QUESTION BANK

ENGINEERING CHEMISTRY (3300006) /SEM-1,2

SUBJECTIVE QUESTIONS

Sr. No.	Question	BTL	CO
1	Define Catalytic promoter and catalytic inhibitor.		1
2	Melting Point of sulfur molecule is greater than phosphor molecule, why?		1
3	Explain Hydrogen bond with suitable example.		1
4	Explain types of catalysis with suitable example.		1
5	Define H-bond and give one example for H-bonded molecules.		1
6	Explain the types of catalysis with example.		1
7	Explain electrovalent (ionic) bond with suitable example.		1
8	Give importance of Hydrogen bonding.		1
9	Define : Catalytic promoter and Catalytic inhibitor		1
10	Explain Covalent bond with suitable examples.		1
11	Explain Hydrogen bonding with suitable example.		1
12	What is catalysis? Give its types of with suitable example of each.		1
13	Define Ionic bond and give its one example.		1
14	What is Catalysis? Give classification of Catalysis.		1
15	Draw FCC and BCC types of arrangements.		1
16	What is Hydrogen bond? Write its types with suitable examples.		1
17	Write industrial applications of Catalyst.		1
18	Define Catalytic Promoter and Catalytic Inhibitor.		
1	Define buffer solution and give the types of and write its applications		2
2	Write the standard condition for an electrochemical cell.		2
3	Calculate the PH of 0.001 M H2SO4 Solution.		2
4	Write about any two uses of electrolysis.		2
5	Draw Electro chemical cell and gives its working.		2
6	Write faraday first and second law with equation.		2
7	What is pH? Write importance of pH in various fields.		2
8	Write in short about electroplating.		2
9	Give definition of Degree of Ionization and its equation.		2
10	Write the standard conditions for electrochemical cell.		2
11	Calculate the PH of 0.001 M aqueous HCl solution.		2
12	Define degree of ionization. Explain factors affecting on degree of ionization.		2
13	Write the significance of PH in various fields.		2
14	Define buffer solution, state its types and explain the mechanism of buffer action with suitable example.		2
15	Write a note on Electro Refining of copper.		2
16	Explain construction and working of Electrochemical cell with figure.		2
17	Explain the working of standard hydrogen electrode with neat and labeled diagram.		2
18	Write the standard conditions for an electrochemical cell.		2
19	Calculate the pH of 0.01M H2SO4 solution.		2
20	Explain the working of an electro chemical cell with a neat and labeled diagram.		2
21	Explain the working of standard hydrogen electrode with a neat and labeled diagram.		2

22	State Faraday's Laws of Electrolysis.		2
23	Explain three factors which affect the conductivity of electrolyte.		2
24	Define buffer solution and write the types of buffer solution with example.		2
25	Explain Nernst equation for calculating the potential of a non-standard electrochemical cell.		2
26	Explain the process of electrotyping with figure.		2
27	What is buffer solution? Give its types with suitable example		2
28	What is degree of ionisation? List only factors affecting degree of ionisation		2
29	What is electrolysis? Give Faraday laws of electrolysis.		2
30	Define pH and give its industrial applications2		2
31	Write a brief note on standard hydrogen electrode.		2
32	Write a short note on (1)Electroplating and (2)Electrotyping		2
1	Define corrosion with suitable example.		3
2	Galvanized containers are not used for storing food stuffs whereas Tin coated can be used, give reason.		3
3	Justify Steel does not get corrode.		3
4	Explain any three factors affecting rate of corrosion.		3
5	Galvanized containers are not used for storing of food stuffs, whereas tin containers are used. Why?		3
6	Define corrosion.		3
7	Explain anodic and cathodic protection of metal from corrosion.		3
8	Explain Pitting corrosion.		3
9	Explain the factors affecting on rate of Corrosion.		3
10	Write faraday's laws of electrolysis.		3
11	List the factors affecting the rate of corrosion.		3
12	Galvanized containers are not used for storing food stuffs whereas tin coated can be used. Give reason.		3
13	Explain the following : 1) Water line corrosion 2) Crevice corrosion.		3
14	What is water-line corrosion? Explain.		3
15	Explain the factors affecting the rate of corrosion.		3
16	Describe mechanism of wet corrosion by galvanic cell action.		3
17	What is the method of cathodic protection? Discuss in detail.		3
18	Define inhibitors and write about different types of inhibitors.		3
19	Explain Pitting corrosion.		
1	Write a short note on (1) CNG (2) Bio Diesel		4
2	A sample of coal has the following percentage composition C = 80 %, H=10%, S = 5%, O = 4%, N = 1%, ash = 9%. Calculate the gross calorific andnet calorific value.		4
3	Define Cetane number.		4
4	Classify fuels with suitable examples.		4
5	Explain refining of petroleum with suitable diagram.		4
6	Define calorific value and give characteristics of ideal fuel.		4
7	Classify coal with suitable examples.		4
8	Write any two Merits and Demerits of Power Alcohol.		4
9	Describe fractional distillation of crude petroleum oil and write the names, properties and uses of obtained liquid fuels		4
10	How the calorific value of solid and liquid fuel is determined by Bombcalorimeter?		4
11	Define calorific value of fuel.		4
12	On ultimate analysis a sample of coal has following percentage composition.		4

