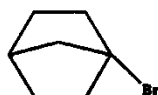




THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions: (15x2=30)

- i. Aniline is weaker base than aliphatic amines.
- ii. Boiling point of ortho salicylaldehyde is 196 °C while that of para salicylaldehyde is 240°C. why?
- iii. Most substituted alkene is most stable. Why?
- iv. The following compounds are notoriously slow towards both SN₁ and SN₂ reactions. Why?



- v. Methoxide ion is better nucleophile than tert-butoxide ion. why?
- vi. Give Name and structure of any two protic and two aprotic solvents.
- vii. Why toluene is more reactive at ortho and para positions for electrophilic substitution?
- viii. O-nitrophenol is more acidic than m-nitrophenol.
- ix. Define tautomerism with an example?
- x. Cyclo-octatetraene prevents resonance.
- xi. Why aldehydes are oxidized easily as compared to ketones?
- xii. Acetoacetic ester gives ferric chloride test which is typical test for phenol?
- xiii. Activating groups are ortho para directing, while deactivating are meta directing?
- xiv. Write down all possible canonical forms of p-nitrophenoxide.
- xv. Briefly explain Lucas test.

Answer the following questions.

Q.2 (a) Indicate the major and minor products in the following reactions with mechanism. (5)



(b) Write down the preparation of naphthalene? (5)

Q.3 (a) Differentiate between Markovnikov's and anti-Markovnikov's rule with examples. (5)

(b) Briefly discuss Reimer-Tiemann reaction with mechanism. (5)

Q.4 Complete the following reaction with mechanisms? (2.5x4=10)

