. 8
6. Discuss the recent advances in drug acting on angiotensin receptors. 8

7. (a) What is the general principle involving in the mixed combinational synthesis ? 4
 (b) Write a short note on High Throughput Screening (HTS). 4
8. (a) Formulate the synthesis of sulfanilamide. 4
 (b) Match the column A and column B : 4

Column A		Column B
(i) Antimalarial	—	Ether
(ii) Antidiuretic	—	Diazepam
(iii) Anti-anxiety	—	Quinine
(iv) Inhalational anaesthetic drug	—	Chloropropamide

Section-C

(Objective Type Questions)

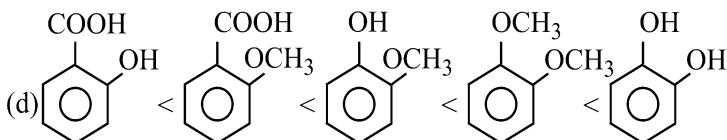
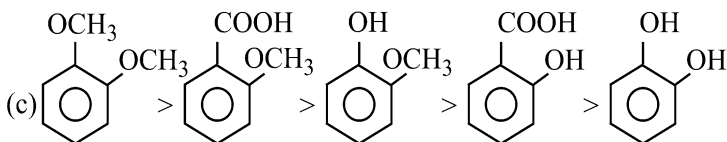
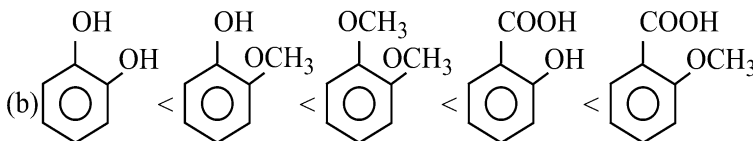
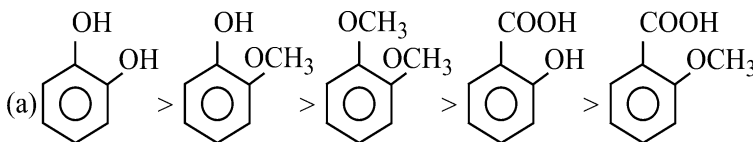
Note : Section 'C' contains ten (10) objective type questions of one (01) mark each. All the questions of this section are compulsory.

Choose the correct answer :

- Virus caused diseases :
 - Influenza
 - Hepatitis
 - Herpes
 - All of the above
- Water soluble vitamins :
 - Vitamin B
 - Vitamin C
 - Vitamin A
 - Both (a) and (b)

3. Communicable diseases are :
 - (a) HW
 - (b) Hepatitis A
 - (c) T. B.
 - (d) None of these
 - (e) (a), (b) and (c)
4. The deficiency of iodine causes :
 - (a) Nightblindness
 - (b) Scurvy
 - (c) Goitre
 - (d) Gum's bleeding
5. Which is the antibiotic drugs ?
 - (a) Cephalexin
 - (b) Penicillin
 - (c) Both (a) and (b)
 - (d) None of these
6. What is the drug renitidine used for ?
 - (a) Stomach acid
 - (b) Malaria
 - (c) HIV
 - (d) Cancer
7. Omeprazole, pantoprazole are :
 - (a) Purines
 - (b) Indoles
 - (c) Imidazoles
 - (d) Benzimidazole

8. The order of biological activity :



9. Which of the following statements is true ?

- (a) Drug and drug targets generally have similar molecular weight.
- (b) Drugs are generally smaller than drug targets.
- (c) Drugs are generally larger than drug targets.
- (d) There is no general rule regarding the relative size of drugs and their targets.

10. The full form of HIV :

- (a) Human Immunodeficiency Virus
- (b) Human Investigation Virus
- (c) Health Investigation Venue
- (d) Human Immuno Virus