



Avinashilingam Institute for Home Science and Higher Education for Women

(Deemed to be University under Category 'A' by MHRD, Estd. u/s 3 of UGC Act 1956)

Re-accredited with 'A+' Grade by NAAC. Recognised by UGC Under Section 12B

Coimbatore - 641 043, Tamil Nadu, India

Bachelor's Degree Examination – August 2020

VI Semester

Class : III UG
Major : Chemistry

Time : 2 Hours
Max. Marks: 50

15BCHC22 Chemistry of Natural Products

Part A

10 x 1 = 10

Choose the Correct Answer

- Which one of the following is not an aromatic compound
a. Furan
b. Pyrrole
c. Piperidine
d. Pyridine
- Skraup synthesis is used to prepare
a. Pyridine
b. Iso quinoline
c. Quinoline
d. All of these
- Carbohydrates are characterised by the presence of
a. OH group
b. C=O group
c. Asymmetric carbon
d. All of these
- Epimers differ in configuration at
a. C-1 Carbon
b. C-3 Carbon
c. C-2 Carbon
d. None of these
- Which one of the following disaccharide on hydrolysis gives only glucose units
a. Maltose
b. Sucrose
c. Lactose
d. None of these
- Methylation of sucrose gives
a. Tetra methyl derivative
b. Octa methyl derivative
c. Mono methyl derivative
d. Di methyl derivative
- Which one of the following amino acid is a basic amino acid
a. Tryptophan
b. Leucine
c. Histidine
d. Glutamic acid
- Primary structure of protein shows
a. Orientation of amino acids
b. Arrangement of peptide chains
c. Amino acid sequence
d. None of the above
- The fundamental unit in a terpene is
a. 1,3- Butadiene
b. 2-methyl-1,3-Butadiene
c. Allene
d. 1,2-Butadiene
- Which one of the following is not an alkaloid
a. Nicotine
b. Ephedrine
c. Adrenaline
d. Quinine

Part – B
Answer any Three questions
Answer should not exceed 400 words or two pages

3 X 6 = 18

11. How does pyridine react with i) $n\text{-C}_4\text{H}_9\text{Li}$ and ii) NaNH_2
12. How is Indole synthesised?
13. Write a note on epimerization.
14. Give an account on mutarotation and its mechanism.
15. Draw the structure of lactose.
16. Write a note on structure and properties of maltose.
17. Describe the structure of DNA.
18. Write a note on i) Sanger's method and ii) Edmond method
19. Define an alkaloid. What are the general characteristics of alkaloids?
20. Establish the structure of quinine.

Part – C
Answer any Two questions
Answer should not exceed 800 words or four pages

2 X 11 = 22

21. What do you understand by hetero cyclic compounds. Give the preparation, properties of Furan and Thiophene .
22. Explain one preparation method and two properties of the following:
i. Quinoline ii. Iso quinoline iii. Isatin .
23. Write a note on the following: i. Haworth projection and ii. configuration and conformational analysis of mono saccharides.
24. Write a note on
i. Inter conversion of aldoses and ketoses and vice versa.
ii. inter conversion of aldose to their epimers.
25. Give an account on properties and structural elucidation of sucrose.
26. Explain structural elucidation and properties of starch and cellulose.
27. What do you understand by the primary, secondary and tertiary structure of protein?
28. Discuss the synthesis, structure and properties of any two amino acids.
29. Establish the structure of quinine. Give its synthesis.
30. Elucidate the structure of i. Limonene and ii. Citral.
