

SET :1

Avinashilingam Institute for Home Science and Higher Education for Women

Coimbatore-641 043

Bachelor's Degree Examination – November- 2017

III-Semester

Class: II UG

Major :Chemistry

Time :3 hours

Max.Marks: 100

15BCHCO7 / 11BCHCO7-Theoretical organic chemistry

Part-A 10x1=10

Choose the correct answer

- Homolytic Fission of C–C bond leads to the formation of
a. Carbene b. Carbocation c. Free radicals d. Carbanion
- Hyperconjugation is called
a. No-bond Resonance b. Steric hindrance c. mesomeric effect d. electronic effect
- Which of the following species satisfy the Huckel rule?
a. cyclopentadienylcation b. Furan c. Tropyllium anion d. cyclopropenyl anion.
- Friedel-Craft catalyst is
a. Pd/BaSo4 b. LiAlH₄ c. Anhydrous AlCl₃ d. Hydrazine.
- SN² mechanism is a _____ Step mechanism
a. One b. Three c. Four d. Five
- NGP is known as
a. Isotope effect b. Anchimeric assistance c. Hydrogenation d. Solvation
- The number of -COOH Group in picric acid is
a. 4 b. 3 c. 1 d. 0
- Nitrobenzene on chlorination gives
a. o -chloronitro benzene b. parachloro nitrobenzene c. m -chloro nitrobenzene
d. dichloronitrobenzene
- Coupling of benzene diazonium halide with phenol in a weakly alkaline medium occurs preferably at
a. o -Position b. p -Position c. m -Position d. Does not occur
- Hoffmann elimination is a nucleophilic reaction involving
a. α -elimination b. β -elimination c. γ -elimination d. δ -elimination

Part-B

5X6=30

Answer the following

Answer should not exceed 400 words or two pages

- 11.a. What are electrophiles and nucleophiles? Give suitable examples.
(or)
- 11.b. What is mean by steric effect and hyperconjugation? Explain.
- 12.a.(i) What are the conditions for aromaticity? (3)
(ii) Which of the following species are aromatic? Give explanation. (9)
(i) Pyrrole (ii) Pyridine (iii) Butadiene.
(or)
- 12.b. Explain the mechanism of nitration of benzene
- 13.a. State and explain Sayzeff's rule and Hoffmann's rule.
(or)
- 13.b. Discuss about allylic substitution reaction and role of NBS.
- 14.a. What are nitroalkanes? How is it prepared? Explain the chemical reactions of nitroalkanes.
(or)
- b. How is Picric acid prepared? Mention its Properties

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