

BSC. PART - II EXAMINATION - 2010

CHEMISTRY HONOURS ORGANIC

Answer any five questions in which Q. No. 1 is compulsory.

- Choose the correct answer of the following
 - The finger print region in IR spectrum is in between
 - 1500 - 667 cm^{-1}
 - 2300 - 2100 cm^{-1}
 - 3600 - 3200 cm^{-1}
 - None of these
 - Tartaric acid exists in :
 - One isomeric form
 - Two isomeric forms
 - Three isomeric forms
 - Four isomeric forms
 - Polyester is formed by the condensation of :
 - Terephthalic acid and ethylene glycol
 - Acetic acid and ethylene glycol
 - Benzoic acid and ethylene glycol
 - β - hydroxy acid on heating produces
 - Lactone
 - α, β - unsaturated acid
 - Lactide
 - β, γ - unsaturated acid
 - Mutarotation is exhibited by :
 - All monosaccharides
 - All disaccharides
 - All polysaccharides
 - All Carbohydrates
 - The compound which exhibits Keto-enol tautomerism is :
 - $C_2H_5O.CO.CH_2CN$
 - $C_2H_5O.CO.CH_2NO_2$
 - $C_2H_5O.CO.CH_2CH_2CN$
 - $CH_3COCH_2COOC_2H_5$
 - Phenol may be converted into salicyl aldehyde by :
 - Koche-Schmidt reaction
 - Diazo coupling reaction
 - Reimer-Tiemann reaction
 - Hoesch reaction
 - Which of the following does not react with aniline ?
 - NH_3
 - CS_2/KOH
 - C_6H_5CHO
 - CH_3COCl
 - Reaction of benzenediazonium chloride with H_3PO_2/Cu gives :
 - Phenol
 - Phenyl phosphate
 - Benzene
 - Benzoic acid
 - The common acids present in oils and fats are:
 - Stearic acid
 - Palmitic acid
 - Oleic acid
 - All of these
- Explain the mechanism and applications of any two of the following :
 - Reimer-Tiemann Reaction
 - Claisen Condensation
 - Gattermann's Synthesis
- What are the active methylene compounds ? Starting from diethyl malonate how will you obtain the following ?
 - Succinic acid
 - Adipic acid
 - Crotonic acid
 - Barbituric acid
- How will you prepare citric acid from glycerol ? How does citric acid react with the following
 - Acetyl chloride
 - Hydroiodic acid
 - H_2SO_4
 - Ethyl alcohol
- How phenol is isolated from coal tar ? How does phenol react with the following :
 - $CCl_4/NaOH$
 - Benzene diazonium chloride
 - Phthalic anhydride
- Explain the following :
 - D-glucose and D-fructose are reducing sugars
 - D-glucose and D-fructose form the same osazone.
 - D-glucose exhibits mutarotation.
- Write notes on any two of the following :
 - Condensation Polymerisation
 - Synthetic rubber
 - Hydrogenation of oils
 - Beer-Lambert law

8. Explain the following :
- (a) Phenol is more acidic than alcohol.
 - (b) Nitro group present in benzene ring is metadirecting.
 - (c) Methyl amino is stronger base than aniline
 - (d) Amides are neutral.
9. Bring out the following
- (a) Glucose to fructose
 - (b) Aniline to nitrobenzene
 - (c) Phenol to Picric acid
 - (d) Ethanol to lactic acid

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