

B.E./B.TECH DEGREE EXAMINATIONS: OCTOBER / NOVEMBER-2008

Second Semester

**TEXTILE TECHNOLOGY
U07CY205: CHEMISTRY II****Time: Three hours****Maximum marks: 100****Answer ALL Questions: -****PART A (20X2= 40 Marks)**

1. Metallurgical coke is manufactured by
 - a. Fischer-Tropsch's method
 - b. Otto-Hoffman method
 - c. Bergius method
 - d. Dulong's method
2. Which of the following is not analyzed by ultimate analysis?
 - a. Hydrogen
 - b. Oxygen
 - c. Nitrogen
 - d. Volatile matter
3. The higher calorific value of hydrogen in kCal/kg is
 - a. 8080
 - b. 2240
 - c. 34500
 - d. 2420
4. Straight - run petrol is obtained by
 - a. Fixed bed catalytic cracking method
 - b. Moving bed catalytic cracking method
 - c. Fractional distillation of crude petroleum
 - d. Catalytic polymerization method
 - e.
5. The functionality of ethylene is
 - a. Three
 - b. Four
 - c. Two
 - d. One
6. Stereospecific polymers are obtained by
 - a. Copolymerization
 - b. Addition polymerization
 - c. Condensation polymerization
 - d. Coordination polymerization
7. The plastic which is used for making chewing gums is
 - a. Polyethylene
 - b. Polyvinyl acetate
 - c. Polypropylene
 - d. PMMA
8. In styrene rubber, the monomers used are
 - a. 1,3- Butadiene and Acrylonitrile
 - b. Butadiene and styrene
 - c. Isobutene and Isoprene
 - d. Styrene and Isobutene
9. An example for volatile oxide formed in the oxidation corrosion is
 - a. Molybdenum oxide
 - b. Copper oxide
 - c. Sodium oxide
 - d. Magnesium oxide
10. Which one of the following can not minimize the galvanic corrosion?
 - a. By selecting the two metals whose oxidation potential values are as near as possible
 - b. By increasing the distance between the two metals
 - c. By inserting an insulating material between the two metals
 - d. By having larger cathodes and smaller anodes.

11. The corrosion resistance in stainless steel is due to the presence of
 a. Nickel
 b. Chromium
 c. Lead
 d. Silver
12. The active ingredient present in the luminescent paints is
 a. Polyphenyl silicones
 b. Calcium ammonium phosphate
 c. Zinc sulphide
 d. Graphite powder
13. Calgon is
 a. $(\text{NaPO}_3)_6$
 b. NaH_2PO_4
 c. Na_2HPO_4
 d. Na_3PO_4
14. Addition of coagulants to water removes the fine suspended impurities by
 a. Chemical reaction
 b. Absorption
 c. Adsorption
 d. Sorption
15. The exhausted zeolite bed is regenerated by
 a. NaCl solution
 b. Dil. H_2SO_4
 c. Dil. HCl
 d. MgCl_2 solution
16. The recommended total dissolved solids in drinking water should be
 a. Zero ppm
 b. <500 ppm
 c. <1000 ppm
 d. <35,000 ppm.
17. Which one of the following is the raw material for the manufacture of titanium dioxide?
 a. Calamine
 b. Barytes
 c. Kaoline
 d. Ilmenite
18. The pigment used for bluing in laundering to neutralize yellowish tone in cotton and linen fabrics is
 a. Lithopone
 b. Ultramarine blue
 c. White lead
 d. Zinc oxide
19. Magnesite is
 a. MgCO_3
 b. $\text{CaO} + \text{MgO}$
 c. MgO
 d. Al_2O_3
20. Which one of the following is used for the manufacture of SO_2 ?
 a. Iron pyrites
 b. Sulphuric acid
 c. Ferric sulphate
 d. Sodium sulphite.

PART-B (5×12=60 Marks)

- 21.a) i) How is proximate analysis of coal carried out? (6)
- ii) Describe with a neat sketch, the manufacture of water gas. (6)

(OR)

- 21.b) i) How is flue gas analysed by using Orsat's apparatus? (6)
ii) Calculate the mass and volume of air required for the complete combustion of 1Kg of coke. (6)

- 22.a) i) Discuss the free radical mechanism of addition polymerization. (6)
ii) Discuss the method of preparation, properties and applications of Teflon. (6)

(OR)

- 22.b) i) Distinguish between thermoplastic and thermosetting resins. (6)
ii) Write briefly on the preparation, properties and applications of laminated plastics. (6)

- 23.a) i) Explain the principles of electrochemical corrosion. (6)
ii) Name the different constituents of an oil paint and explain their functions. (6)

(OR)

- 23.b) i) Illustrate the differential aeration corrosion with suitable examples. (6)
ii) How is corrosion controlled by the use of sacrificial anodes? (6)

- 24.a) i) Describe, with a neat sketch, the ion exchange method of water softening and write the relevant chemical equations. (6)
ii) Explain the disinfection of water by chlorination. (6)

(OR)

- 24.b) i) Describe the colloidal and phosphate conditioning methods of internal treatment of water. (6)
ii) Explain desalination by reverse osmosis. (6)

- 25.a) i) Describe the manufacture of lithopone. (6)
ii) Discuss the manufacture, properties and uses of silicon carbide. (6)

(OR)

- 25.b) i) Describe the manufacture of Zinc oxide from franklinite ore. (6)
ii) Give an account of silicone oil and lithium grease as lubricants. (6)
