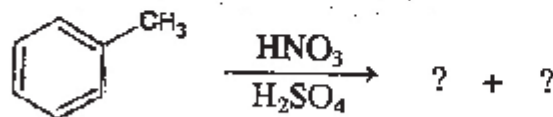






6. [18] Annulene is aromatic. Explain.
7. Give the appropriate products and give reason in the following reaction.



8. Write the product (s) in the following reaction.



Complete the reaction with mechanism.

9. Give one reaction involving carbene as intermediate.
10. Explain Hofmann degradation reaction.
11. Give synthesis of thiazole from  $\alpha$ -haloketones.
12. 2<sup>o</sup>-amines are less basic than 3<sup>o</sup>-amines, give reason.
13. Write the Fisher projection and conformational structure of D-Mannose.
14. Give any two N-terminal and C-terminal blocking agent.
15. What are the products obtained when cellulose is fully methylated followed by hydrolysis ?

### PART - B

Answer **any TWO** of the following :

(10×2=20)

16. a) Discuss the conformational analysis of 1, 2 dichloroethane in vapour and liquid phase. 5
- b) Describe the optical isomerism in tartaric acid. 5

17. a) Explain the mechanism of electrophilic aromatic nitration with suitable examples. 5  
 b) Write the stereochemistry and mechanism of  $S_N^2$  reactions. 5
18. a) Elucidate the structure of maltose. 7  
 b) Give two biological importance of protein. 3

## PART - C

Answer any **THREE** of the following : (15×3=45)

19. a) Describe the chemical method for establishing the configuration of geometrical isomers. 6  
 b) Give any four reactions involving carbocations. 5  
 c) Discuss the stability of carbocations. 4
20. a) Discuss the stereochemistry of elimination reactions. 5  
 b) Compare the basicity and aromaticity of pyrrole with pyridine. 5  
 c) What are amylose and amylopectin ? How are they obtained from starch ? Give the structure of amylose. 5
21. a) Discuss any three method of synthesis of amino acids. 6  
 b) Discuss the mechanism of the following reaction : 5

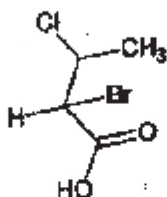
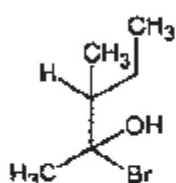


- c) What is Hudson's rule ? Explain with an example. 4



22. a) Assign R and S notation for the following molecule.

5



b) Discuss the secondary structure of protein.

5

c) Write a note on electrophilic reactions of pyrimidine.

5

23. a) Describe the Huckel rule for aromaticity with suitable example.

6

b) Give any two methods of synthesis of furan.

5

c) Discuss the carbobenzoxy method of synthesis of peptides.

4

