

**B.TECH. DEGREE EXAMINATIONS: NOV/DEC 2010**

Second Semester

**TEXTILE TECHNOLOGY**

U07CY205: Chemistry II

**Time: Three Hours**

**Maximum Marks: 100**

**Answer ALL Questions:-**

**PART A (10 x 1 = 10 Marks)**

- 1) Water gas is primarily a mixture of  
a)  $N_2 + CO$       b)  $H_2 + CH_4$       c)  $CO + H_2$       d)  $N_2 + H_2$
- 2) A Good fuel should have  
a) Low calorific value.      b) Moderate ignition temperature.  
c) High ash content.      d) High moisture content.
- 3) Functionality of phenol is  
a) One      b) Two      c) Three      d) Four
- 4) Which of the following polymer contains nitrogen  
a) Nylon      b) Teflon      c) PVC      d) Terylene.
- 5) During electrochemical corrosion in acidic environment  
a) Oxygen evolution occurs.      b) Oxygen absorption occurs.  
c) Hydrogen evolution takes place.      d) Hydrogen absorption takes place.
- 6) During galvanic corrosion the more noble metal acts as the  
a) anode      b) cathode      c) anode as well as cathode      d) corroding metal
- 7) Which of the following method separates both ionic and non ionic properties from water?  
a) Electrodialysis      b) Reverse Osmosis      c) Deionisation      d) Zeolite process.
- 8) Colloidal conditioning of boiler is done by using  
a) Calgon      b) EDTA      c) ion exchangers      d) lignin.
- 9) A Lubricant is used primarily to prevent  
a) Corrosion of metals.      b) Oxidation of metals.  
c) Wearing out of rubbing metallic surfaces.      d) Reduction of metals.
- 10) In water treatment Zeolites are used to remove  
a) Anions.      b) Cations.      c) Both cations and anions.      d) Pathogenic bacteria.

**PART B (10 × 2 = 20 Marks)**

11. What is Cetane value of diesel fuel?

12. What are the different varieties of coal formed inside the earth?
13. What is meant by the term Vulcanisation of rubber?
14. Why is teflon highly chemical resistant?
15. What is pilling bedworth rule?
16. What are the main constituents of oil varnish?
17. What are the advantages of break-point chlorination?
18. Distinguish between hard water and soft water?
19. Explain the bleaching action of Sulphur-di-oxide.
20. What is lithium grease?

**PART C (5x14 = 70 Marks)**

21. a) (i) How is percentage of nitrogen in coal sample calculated? (6)  
 (ii) How is flu gas analysed by orsat apparatus? (8)  
 (OR)
- b) (i) What is coke? What are the requisities of metallurgical coke? (7)  
 (ii) What is cracking? Describe fixed bed catalytic cracking? (7)
- 22.a)(i) Differentiate between thermoplastics and thermosetting plastics. Give two examples for each type. (7)  
 (ii) Write the preparation properties and uses of polypropylene. (7)  
 (OR)
- b) (i) Explain with examples addition polymerization and condensation polymerization. (7)  
 (ii) Discuss the effect of polymer structure on their strength and chemical resistance. (7)
23. a) (i) What are corrosion inhibitors? Classify different types of Inhibitors with examples. (7)  
 (ii) Mention the constituents of paint and give their functions. (7)  
 (OR)
- b) (i) Discuss the various factors which influence corrosion. (7)  
 (ii) Briefly explain about lacquers. (7)
24. a) (i) What are zeolites. Describe the principle of zeolite process. (7)  
 (ii) What is reverse osmosis? How is this technique useful for purification of sea water? (7)  
 (OR)
- b) (i) Describe water treatment method for municipal water supply? (7)  
 (ii) write short note on priming and foaming. (7)
25. a) (i) Write a detailed note on lithophone? (7)  
 (ii) What are basic refractories and explain magnesite refractory in detail. (7)  
 (OR)
- b) (i) Write a detailed note on ultramarine pigments. (7)  
 (ii) Write the preparation, properties and uses of silicon carbide. (7)

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