Register Number.....

B.E. DEGREE EXAMINATIONS: OCTOBER / NONEMBER 2008

Second Semester

CIVIL ENGINEERING

U07CY202-CHEMISTRY II

Time: Three hours **Maximum Marks: 100**

Answer ALL Questions:-

PART A (20 x 2 = 40 Marks)

1. The functionality of the ethylene monomer is

   A. 3 B. 2 C. 1 D. 4

2. A plastic which can be softened on heating and hardened on cooling is called

   A. Thermoelastic B. Thermoplastic C. Thermosetting D. Thermite

3. Which one of the following addition polymers behaves like a thermo setting polymer?

   A. Polythene B. Polystyrene C.Teflon D. PVC

4. Bakelite is an example of

   A. Thermoelastic B. Thermoplastic C. Thermosetting D. Thermite

5. Electrochemical corrosion is other wise known as

   A. Corrosion B. Dry corrosion C. Wet corrosion D. Electrolysis

6. In the sacrificial anodic protection method the more noble metal acts as

   A. Anode B. Cathode C. Anode as well as cathode D. Corroding metal

7. Which one of the following is an example for organic coating

   A. Tinning B. Electro plating C. Anodising D. Paints

8. In waterline corrosion the maximum amount of corrosion takes place

   A. along a line just above the level of the water meniscus

   B. along a line at the level of the water meniscus

   C. along a line just below the level of the water meniscus

   D. at the bottom of the vessel

9. What is prime requisite of a material to be used as a refractory?

   A. Higher Softening Temperature B. Lower Softening Temperature

   C. Higher thermal conductivity D. High deformation propertity

10. Why is dolomite bricks rarely used as direct refractories?

    A. Low strength B. Low porosity C. Low shrinkage D. Hardness

11. Presence of which constituent in lime imparts its hydraulic property

    A. Glass B. Clay C. Ceramic D. Water

12. Name one water proof agent added to make water proof cement

    A. Calcium stearate B. Calcium chloride

    C. Sodium chloride D. Calcium sulphate

13. Fibre reinforced composite can fail due to

A. Breaking of fibres B. Micro cracking

C. Debonding D. All the three

14. Which one of the following is a natural composite?

A. Wood B. Cement C. Concrete D. Glass

15. Which one of the following is not used for preparing composites?

A. Glass B. Carbon C. Aramid D. sand

16. Give an example for layered composite

A. Plywood B. Cement C. Lime D. Concrete

17. Temporary hardness in water is caused by the presence of

A. sodium chloride B. Calcium bi carbonate

C. Calcium chloride D. Potassium nitrate

18. The trade name given to Sodium hexa meta phosphate is

A. Exchange resin B. calcium phosphate C. Calgon D. zeolite

19. Which one of the following is not responsible for hardness

A. Calcium chloride B. Calcium bi carbonate

C. dissolved sodium salts D. dissolved calcium and magnesium salts

20. Sea water is purified by using

A. lime soda process B. Permuit process

C. Reverse osmosis process D. Calgon conditioning

PART B (5 X 12 = 60 Marks)

21. (a) (i) Distinguish between thermosetting and thermoplastic polymers with one example. (6)

(ii) Write notes on mechanism of addition polymerization. (6)

(OR)

(b) (i) Explain the effect of structure on polymer properties (6)

(ii) Explain the preparation, properties and uses of epoxy resins. (6)

22. (a) (i) Explain the various factors that influences corrosion. (6)

(ii) Write a note on stress corrosion. (6)

(OR)

(b) (i) Explain cathodic protection technique for the prevention of corrosion. (6)

(ii) Explain the constituents and functions of paint. (6)

23 (a) (i) Write notes on White Portland cement, Water proof cement, Sorel cement and High alumina cement (6)

(ii) Write the preparation, properties and uses of magnesite and silica bricks. (6)

(OR)

(b) (i) Describe the process of setting and hardening of cement concrete (6)

(ii) What are the requisites of good refractories? (6)

24. (a) i) What are composite materials? Discuss some important types of fibre reinforced composites? (6)

ii)Write a note on Metal Matrix Composites? (6)

(OR)

(b) i) Explain various constituents of composite materials and the role of interface in composites. (6)

ii) Write a note on Ceramic Matrix Composites? (6)

25. (a) i) Discuss in detail the softening of water by internal treatment methods (6)

ii) Write a note on reverse osmosis process with neat diagram (6)

(OR)

(b) i) Explain the various steps involved in domestic water treatment methods? (6)

ii) Write a note on electro -dialysis process with neat diagram (6)

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