



Avinashilingam Institute for Home Science and Higher Education for Women

(Deemed to be University under Category 'A' by MHRD, Estd. u/s 3 of UGC Act 1956)

Re-accredited with 'A+' Grade by NAAC. Recognised by UGC Under Section 12B

Coimbatore - 641 043, Tamil Nadu, India

Master's Degree Examination – June / July 2021

II Semester

Class : I PG
Major : Chemistry

Time : 3 Hours
Max. Marks : 100

20MCHC06 Organic Chemistry II

PART A

10 x 1 = 10

Choose the Correct Answer

- Identify the product, when benzene react with 1-chloro propane in presence of dry AlCl_3 ? K1
a. Propyl benzene b. Isopropyl benzene c. Toluene d. Ethyl benzene
- Select the most reactive molecule in electrophilic substitution reaction? K4
a. Ethyl benzene b. methoxy benzene c. Acctophenone d. Chlorobenzene
- Identify the product when 2-methylbuta-1,3 diene reacts with one equivalent of HBr for a limited time at 0°C ? K2
- Chose the product when propene reach with HBr in presence of peroxide? K3
a. Isopropyl bromide b. n-propylbromide c. Propene d. 2-bromopropene
- Identify the following compounds reacts by the E_1 mechanism in ethanol most readily. K2
a. n-butylbromide b. 1-methyl-propylbromide
c. 1,1,1-trimethylbromide d. 2-bromobutane
- Identify the main product of the following reaction? K2
- Circle the reaction that finds use in preparing oxetanes K4
a. Aldol condensation b. Pschorr Reaction
c. Sandmeyer Reaction d. Rosenmund-von Braun Reaction
- Indole react with DMF/ POCl_3 to give K3
- Choose the positive synthon K3
a. CH_3 b. CH_3^- c. CH_3Br d. CH_3SH
- Select the protecting group for alcohol? K2
a. HCl b. CH_3MgBr
c. THP (tetrahydropyran) d. isobutylene

Part B**5 x 6 = 30****Answer ALL questions****Each answer should not exceed 400 words or two pages**

- 11.a. Discuss SE^2 and SE^1 reaction with suitable examples. K2
(or)
- 11.b Explain ortho-para orientation effect in aromatic electrophilic substitution reaction K3
- 12.a. Explain the addition reaction of electrophile into the double and triple bond system. K4
(or)
- 12.b Explain the term regio and chemo selectivity with examples K2
- 13.a. Explain the stereochemistry of the E_2 reaction K3
(or)
- 13.b Explain Chugaev reaction with example K3
- 14.a. Describe the synthesis and reaction of Indole K2
(or)
- 14.b. Illustrate the synthesis of Coumarin. K3
- 15.a. Explain the term 'Umpolung' and reactivity? K4
(or)
- 15.b. Discuss about protecting groups with examples K2

Part C**5 x 12 = 60****Answer ALL questions****Each answer should not exceed 800 words or four pages**

- 16.a. Explain the effect of substrate, leaving group and solvent polarity in electrophilic substitution reaction K4
(or)
- 16.b i. Discuss SE^i reaction with example (4) K4
ii. Explain the following reactions : a. Vilsmeier-Haack reaction (4)
b. Pechmann reaction (4)
- 17.a. i. Explain Sharpless epoxidation(8) K3
ii. Discuss Wittig reaction with example (4)
(or)
- 17.b Explain the following reactions i. Hydroboration ii. Michael addition K3
iii. Stobbe reaction
- 18.a Discuss the mechanism and orientation of E_1 , E_1CB and E_2C reactions K2
(or)
- 18.b i. Explain Saytzeff and Hoffman rules with suitable examples K3
ii. What is pyrolytic elimination? Explain
- 19.a Explain the synthesis and reactions of the following K4
i. Pyrone ii. Chromone iii. Aziridine (4 + 4 + 4)
(or)
- 19.b Explain the synthesis and reactions of the following K4
i. Benzofuron ii. Oxetanes iii. Pyridazine (5 + 3 + 4)
- 20.a Demonstrate the functional group interconversion by oxidation and reduction reactions? Explain K3
(or)
- 20.b Discuss retrosynthesis? Explain the term disconnections and synthon (6) K2
ii. Explain linear and convergent synthesis with example (6)