	કોલસા નું અંતિમ પૃથક્કરણ કરતા C= 78%, H= 5.2%, O= 10.8% S=1.0% રાખ,=2.3% N = 2.7%,મળે તો તેનું કુલ ઉષ્મીય મૂલ્ય ડ્યુલાંગ નાં સૂત્રથી શોધો.		
13	Write a note on Octane number and Cetane number.		4
14	State two merits and demerits of power alcohol.		4
15	Explain the classification of fuels on the basis of their source with example.		4
16	0.915 gram of a fuel sample was taken in a bomb calorimeter having water equivalent of 136 grams and on complete combustion of the solid fuel, the temperature of 1370 gram of water was raised by2.50C.Calculate the HCV and LCV of the fuel.		4
17	A sample of coal has the following percentage composition C = 80 %, H =10%, S = 5%, O = 4%, N = 1%, ash = 9%. Calculate the gross calorific and net calorific value.		4
18	1. Write a short note on bio diesel. 2. Explain the classification of coal by rank.		4
19	Write Dulong's formula to calculate net calorific value		4
20	Give the types of fuel with suitable example of each class.		4
21	Explain proximate and ultimate analysis of fuels.		4
22	Define fuel and give its classification with example of each.		4
23	Define: Calorific value and Explain its determination by Bomb calorimeter.		4
24	Write brief note on: (i) power alcohol (ii) Bio-diesel		4
25	What is Octane number and Cetane number?		4
26	Describe fractional distillation of crude petroleum oil and name the various liquid fuel obtained with properties and uses.		4
1	Give selection of lubricants for cutting tools and gears.		5
2	Define (1) Saponification number (2) fire point		5
3	Define Lubricant and explain fluid film lubrication.		5
4	Explain any two physical or chemical properties of Lubricant.		5
5	Explain boundary lubrication with suitable example.		5
6	Define Lubricants and write functions of Lubricant.		5
7	What the difference is between flash and fire point?		5
8	Define lubricants and write two functions of lubricants.		5
9	Define the following: (a) viscosity index (b) cloud point (c) saponification number.		5
10	Define Viscosity and saponification number of lubricants		5
11	Explain briefly Fluid film lubrication.		5
12	Explain: What type of lubricants would you select for gears.		5
13	Give classification of lubricants.		5
14	Define Flash point and Fire point.		5
1	Differentiate between Addition and Condensation polymerization.		6
2	Explain vulcanization of rubber and its advantages.		6
3	Write a short note on (1) Bakelite (2) Nylon-66		6
4	Write any four characteristic of Insulating materials.		6
5	Write names and structural formula of monomers used in PAN and Teflon		6
6	Explain Vulcanization of rubber and their advantages.		6
7	Write preparation properties and uses of Polystyrene.		6
8	Write preparation, properties and uses of PTFE (Teflon)		6
9	Classify Polymers on the basis of monomer.		6
10	Write names and structures of monomer of Polyethylene and Polyvinyl chloride.		6
11	Define Polymer and Monomer.		6
12	Distinguish between thermoplastic and thermosetting plastic.		6
13	Define insulating material state the properties and uses of (a) glass wool and (b) Thermocole		6

14	Give synthesis, properties and uses of following (a) Bakelite (b) Neoprene		6
15	Give the name and structure of monomers used in Teflon and PVC.		6
16	Write drawbacks of natural rubber.		6
17	What is Vulcanized rubber? Explain advantages of Vulcanization.		6
18	What is vulcanization of rubber ?		6
19	What are thermoplastics and thermosetting plastics, give examples for each.		6
20	Differentiate between addition and condensation polymers.(four points)		6
21	Write four points of difference between natural and synthetic rubber.		6
22	Explain the properties of (a) polystyrene (b) Bakelite		6
23	Explain classification of polymers based on the molecular structure giving example.		6
24	List four advantages offered by polymers over the conventional materials.		6
25	What are insulating materials, give two properties of an ideal insulating material.		6
26	Write characteristics of insulating materials		6
27	Define insulator and state its type		6
28	Write only names and structural formula of monomers used in PVC and TEFLON		6
29	Give classification of polymers on basis of monomers with suitable examples.		6
30	Give classification of polymers on basis of molecular structure and give classification of each class.		6
31	Give properties and uses of following insulating materials. (i) Glass wool (ii) Thermocole		6
32	(i) Explain condensation polymerization with suitable example. (ii) Distinguish between Thermoplastics and Thermosetting polymers.		6
33	Explain vulcanization of rubber and its advantages.		6
34	Differentiate between an oil paint and varnish.		6
35	Define Insulating material and give its properties.		
36	Differentiate between Thermoplastic and Thermosetting polymer		
1	Write a note on construction and working of Dry cell.		7
2	Write advantages and Disadvantages of Solar cell.		7
3	Differentiate between Primary cell and Secondary cell.		7
4	Explain construction and working of Dry cell with neat and labeled diagram.		7
5	What are solar cell give merits, demerits and uses of solar cell?		7
6	Distinguish between Primary and Secondary cell.		7
7	Explain the construction and working of dry cell with figure.		7
8	Differentiate between primary cell and secondary cell.		7
9	Explain the construction and working of fuel cell with diagram.		7
10	Write four points of advantages and disadvantages of solar cells.		7
11	Explain construction and working of dry cell.		7
12	Explain construction and working of Fuel cell.		7
13	Explain construction and working of Fuel cell		
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