

# CLASS XII

## GUESS PAPER

### CHEMISTRY

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#### REASONING QUESTIONS OF ORGANIC CHEMISTRY

1. Explain why:

- Dipole moment of chlorobenzene is lower than that of cyclohexyl chloride.
- Alkyl halides, though polar, are immiscible in water.
- Grignard reagent should be prepared under anhydrous conditions.
- p-dichlorobenzene has higher melting point than o- and m- isomer.
- Alkyl halides undergo nucleophilic substitution reactions.
- Ortho-nitrophenol is less soluble in water than para-nitrophenol.
- Phenols do not give protonation reaction easily.
- Ethers can be cleaved with acids and not bases.
- O-nitrophenol is more acidic than O-methoxyphenol.
- Dipole moment of methanol is higher than that of phenol.
- Dipole moment of aldehydes and ketones are higher than alcohols.
- Dimethyl cadmium is used in the preparation of ketones from acid chlorides  
But not from Grignard reagent.
- Cyclohexanone forms cyanohydrin in good yield but 2,2,6-trimethyl-cyclohexanone  
Does not.
- There are two  $-NH_2$  groups in semicarbazide, however, only one is involved in the  
formation  
Of semicarbazones.
- Fluorine is more electronegative than chlorine even then, p-fluorobenzoic acid is a  
weaker  
Base than p-chlorobenzoic acid.
- Carboxylic acids do not give the characteristic reactions of carbonyl group.
- Carboxylic acid is much more stronger than phenol though phenolate ion has much  
more  
Resonating structures than carboxylate ion.
- Aldehydes are more reactive than ketones in nucleophilic reactions.

- s) Most aromatic acids are solids but the acids of acetic acid group are mostly liquids.
- t) During preparation of ammonia derivatives of aldehydes and ketones, pH of medium is very much controlled.
- u) Electrophilic substitution in benzoic acid takes place at meta position.
- v) 2<sup>o</sup> and 3<sup>o</sup> amines can not be prepared by Gabriel Pthalimide synthesis.
- w) Isocyanides are not soluble in water.
- x) Bromination of aniline can not be controlled easily.
- y) Ethyl amine is soluble in water but aniline is not.
- z) Aniline does not undergo Friedel Craft reaction.
- aa) Diazonium salts of aromatic amines are more stable than aliphatic amines.