TB156190A **Reg. No.....**

Name.....

B. Sc. DEGREE (C.B.C.S.S.) EXAMINATION, MARCH 2018

(2015 Admission Regular)

SEMESTER VI – CORE (CHEMISTRY)

CH6B11TB - NATURAL PRODUCTS AND HETEROCYCLIC COMPOUNDS

Time: Three Hours **Maximum Marks : 60**

Part A

I. Answer all questions. Each question carries 1 mark.

1. Give two examples of disaccharides.
2. Haemoglobin is a _____ protein.
3. State Isoprene rule.
4. Is thiophene aromatic? Why?
5. What is Diel's hydrocarbon?

(5x1 =5)

Part B

II. Answer any five questions. Each question carries 2 marks.

6. Describe the manufacture of viscose rayon and its industrial applications.
7. Give the methods of preparation of mercerised cotton and gun cotton.
8. How do you manufacture sucrose from sugar cane?
9. Give any four biological functions of proteins?
10. Define Iodine Value and Saponification value.
11. Draw the structures of quinoline and isoquinoline. Give the numbering of the rings.
12. Draw the structures of two heterocyclic compounds which has
    a) monocyclic ring b) bicyclic ring
13. How can you synthesize Diel's hydrocarbon?

(5 x 2=10)

Part C

III. Answer any five questions. Each question carries 5 marks.

14. How is the structure of starch established?
15. Explain about Green Fluorescent protein.
16. Discuss the general structure of Nucleic acids.
17. Briefly explain the structure elucidation of coniine.
18. Nicotine is a piperidine derivative. Give chemical evidence for the above statement.
19. Give the resonance structures of a) Pyridine b) quinoline.
20. Give any one method for the synthesis of the following compounds:
    a) Pyrrole b) furan c) isoquinoline d) nicotinic acid e) 2-acetyl pyrrole
21. Write a short essay on Cholesterol.

(5x5=25)

Part D

IV. Answer any two questions. Each question carries 10 marks.

22. How is fructose prepared? How can you show that fructose is a reducing sugar? What are the evidences for assigning a ring structure to fructose? Explain any 4 reactions of

fructose.

23. a) Discuss briefly on the methods used for the analysis of fats or oil.
    b) Define the following terms used in lipid chemistry.
        i) Saponification value
        ii)R-M value
        iii)Iodine value
24. Explain the different classifications of proteins on the basis of (i) shape and structure and (ii) composition.
25. Explain the synthesis, reactions and resonance of pyridine.

(2x10=20)