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Total Number of Pages :2

B.TECH. DEGREE EXAMINATION-Nov-Dec.2018

End Semester Examination-I Semester

BBSBS1022-Engineering Chemistry

(Regulations 2017)(Common to AEIE, CSE, ECE, and IT Branches)

Time : 3 Hours

Maximum : 100 Marks

Question Code:51312A

Answer ALL Questions

PART-A (10 X 2=20 Marks)

1. (a) Cation exchange resin exchangesion [CO1] [PO1]
(a) Anion (b) Cation (c) Both (d) None
- (b) Temporary Hardness is removed by [CO1] [PO1]
(a) Conditioning (b) Boiling (c) Filtering (d) Screening
- (c) Addition of washing soda removes [CO1] [PO1]
(a) softness of water (b) temporary hardness of water (c) permanent hardness of water (d) hydrogen from water
- (d) Larger the size of.....higher is the rate of corrosion [CO2][PO1]
(a) Cathodic area (b) Anodic area (c) Both d) None
- (e) Corrosion is..... reaction [CO2][PO1]
(a) Electrochemical (b) Altered reaction in presence of H₂O
(c) Union between light metal and heavy metal (d) Reduction
- (f) In galvanic corrosion metal gets corroded at [CO2][PO1]
(a) Anode (b) Cathode (c) Both (d) None
- (g) Which of the following is a synthetic polymer [CO4][PO1]
(a) Rubber (b) Protein (c) PMMA (d) Cellulose
- (h) Which is used in the formation of Nylon-6,6 [CO4][PO2]
(a) Adipic Acid (b) Phthalic Acid (c) Sulphurous Acid (d) Acetic Acid
- (i) Which of the followings is not a polymer? [CO4][PO2]
(a) Glycogen (b) Ice (c) Starch (d) Natural Rubber
- (j) Which of the following is used to make non-stick cookware [CO4][PO1]
(a) PVC (b) PMMA (c) Teflon (d) Polystyrene

PART-B (10 X 2=20 Marks)

2.
 - (a) What are the disadvantages of hardness in domestic water. [CO1][PO1]
 - (b) How the temporary hardness can be removed? [CO1][PO1]
 - (c) What do you mean by softening of water. [CO1][PO1]
 - (d) How the increase in temperature effects the rate of corrosion? [CO2][PO2]
 - (e) In which medium corrosion takes place severely. [CO2][PO1]
 - (f) Differentiate primary and secondary fuel. [CO3][PO2]
 - (g) Write two advantages of gaseous fuel. [CO3][PO2]
 - (h) Define Octane Number and Cetane Number [CO3][PO2]
 - (i) Give two examples of thermoplastic thermosetting plastic. [CO4][PO1]
 - (j) Rewrite the two uses of PVC. [CO4][PO1]



PART-C (4 X 15=60 Marks)

3. (a) (i) Distinguish between scale and sludge. [5][CO1][PO1]
(ii) What is hardness ? How hardness of water can be calculated by EDTA method. [10][CO1][PO1]
- (or)**
- (b) (i) Why coagulants are used in cold lime soda process. Write any two coagulants. [5][CO1][PO1]
(ii) Explain the softening of water by in exchange process. [10][CO1][PO1]
4. (a) (i) Differentiate between wet and dry corrosion. [5][CO2][PO1]
(ii) Define corrosion and Explain wet corrosion with example. [10][CO2][PO1]
- (or)**
- (b) (i) How the nature of oxide films affects the corrosion. Discuss with suitable example. [5][CO2][PO1]
(ii) Discuss various factors that influence the rate of corrosion. [10][CO2][PO1]
5. (a) (i) Define the term cracking and discuss about thermal cracking. [7][CO3][PO1]
(ii) Write the advantages of LPG and CNG. [8][CO3][PO1]
- (or)**
- (b) (i) Write short notes on fractional distillation of petroleum. [7][CO3][PO1]
(ii) What do you mean by knocking? What are the antiknocking agent used? [8][CO3][PO1]
6. (a) (i) Explain Polyaniline [7][CO4][PO1]
(ii) Define polymer . Write the classification of polymer. [8][CO4][PO1]
- (or)**
- (b) (i) Difference between thermoplastic and thermosetting plastic. [5][CO4] [PO1]
(ii) Write the polymerization, properties and uses of the following [5+5][CO4][PO1]
(a) PVC
(b)PE