

7.1 HEAVY METALS- COPPER

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1. A metal (M) forms thiosulphate with molecular formula $M_2S_2O_3$. The valency of the metal is
A. 1 b. 2 c. 3 d. 4
2. Malachite is
A. Cu_2S b. $CuFeS_2$ c. $CuCO_3 \cdot Cu(OH)_2$ d. $CuCO_3$
3. Copper pyrites are concentrated mainly by:
A. Electromagnetic separation b. Gravity method
B. Froth floatation method c. All of the above
4. Which of the following ores is concentrated by the froth-flotation process
A. Haematite b. Malachite c. Galena d. Calamine
5. During smelting, an additional substance is added, which combines with impurities to form a fusible product known as
A. Gangue b. Slag c. Flux d. anode mud
6. In the extraction of copper, copper matte is the mixture of
A. Copper (I) sulphide and iron (III) sulphide
B. Copper (I) sulphide and iron (II) sulphide
C. Copper (II) sulphide and iron (II) sulphide
D. Copper (II) sulphide and iron (III) sulphide
7. Copper matte mainly contains:
A. Cu_2S and Fe_2S_3 B. Cu_2S and FeS C. CuS and FeS D. CuS and Fe_2S_3
8. Copper is extracted from copper pyrite ore by heating in a blast furnace. The method is based on the principle that
A. Copper has more affinity for oxygen than sulphur at high temperatures.
B. Iron has less affinity for oxygen and sulphur at high temperatures.
C. Sulphur has less affinity for oxygen at high temperatures.
D. Copper has less affinity for oxygen than sulphur at high temperature.
9. During the extraction of copper from copper pyrites, iron sulphide is removed because:
A. Iron has a greater affinity for oxygen than copper
B. Copper is more reactive than iron
C. Sulphur is reduced to sulphide
D. Copper oxide is more stable than iron oxide
10. Blister copper is
A. Ore of Cu b. $CuCO_3 \cdot Cu(OH)_2$ c. Alloy of Cu d. Cu containing about 2 % impurity
11. What is blister copper?
A) An alloy of copper B) Pure copper C) Copper with 1-2% impurity D) Ore of copper
12. The major components of brass are
A. Cu and Zn b. Zn and Sn c. Cu and Fe d. Fe and Zn
13. Which element is added with copper to form bronze?
A. Fe b. Mn c. Sn d. Zn
14. Bell metal is an alloy of
A. Cu, Pb and Sn b. Sn and Cu c. Zn and Pb d. Zn, Cu and Sn
15. German silver is an alloy of
A. Fr, Cr, Ni b. Cu, Zn, Ag c. Cu, Zn, Ni d. Cu, Sn, Al
16. Which of the following is the composition of bronze?
A. Cu, Pb, and Sn b. Sn and Cu c. Zn and Pb d. Zn, Cu and Sn
17. Which of the following elements is alloyed with copper to form brasses?
A. Lead b. Bismuth c. Zinc d. antimony

18. A deep blue complex is formed when conc. Ammonium hydroxide is added to an aqueous solution of CuSO_4 . Which of the following formulae represents the complex?
 A. $[\text{Cu}(\text{NH}_3)_2]^{2+}$ b. $[\text{Cu}(\text{NH}_3)_4]^{2+}$ c. $[\text{Cu}(\text{NH}_3)_6]^+$ d. $[\text{Cu}(\text{NH}_3)_4]^+$
19. Estimation of Cu^{++} ions present in a solution can be carried out by gravimetric analysis. In this method, Cu^{++} ions should be converted into...
 A. CuCl_2 b. CuSO_4 c. CuO d. $\text{Cu}(\text{NO})_2$
20. In electrolytic refining, where does the pure copper deposit?
 A. Anode b. Anode mud c. Cathode mud d. Cathode
21. What do we call the impurities that settle during the electrorefining of copper?
 A. Anode mud b. Cathode mud c. Slag d. Flux
22. Which of the following compositions represents copper matte?
 A. $\text{CuFeS}_2 + \text{SO}_2$ b. $\text{Cu}_2\text{S} + \text{FeS}$ c. $\text{Cu}_2\text{O} + \text{CuS}$ d. $\text{FeS} + \text{CuO}$
23. Bronze is an alloy of copper and
 A. Tin b. Zinc c. Steel d. cast iron
24. German silver is
 A. silver made in Germany c. an alloy of silver
 B. an alloy of copper d. a silvery white paint
25. Which of the following compounds is called blue vitriol?
 (a) Cu_2O (b) $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ (c) CuCl_2 (d) Cu_2Cl_2
26. Bell metal is an alloy of:
 a) $\text{Cu} + \text{Zn}$ b) $\text{Cu} + \text{Ni}$ c) $\text{Cu} + \text{Sn}$ d) $\text{Cu} + \text{Pb}$
27. Which of the following is the black oxide of copper?
 A) $\text{Cu}(\text{OH})_2$ B) CuFeS_2 C) Cu_2O D) CuO
28. Which of the following is not a double salt
 a. Mohr's salt b. carmellite c. potash alum d. basic copper carbonate
29. During the electrolytic purification of blister copper, the metals left behind as anode mud are
 a. Zn and Pb b. Ag and Au c. Fe and Sn d. none

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