

## CHEMISTRY

### BOOKS - NEET PREVIOUS YEAR (YEARWISE + CHAPTERWISE)

### METALLURGICAL OPERATIONS

#### Mcq

1. Extraction of gold and silver involves leaching with  $CN^-$  ion. silver is later recovered by:

A. liquation

B. distillation

C. zone refining

D. displacement with Zn

**Answer: D**



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2. Match items of Column I with the items of Column II and assign the correct code:

*Column I*

*Column II*

(A) Cyanide process

(1) Ultrapure Ge

(B) Froth Floatation Process

(2) Dressing of  $ZnS$

(C) Electrolytic reduction

(3) Extraction of Al

(D) Zone refining

(4) Extraction of Au

(5) Purification of Ni

A.    A    B    C    D  
      2    3    1    5

B.    A    B    C    D  
      1    2    3    4

C.    A    B    C    D  
      3    4    5    1

D.    A    B    C    D  
      4    2    3    1

**Answer: D**



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3. In the extraction of copper from its sulphide ore, the metal is finally obtained by the reduction of cuprous oxide with

- A. iron (II) sulphide
- B. carbon monoxide
- C. copper (I) sulphide
- D. sulphur dioxide

**Answer: C**



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4. Roasting of sulphides gives the gas X as a by product. This is a colourless gas with choking smell of burnt sulphur and causes great damage to respiratory organs as a result of acid rain. Its aqueous solution is acidic, acts as reducing agent and its acid has never been isolated. The gas X is :-

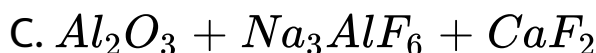


**Answer: B**



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5. Aluminum is extracted from alumine  $Al_2O_3$  by electrolysis of a molten mixture of :



**Answer: C**



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6. Which of the following is not a mineral of iron?

A. Malachite

B. Cassiterite

C. Pyrolusite

D. Magnetite

**Answer: D**



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7. In the extraction of copper from its sulphide ore, the metal is finally obtained by the reduction of cuprous oxide with

A. copper (I) sulphide ( $Cu_2S$ )

B. sulphur dioxide ( $SO_2$ )

C. iron sulphide ( $FeS$ )

D. carbon monoxide ( $CO$ )

**Answer: A**



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8. which of the following elements is present as the impurity to the maximum extent in the pig iron?

A. Carbon

B. Silicon

C. Phosphorus

D. Manganese

**Answer: A**



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9. Which of the following pairs of metals is purified by van Arkel method?

A. Zr and Ti

B. Ag and Au

C. Ni and Fe

D. Ga and In

**Answer: A**



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10. Sulphide ores of metals are usually concentrated by froth floatation process. Which one of the following sulphide ores offers an exception and is concentrated by chemical leaching?

A. Argentite

B. Galena

C. Copper pyrite

D. Sphalerite

**Answer: D**



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11. Which of the following statement above the advantage of roasting of sulphide ore before reduction is not true?

A. Carbon and hydrogen are suitable reducing agents for metal sulphides

B. The  $\Delta_f G^\circ$  of the sulphide is greater than those for  $CS_2$  and  $H_2S$

C. The  $\Delta_f G^\circ$  is negative for roasting of sulphide ore to oxide

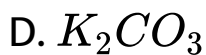
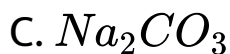
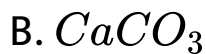
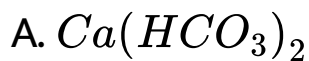
D. Roasting of the sulphide to the oxide is thermodynamically feasible

**Answer: A**



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**12.** A solid compound ' $X$ ' on heating gives  $CO_2$  gas and a residue. The residue mixed with water forms ' $Y$ '. On passing an excess of  $CO_2$  through ' $Y$ ' in water, a clear solution, ' $Z$ ' is obtained. On boiling ' $Z$ ', compound ' $X$ ' is reformed. The compound ' $X$ ' is



**Answer: B**



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**13.** The method of zone refining of metals is based on the principle of :

A. greater noble character of the solid metal than that of the impurity

B. greater solubility of the impurity in the molten state than in the solid

C. greater mobility of the pure metal than that of impurity

D. higher melting point of the impurity than that of the pure metal

**Answer: B**



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**14.** Cassiterite is an ore of

A. Mn

B. Ni

C. Sb

D. Sn

**Answer: D**



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**15.** Purification of aluminum by electrolysis refining is known as

- A. Hall's process
- B. Baeyer's process
- C. Hoope's process
- D. Serpeck's process

**Answer: C**



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**16.** Which one of the following is the major impurity in pig iron?

A. Silicon

B. Oxygen

C. Sulphur

D. Graphite

**Answer: D**

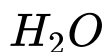


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17. Calcium is obtained by the

A. roasting of limestone

B. electrolysis of solution of calcium chloride in



C. electrolysis of molten anhydrous calcium  
chloride

D. reduction of calcium chloride with carbon

**Answer: C**



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**18.** Elemental  $Si$  is to be used as a semiconductor is purified by

A. heating under vacuum

B. floatation

C. zone refining

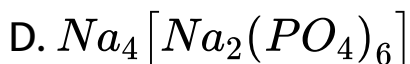
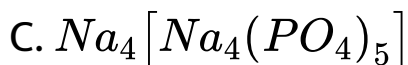
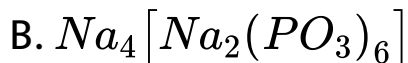
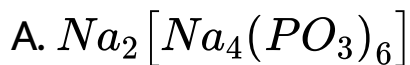
D. electrolysis

**Answer: C**



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19. Calgon used as water softener is



**Answer: A**



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20. Which of the following evolve hydrogen on reacting with cold dilute nitric acid ?

A. Mg

B. Al

C. Fe

D. Cu

**Answer: A**



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21. The reaction of  $H_2O_2$  with hydrogen sulphide is an example of ..... reaction.

A. addition

B. oxidation

C. reduction

D. acidic

**Answer: B**



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