

A

Reg. No. :

--	--	--	--	--	--	--	--	--	--

Question Paper Code: 54905

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2018

Fourth Semester

Chemical Engineering

15UCH405-CHEMICAL PROCESS INDUSTRIES II

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. Molasses is the starting material for the production of CO1- R
(a) alcohol (b) essential oil (c) fatty acids (d) massecuite
2. Hydrolysis of sugar is called CO1- R
(a) hydration (b) inversion (c) esterification (d) none of these
3. The basic constituent of vegetable oil is CO2- R
(a) triglyceride (b) fatty acids (c) fatty alcohol (d) mono esters
4. Which one of the following is an unsaturated fatty acid CO2- R
(a) Palmitic (b) Oleic (c) Stearic (d) Oxalic
5. Lubricating greases are a mixture of CO3- R
(a) mineral oil, soap and additives (b) mineral oil and metallic soap
(c) mineral oil and fatty oil (d) fatty oil and metallic soap
6. Phthalic anhydride is produced by the oxidation of CO3- R
(a)naphthalene (b)benzene (c)toluene (d)aniline

7. Thermoplastic materials CO4- R
 (a) do not soften on application of heat (b) are heavily branched molecules
 (c) are solvent insoluble (d) none of these
8. Bakelite is chemically known as CO4- R
 (a) polyvinyl chloride (b) polybutadiene (c) phenol formaldehyde (d) polyurethane
9. Flexible foam is usually made of CO5- R
 (a) PVC (b) silicone (c) polyurethanes (d) polyamides
10. Polythene is a/an _____ polymerization product CO5- R
 (a) addition (b) condensation (c) thermosetting (d) none of these

PART – B (5 x 2= 10Marks)

11. What are the raw materials for the production of sugar and starch? CO1- R
12. Distinguish between soap and detergent. CO2- U
13. What are the major constituents of crude petroleum? CO3- R
14. Distinguish between thermoplastic and thermosetting polymers CO4- U
15. Distinguish between solution and suspension polymerization. CO5- U

PART – C (5 x 16= 80Marks)

16. (a) (i) With a neat flow diagram explain the process of pulp making by the sulphate pulp Process. CO1-Ana (10)
 (ii) Explain the method to recover chemicals from the black liquor. CO1-U (6)
- Or
- (b) Explain the process of manufacture of ethanol from molasses with a neat flow diagram CO1-U (16)
17. (a) Describe the process of extracting vegetable oils by mechanical and solvent extraction methods. CO2-U (16)

Or

- (b) With relevant flow sheets explain the methods of manufacture of soaps and Detergents. CO2-Ana (16)
18. (a) What are the different products obtained by the atmospheric distillation of crude petroleum? Explain with a neat flow sheet the refinery process . CO3-Ana (16)
- Or
- (b) What are the principle involved to obtain aromatics from petroleum? Describe the manufacture of phenol by toluene oxidation process. CO3-U (16)
19. (a) Describe the manufacture of phenol-formaldehyde resin with the help of a flow sheet. Also list out the applications of this resin. CO4-U (16)
- Or
- (b) How is the styrene butadiene rubber manufactured? Describe the process using a simplified flow chart. CO4-U (16)
20. (a) Briefly explain the steps involved in the production of viscose rayon with a neat diagram. CO5-U (16)
- Or
- (b) Write in detail about the PVC and cellulose acetate manufacturing process with a flow sheet. CO5-U (16)

