

12 MONTHLY TEST- JULY - 2024

Time : 1.30 hrs

CHEMISTRY

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Max.Marks : 50

- I. Choose the best answer: 10x1=10
- Bauxite has the composition
a) Al_2O_3 b) $\text{Al}_2\text{O}_3 \cdot n\text{H}_2\text{O}$ c) $\text{Fe}_2\text{O}_3 \cdot 2\text{H}_2\text{O}$ d) None of these
 - Zinc is obtained from ZnO by
a) Carbon reduction b) Reduction using silver
c) Electrochemical process d) Acid leaching
 - The process of converting hydrated alumina into anhydrous alumina is called
a) Roasting b) Smelting
c) Auto reduction d) Calcination
 - The basic structural unit of silicates is
a) $(\text{SiO}_3)^{2-}$ b) $(\text{SiO}_4)^{2-}$ c) $(\text{SiO})^-$ d) $(\text{SiO}_4)^{4-}$
 - Which of the following is not sp^2 hybridised?
a) Graphite b) Grapheme c) Fullerene d) Dry ice
 - Graphite and diamond are
a) Covalent and molecular crystals
b) Ionic and covalent crystals
c) Both covalent crystals d) Both molecular crystals
 - The crystal with a metal deficiency defect is
a) NaCl b) FeO c) ZnO d) KCl
 - In FCC unit cell of the edge length is $8\sqrt{2}$ pm. The radius of the metal atom is ----- \AA
a) 0.04 b) 0.02 c) 8×10^{-2} d) $8/\sqrt{2}$
 - Which one of the following is the strongest acid
a) 2 - nitrophenol b) 4 - chlorophenol
c) 4 - nitrophenol d) 3 - nitrophenol
 - Williamson synthesis of preparing dimethyl ether is a / an /
a) SN^1 reactions b) SN^2 reaction
c) Electrophilic addition d) Electrophilic substitution

PART - B

5x2=10

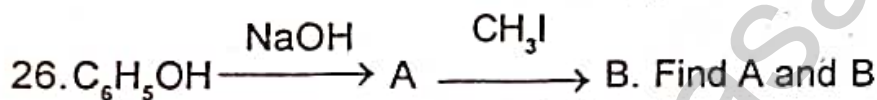
II. Answer any five questions. Q.No 18 is compulsory

- Which type of ores can be concentrated by froth floatation method? Give two examples for such ores.
- Give the limitations of Ellingham diagram. Che / 12 KK/ 1

13. Write Ethyl Borate Test.
14. Give one example for each of the following
 - (i) Icosogens
 - (ii) Pnictogen
15. Why ionic crystals are hard and brittle?
16. Write the preparation of Acrolein.
17. Write the uses of Ethylene Glycol.
18. Calculate the number of atoms in a FCC unit cell.

PART - C**5x3=15****III. Answer any five questions. Q.No 26 is compulsory**

19. Explain the following terms with suitable examples.
 - (i) Gangue
 - (ii) slag
20. Explain Leaching with an example.
21. Give the uses of silicones.
22. Write the preparation of Borazole.
23. Explain Schottky defect.
24. What are covalent crystals? Give an example.
25. Write any three tests to identify phenol.

**PART - D****3x5=15****IV. Answer all the questions**

27. a) Explain Froth Floatation method (5)
(OR)
- b) i) Explain Mond's Process (3)
ii) Write any two uses of Zinc (2)
28. a) Differentiate crystalline solids and amorphous solids. (5)
(OR)
- b) Calculate the percentage efficiency of packing in case of simple cubic crystal. (5)
29. a) i) CO is a reducing agent. Justify with an example. (3)
(OR)
- ii) Complete the reaction $\text{H}_2\text{B}_4\text{O}_7 \longrightarrow ?$ (2)
(OR)
- b) Write the reaction of ethylene glycol with
 - i) Anhydrous ZnCl_2
 - ii) Con. H_2SO_4 (5)

Che/12/KK/2