21100467

QP CODE: 21100467

Reg No : .....

Name : .....

B.Sc DEGREE (CBCS)EXAMINATION, MARCH 2021

Third Semester

Core Course - CH3CRT03 - ORGANIC CHEMISTRY-I

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

2017 Admission Onwards

DE09DCA8

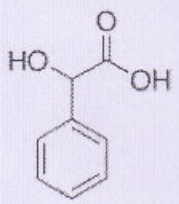
Time: 3 Hours Max. Marks : 60

Part A

*Answer any **ten** questions.*

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

1. Write the IUPAC name of acetone.
2. Give an example for a nucleophile and an electrophile.
3. Draw the stereo representation of lactic acid and its mirror image?
4. What is meant by a racemic mixture?
5. Assign the configuration (R/S) of the following compound.



6. Draw the Newman Projection formula of cyclohexane.
7. What happens when Calcium Carbide is treated with water?
8. How alcohols are converted to alkyl halides?
9. What happens when methyl cyanide is treated with excess methyl magnesium bromide?
10. Draw the structure of [14] annulene . Comment on its aromaticity.

11. Explain why an oxidising agent is necessary to prepare iodobenzene?

12. How will you convert 1,3-butadiene to cyclohexene?

(10×1=10)

Part B

*Answer any **six** questions.*

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

13. Compare electromeric effect and inductive effect.

14. What is meant by steric hindrance? Explain in detail with examples of each type.

15. What are diastereomers? Bring out the differences between enantiomers and diastereomers?

16. What are the limitations of Baeyer Strain Theory?

17. Explain E1 and E2 mechanism with suitable examples.

18. Outline the synthesis of the following compounds from acetylene
    a) vinyl chloride b) 1-butyne

19. Explain the molecular orbital picture of Benzene.

20. What is meant by Benzyne trapping?

21. What do you understand by the term suprafacial and antarafacial overlapping?

(6×5=30)

Part C

*Answer any **two** questions.*

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

22. Discuss the stability and ease of formation of free radicals.

23. Write short notes on a) conformational analysis with suitable example.
    b) Equitorial and axial bonds in cyclohexane.

24. Discuss the effect of the folllowing on SN_2 reaction
    a) Nature of nucleophilic reagent b) polarity of the solvent c) concentration of nucleophilic reagent

25. Naphthalene undergoes electrophilic substitution reaction preferentially at α-position than β-position. Why?

(2×10=20)