



**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 – June 2021**  
**VI Semester**

**Class : III UG**  
**Major : Chemistry**

**Time : 3 Hours**  
**Max. Marks: 100**

**18BCHC22 Chemistry of Natural Products**

**Part A**  
**Choose the Correct Answer**

**10 x 1 = 10**

- |  |                                    |        |
|--|------------------------------------|--------|
| 1. Molecular formula of pyridine?                      |                                    | CO1 K1 |
| a. C <sub>5</sub> H <sub>5</sub> N                     | b. C <sub>6</sub> H <sub>5</sub> N |        |
| c. C <sub>5</sub> H <sub>5</sub> N <sub>2</sub>        | d. C <sub>6</sub> H <sub>6</sub> N |        |
| 2. Molecular weight of isoquinoline.                   |                                    | CO1 K1 |
| a. 135   | b. 129                             |        |
| c. 120   | d. 139                             |        |
| 3. Aldose is a   |                                    | CO2 K1 |
| a. Disaccharide  | b. monosaccharide                  |        |
| c. Both A and B  | d. none of the above               |        |
| 4. Sucrose decomposes at                               |                                    | CO2 K1 |
| a. 559K  | b. 460K                            |        |
| c. 458K  | d. 459K                            |        |
| 5. Starch is a   |                                    | CO3 K1 |
| a. Sucrose   | b. polysaccharide                  |        |
| c. Fructose  | d. monosaccharide                  |        |
| 6. Saccharides are                                     |                                    | CO3 K1 |
| a. Inorganic compound                                  | b. bimetal complex                 |        |
| c. organic compounds                                   | d. both A and C                    |        |
| 7. Which compound indicates Pink colour in biuret test |                                    | CO4 K1 |
| a. peptide   | b. gelatine                        |        |
| c. both A and B  | d. None of the above               |        |
| 8. Peptide bond found in                               |                                    | CO4 K1 |
| a. Protein   | b. Sucrose                         |        |
| c. Starch  | d. Fructose                        |        |
| 9. Geraniol boils at                                   |                                    | CO5 K1 |
| a. 503 K   | b. 473 K                           |        |
| c. 273 K   | d. 303 K                           |        |
| 10. Number of carbons present in papaverine is _____   |                                    | CO5 K1 |
| a. 21  | b. 20                              |        |
| c. 31  | d. 30                              |        |

**Part B**  
**Answer ALL questions**

**5 x 6 = 30**

**Each answer should not exceed 400 words or two pages**

- |   |           |
|---|-----------|
| 11.a. Explain two methods of synthesis of Furan.<br>(or)        | CO1 K1    |
| 11.b. Explain the mechanism of Electrophilic substitution.      | CO1 K2    |
| 12.a. Describe Haworth projection formula with example.<br>(or) | CO2 K2    |
| 12.b. Write a note on monosaccharide's interrelationship.       | CO2 K2    |
| 13.a. Differentiate between lactose and sucrose<br>(or)         | CO3 K2    |
| 13.b. Write a short note on Cellulose properties.               |           |
| 14.a. Explain Sanger's method.<br>(or)                          | CO4 K1,K2 |
| 14.b. Write any three colour reaction of proteins.              | CO4 K2    |
| 15.a. Discuss synthesis of geraniol.<br>(or)                    | CO5 K1,K2 |
| 15.b. Explain synthesis of piperine.                            | CO5 K2    |

**Part C**

**5 x 12 = 60**

**Answer ALL questions**

**Each answer should not exceed 800 words or four pages**

- |   |        |
|---|--------|
| 16.a. Explain the preparation of quinoline with mechanism.<br>(or)                            | CO1 K2 |
| 16.b. Explain SN <sup>1</sup> and SN <sup>2</sup> reaction with one example.                  | CO1 K2 |
| 17.a. Discuss the conversion of aldose into its epimer.<br>(or)                               | CO2 K2 |
| 17.b. Describe cyclic structure-pyranose and furanose forms of fructose.                      | CO2 K2 |
| 18.a. Discuss structural elucidation of glucose.<br>(or)                                      | CO3 K2 |
| 18.b. Explain structural elucidation of maltose.  | CO3 K2 |
| 19.a. How are proteins classified? Write down the structure of each class of protein?<br>(or) | CO4 K2 |
| 19.b. Draw and explain the structure of double helical structure of DNA.                      | CO4 K2 |
| 20.a. Discuss structural elucidation of cholesterol.<br>(or)                                  | CO5 K2 |
| 20.b. Explain the synthesis of  | CO5 K2 |
| i. Nicotine   |        |
| ii. Limonene  |        |

\*\*\*\*\*