

D-6347

M.Sc. (IVth Semester) Examination, 2020

CHEMISTRY

(Chemistry of Natural Product)

Time Allowed : Three Hours

Maximum Marks : 70

SECTION - A

Note : Attempt any ten questions. Each question carries one mark. **1×10=10**

Q. 1. Objective type :

(i) Reserpine is derived from :

- (a) Squalene
- (b) Homoserine
- (c) Tryptophan & Tryptamine
- (d) Asparagines

(ii) A cotinine belongs to the groups of :

- (a) Steroidal alkaloids

(2)

- (b) Terpenoidal alkaloids
- (c) Indole alkaloids
- (d) Quinoline alkaloids

(iii) Carotenoids are :

- (a) C – 10 unit
- (b) C – 15 unit
- (c) C – 20 unit
- (d) C – 30 unit

(iv) Solokowski test is for :

- (a) Steroids
- (b) Triterpenoids
- (c) Carbohydrate
- (d) Both (a) and (b)

(v) Morphine contains main nucleus :

- (a) Phenanthrene
- (b) Anthracene
- (c) Naphthalene
- (d) Naphthacene

(3)

(vi) Triterpenes contain number of isoprene

units :

(a) Four

(b) Five

(c) Six

(d) Seven

(vii) Quercetin, molecular formula is :

(a) $C_{15}H_{10}O_7$

(b) $C_{15}H_{10}O_8$

(c) $C_{15}H_{10}O_5$

(d) $C_{15}H_{11}O_6$

(viii) Anthocyanins occur in coloured fruits such

as blueberries :

True / False

(4)

(ix) An important source of anti cancer
chalcones is _____.

(x) Diterpenes contain number of isoprene units
_____.

(xi) Who first coined the name "Alkaloids"
_____.

(xii) Full name of IPP _____.

SECTION - B

Note : Attempt any five questions. Each question carries
two marks. **5×2=10**

Q. 2. Very short answer type (25-30 words) :

(i) Write the classification of terpenoids.

(ii) What is Diels hydrocarbon ?

(iii) What do you mean by flavonoids ?

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testosterone.

(iii) Discuss the stereochemistry of C-17 in

(ii) Oxidative degradation of terpenoids.

biogenesis of aromatic rings.

(i) Sketch the shikimic acid pathway for the

Q 3: Short answer type (220 words) :

4 marks.

2×4=50

Note : Attempt any five questions. Each question carries

SECTION - C

(vii) What is bile acid? Explain with example.

(vi) Write the structure of Retinol.

(v) Write the use of B¹ & B¹⁵ vitamins.

conline.

(iv) What is structure and molecular formula of

(2)

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(p) Nicotinic acid into nicotine

(a) Succinylcholine into atropine.

(i) How would you convert 3

Q 4: Essay type (more than 200 words) :

carries 10 marks.

3×10=30

Note : Attempt any three questions. Each question

SECTION - D

(vii) Write the synthesis of calciferol.

(vi) Write the chemical method of synthesis of

retinone.

(v) Write the oxidation and derivatization of

structure (B)

Hydrolysis

ClO³

(p) 2 α - cholestanyl 3 β - acetate

structure (A)

Hydrolysis

ClO³

(a) 2 α - cholestanyl 3 α - acetate

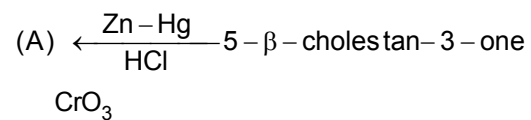
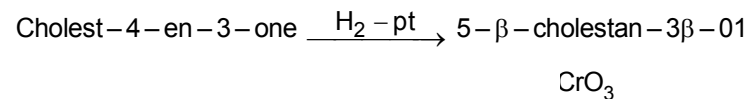
(iv) Complete the following reaction :

(e)

(7)

(ii) (a) Give the synthesis of cholesterol.

(b) Complete the following reaction :



(B) (Structure)

(iii) (a) How cis and trans citral can be converted into geraniol ?

(b) How retinol can be converted into β -carotene ? Give the synthesis of retinol.

(iv) Write the biological function of the vitamins constitution and synthesis of Ascorbic acid.

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