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H-6347

M.Sc. (Semester-IV) (CBCS) Examination, 2022

CHEMISTRY

(Chemistry of Natural Products)

Time Allowed : Three Hours

Maximum Marks : 70

Minimum Passing Marks : 25

Note : This question paper is divided into four sections. Attempt questions from all four sections as per given directions. Distribution of marks is given in each section.

SECTION-A

(Objective Type Questions)

Note : Attempt **any ten** questions. Each question carries **1** mark. [1x10=10]

1. (A) Fill in the blanks type questions :

(i) Morphine is obtained from_____.

(ii) Number of isoprene units in carotenoids is _____.

(iii) Most abundant porphyrin in nature is_____.

(iv) The first intermediate in cholesterol synthesis is_____.

(v) Molecular formula of Luteolin is_____.

(vi) _____pigment is present in carrots.

(B) Multiple choice type questions :

(vii) Type of Ring system found in Atropine :

(a) Benzene

(b) Napthalene

(c) Imidazole

(d) None of the above

(viii) What of the following is example of Flavonones ?

(a) Hesperetin

(b) Taxifolin

(c) Luteolin

(d) Quercetin

(ix) Which can be the best example of monoterpenoids ?

(a) Chlorophylls

(b) Rubber

(c) Menthol

(d) Gibberellins

(x) The basic nucleus in flavonoids is :

(a) Chromone

(b) Benzo-y-pyrone

(c) Both (a) and (b)

(d) None of these

(xi) Which of the following is the major point of regulation on the pathway to chlolesterol ?

(a) Thiolase

(b) HMG co-A synthase

(c) HMG co-A reductase

(d) Pyruvate kinase

(xii) Which of the following regulates the female reproductive cycle ?

(a) Progesterone

(b) Testosterone

(c) Estrogens

(d) Glucocorticoids

SECTION-B

(Very Short Answer Type Questions)

Note : Attempt **any five** questions. Each question carries **02** marks. (Word limit : 25-30 words) [5x2=10]

2. (i) What is Isoprene Rule ?

(ii) Write the classification of Terpenoids.

(iii) Explain Diels Hydrocarbons.

(iv) Write a note on Alkali fusion in Alkaloids.

(v) Explain the colour reaction of anthocyanin.

(vi) Write the nomenclature of Chlorophyll.

(vii) What is Prostaglandins ?

SECTION-C

(Short Answer Type Questions)

Note : Attempt **any five** questions. Each question carries **04** marks. (Word limit : 250 words) [4x5=20]

3. (i) Describe the synthesis of Terpeniol.

(ii) Explain structure and synthesis of β-carotene.

(iii) Describe the constitution of Atropine.

(iv) Write short note on Bile acids.

(v) Write the Biosynthesis of Aldosterone.

(vi) Discuss structure and synthesis of Quercetin.

(vii) Discuss the nomenclature and classification of Prostaglandins.

SECTION-D

(Essay Type Questions)

Note : Attempt **any three** questions. Each question carries **10** marks. (Word limit : more than 500 words) [3x10=30]

4. (i) (a) Discuss the constitution and synthesis of Citral.

(b) Write the Biosynthesis of Nicotine and Quinine.

(ii) Write the following conversation :

(a) Cholesterol to cholic acid

(b) Cholesterol to cholestane

(iii) (a) Explain the general structure and synthesis of Apigenin.

(b) Discuss the structure and synthesis of Chlorophyll.

(iv) Write short notes on the following :

(a) Biosynthesis of Rotenone

(b) General method of Flavone

(c) Write the conversion of progesterone from cholesterol

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