No. of Printed Pages : 4
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220423

2nd Sem. / Branch: Ceramic

Subject : Chemistry applications

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 Symbol of Copper is_____ (CO1)

a) *Ca* b) *Co*

c) *Cu* d) *C*

Q.2 Composition of water gas is_____ (CO2)

a) $CO+H_2$ b) $CO+N_2$

c) $CO+CH_4$ d) CH_4

Q.3 The size of colloidal particles is in the range of_____ (CO4)

a) 0.1nm-1nm b) 1nm-100nm

c) 100nm-1000nm d) None of these

Q.4 How many different categories of glass are there? (CO5)

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Write eight differences between physical adsorption and chemical adsorption. (CO4)

Q.24 What is biogas? Give its composition, properties and uses. (CO2)

Q.25 a) Write the essentials of chemical equation. (CO1)

b) Write down the formula of the following substances.

1) Calcium carbonate (CO1)

2) Magnesium oxide

a) 5 b) 3

c) 4 d) 2

Q.5 Gibb's phase rule for general system is_____ (CO4)

a) P+F =C-1 b) P+F =C+1

c) P+F =C-2 d) F=C - P+2

Q.6 What is the atomic number of oxygen? (CO1)

a) 6 b) 17

c) 8 d) 16

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 What is an atom? (CO1)

Q.8 Define calorific value. (CO2)

Q.9 Full form of C.N.G is_____ (CO2)

Q.10 Define adsorption. (CO4)

Q.11 The chemical formula of Silica is SiO_2. (T/F) (CO5)

Q.12 Define freezing curve. (CO3)

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 Calculate the percentage composition of water (H_2O) (Atomic weight of H = 1 & 0 =16) (CO1)

Q.14 Balance the following equations by hit and trial method. (CO1)

a) $Zn + HCl \quad ZnCl_2 + H_2$

b) $H_2S + SO_2 \longrightarrow S + H_2O$

Q.15 What is water gas? Write its three uses. (CO2)

Q.16 What is the importance of proximate analysis? (CO2)

Q.17 Explain the terms solid phase, liquid phase and gaseous phase. (CO3)

Q.18 Define vaporization and condensation. (CO3)

Q.19 What are lyophilic and lyophobic sols? (CO4)

Q.20 Explain Tyndall effect. (CO4)

Q.21 What are ceramics? Explain its types with example. (CO5)

Q.22 Explain the chemical composition and application of borosilicate glass. (CO5)