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Question Paper Code: 53902

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2019

Third Semester

Chemical Engineering

15UCH302-ORGANIC CHEMISTRY

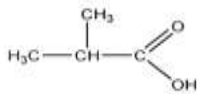
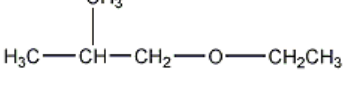
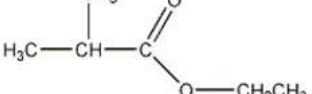
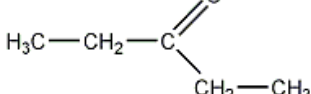
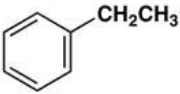
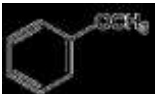
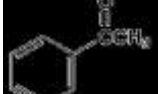
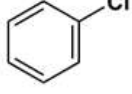
(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

- Which of the following reaction, the halogenations is involved? CO1- R
 (a) Addition (b) Substitution (c) Replacement (d) All of the above
- Which of the following compounds is an ester? CO1- R
 (a)  (b)  (c)  (d) 
- Which is most reactive in electrophilic substitution? CO2-R
 (a)  (b)  (c)  (d) 
- Which of the following is rate determining step in electrophilic substitution reaction? CO2- U
 (a) Generation of electrophile
 (b) Attack by an electrophilic reagent on benzene ring
 (c) Formation of product
 (d) All of the mentioned

5. A reaction in which organic molecules join together along with elimination of water molecule or HCl is called _____.
 (a) Addition (b) Substitution (c) Condensation (d) Evaporation CO3- U
6. If acidified Potassium Dichromate(VI) ($K_2Cr_2O_7$) acts as oxidizing agent, color changes from
 (a) Orange to red (b) Orange to green (c) Yellow to green (d) yellow to red CO3- R
7. The reaction of carboxylic acids with alcohols catalysed by conc. H_2SO_4 is called _____.
 (a) Dehydration (b) Saponification (c) Esterification (d) Neutralization CO4- R
8. The reactive dyes applied to a cellulosic fiber, they form a _____ with hydroxyl group of the fiber.
 (a) Covalent bond (b) Hydrogen bond (c) Ionic bond (d) Adsorption CO4- U
9. How many amino acids are synthesized by our bodies?
 (a) 10 (b) 20 (c) 30 (d) 40 CO5- R
10. A link between amino acid molecules in a poly peptide chain by condensation reaction is called _____.
 (a) Peptide bond (b) Polypeptide linkage (c) Diol linkage (d) Amine linkage CO5- U

PART – B (5 x 2 = 10 Marks)

11. What is the role of catalyst in chemical reactions? CO1- R
12. Give a note on electrophilic reaction. CO2- U
13. What is the role of N-Bromo succinimide? CO3- U
14. Draw the structure of congo red dye and methyl orange. CO4- R
15. What is end group analysis? CO5- R

PART – C (5 x 16= 80Marks)

16. (a) Explain the reaction mechanism of halogenation and nitration in detail. CO1- U (16)
- Or
- (b) (i) Give a brief note on oxidation and reduction reactions with its mechanism. CO1- U (8)
- (ii) What is esterification? Elaborate its reaction mechanism with suitable example. CO1- U (8)

17. (a) Briefly explain the mechanism of the following reactions. CO2 -U (8)
- (i) Friedel craft reaction
- (ii) Riemer Timenn reaction CO2 -U (8)
- Or
- (b) (i) What is benzion condensation? Explain briefly the reaction CO2 -U (8)
mechanism involved in it.
- (ii) Discuss the addition of HBr on alkene in the presence of CO2 -U (8)
peroxide with suitable example.
18. (a) (i) What are the steps are involved in thermal halogination of CO3-U (10)
alkane? Explain.
- (ii) Explain the following reactions with suitable examples CO3-U (6)
- (1) Addition polymerization
- (2) Condensation polymerization
- (3) Copolymerization
- Or
- (b) Discuss briefly the estimation of following organic compounds, CO3-U (16)
- (i) Aniline
- (ii) Glucose
19. (a) Explain the synthesis of dicarboylic acids and unsaturated acids CO4- U (16)
with suitable examples.
- Or
- (b) Discuss the synthesis, properties and uses of following dyes, CO4- U (16)
- (i) Alizarin dye
- (ii) Malachite green dye.
20. (a) What are amino acids? Discuss briefly the various synthesis CO5- U (16)
methods of amino acids.
- Or

- (b) (i) Outline briefly the peptide linkage and colour reaction of CO5- U (8)
proteins.
- (ii) What is denaturation of proteins? Discuss in brief. CO5- U (8)