BSC. PART - II EXAMINATION - 2018

CHEMISTRY HONOURS ORGANIC

1. Select the correct answer among the given options:

(a) On Heating Benzoyl amine with cholroform and ethanolic KoH product abtained is (i) Benzoyl Alcohol (ii) Benzonitrile (iii) Aviline (iv) Benzoyl isocyanide

(b) When Acetaldehyde is treated with HCN followed by hydrolysis an acid obtained is :

(i) Tartaric acid (ii) Citric acid (iii) Lactic acid (iv) Acetic acid

(c) When absorption band shifts twoards longer wavelength in conjugation, shift is called (i) Hypo chromic shift (ii) bathochromic shift (iii) Hypso chromic shift (iv) None of these

(d) A Lactone is obtained from

(i) α-hydroxy acid (ii) β-hydroxy acid (iii) γ-hydroxy acid (iv) δ-hydroxy acid

(e) D-Glucose and D-Fructose can be distinguished by

(i) Tollen's reagent (ii) Fehling solution (iii) Both (i) and (ii) (iv) Bromine water

(f) Phenol and benzoic acid can be distinguished by

(i) Ag. NaOH (ii) Litmus paper (iii) $NaHCO_3$ solution (iv) PCl_5

(g) Which one of the following is a natural Polymer ?

(i) Celluloid (ii) Viscose rayon (iii) Terylene (iv) Cellulose

(h) Which of the following region is IR is known as functional group region.

(i) 1300-4000 cm^{-1} (ii) 900-1300cm^{-1} (iii) 650-900cm^{-1} (iv) none of these

(i) Mutarotation is exhibited by :

(i) All mono saccharides (ii) All disaccharides (iii) All poly Saccharides (iv) All Carbohydrates

(j) Action of Anhydrous $AlCl_3$ in friedel craft reaction is :

(i) To Absorb benzene (ii) To absorb HCl (iii) To produce electrophile (iv) To produce nucleophile

2. What is electrophillic substitution. Discuss the mechanism of halogenation, nitration and sulphonation in benzene.

3. What is active methylene group.
Write structural formula of three compound containing active methylene group.
How would you prepare Ethyl Aceto Acetak is the laboratory. Discuss it with mechanism. How would you Synthesize succinic acid from Ethyl Aceto Acetate.

4. How is tartaric acid isolated from cream of Tartar ?
Deduce the structure of tartaric acid.
Discuss the optical isometism of Tartaric acid.

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5. (a) Starting from benzene hour would your prepare
   (i) phenol (ii) Aniline (iii) An explosive
   (b) How does phenol react with (i) Br_2 water (ii) Benzene Diazonium Chloride.
6. (a) Define chromophore and auxo chromophore.
   (b) Explain the different types of electronic transition in UV spectroscopy.
   (c) Which is more stable and why. benzyl carbocation or ethyl carbocation.
7. Write short notes on any two giving their mechanism.
   (a) Reimer-Tieman reaction (b) Friedel craft reaction (c) Claisen condensation
   (d)Reformatsky reaction
8. How will you synthesize following (any five)
   (a) Nylon-6. 6 (b) Neoprene (c) Buna-S (d) Buna-N (e) Terylene (f) Polypropylene
   OR, Write short notes on any two of the following :-
   (a) Soap and detergents (b) IR spectroscopy (c) Lactones (d) Oil & Fats
9. How will you bring about the following conversions ?
   (a) Benzene to Benzal dehyde (b) Benzene to Diphenyl methane
   (c) Aniline to m-nitro aniline. (d) Benzene diazonium chloride to phenyl hydrazine
   (e) Ethanol to Lactic acid
   OR, What happens when D-glucose react with (i) Br_2 water and (ii) dil HNO_3
   (b) How can you convert D-Glucose into D-fructose.
   (c) Explain the mechanism of osazone formation of D-Glucose

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