

K-394

Total Pages : 3

Roll No.

MSCCH-607

Chemistry of Natural Product and Heterocyclic Compounds

M.Sc. Chemistry(MSCCH)

4th Semester Examination, 2023 (Dec.)

Time : 2 Hours]

Max. Marks : 70

Note : This paper is of Seventy (70) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein. Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.

SECTION–A

(Long Answer Type Questions)

Note : Section 'A' contains Five (05) long answer type questions of Nineteen (19) marks each. Learners are required to answer any Two (02) questions only.

(2×19=38)

1. What are steroids? Discuss the biosynthesis and synthesis of cholesterol.
2. What are alkaloids? Explain :
 - (a) Physiological action of alkaloids.
 - (b) Classification of alkaloids.
 - (c) Functions and properties of alkaloids.
3. Give synthesis of PGE₂ and PGE₂α.
4. Write synthesis and applications of the following :
 - (a) Benzofurans.
 - (b) Phosphoianes.
 - (c) Oxirane.
5. Write synthesis and stereochemistry of the santonin.

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 any Four (04) questions only. (4×8=32)

1. What are phospholes? Give any two methods of preparation of phospholes.

2. Give synthetic methods and applications of the following:
 - (a) Azetidene.
 - (b) Benzothiophene.
 3. Write note on pyramidal inversion and 1, 3 diaxial interaction.
 4. Write short note on acetate acid pathway.
 5. Give the synthesis of chlorophyll.
 6. Explain briefly :
 - (a) Diel's hydrocarbon.
 - (b) Porphyrins.
 7. What are prostaglandins? Explain biogenesis and physiological effect of prostaglandins.
 8. What are plant pigments? Explain biosynthesis of flavonoids.
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