21101095

QP CODE: 21101095

Reg No : .....

Name : .....

B.Sc DEGREE (CBCS) EXAMINATION, APRIL 2021

Sixth Semester

CORE COURSE - CH6CRT10 - ORGANIC CHEMISTRY - IV

Common for B.Sc Chemistry Model I, B.Sc Chemistry Model II Industrial Chemistry & B.Sc Chemistry Model III Petrochemicals

2017 Admission Onwards

1D9D77E5

Time: 3 Hours Max. Marks : 60

Part A

*Answer any **ten** questions.*

*Each question carries **1** mark.*

1. Draw the the structure of geraniol.
2. What is rendering?
3. Give the name of any fatty acids present in natural fats and oils.
4. Distinguish between hormones and vitamins.
5. What are mixed peptides? Give one example.
6. Give any two examples for proteins with β -pleated structure.
7. Name one enzyme deficiency disease.
8. What are super molecules.
9. What is photosensitisation?
10. Define hyperchromic shift.
11. In the case of stillbene, for which isomer π to π* transition occurs at a higher wavelength and higher extinction coefficient and why?
12. Which region of IR spectrum constitutes finger print region?

(10×1=10)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. What is vulcanisation of rubber?

14. Give an account of a soap micelle.

15. Write the structure and biochemical functions of Vitamin C.

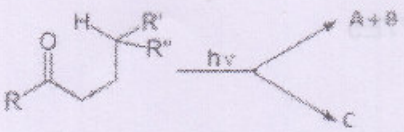
16. Discuss Sanger's DNP method for the N-terminal amino acid determination in proteins.

17. Explain in brief the coding for amino acids-the genetic code.

18. Write the mechanism of enzyme action.

19. Explain molecular recognition in DNA.

20. (a) Draw Mechanism (b) Predict **A**, **B** and **C**.(Hint: **C** is a cylic product)



21. Arrange the following carbonyl compounds in the order of increasing carbonyl streching frequency: aldehydes, esters, amides, ketones, carboxylic acids, acid anhydrides and acid chlorides. Give reason for your answer.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **10** marks.*

22. Detail the synthesis of nicotine from N-methyl-2-pyrrolidone.

23. Write a note on the physical and chemical properties of amino acids.

24. Explain the secondary structure of DNA.

25. An organic compound with molecular formula $C_6H_{12}O_2$ exhibits following spectral data:

UV : Transparent below 210 nm ; IR data: 2924,1745,1456 cm^{-1}; NMR data: δ= 1.97 (3H, singlet); 1,45(9H,singlet). Identify the organic compound.

(2×10=20)