

JEE CHEMISTRY

Topic: Metallurgy

- The process of heating pyrites in the presence of air for oxidising sulphur is called
(a) roasting (b) smelting
(c) calcination (d) annealing
- The metallurgical process in which a metal is obtained in a fused state is called
(a) smelting (b) roasting
(c) calcination (d) froth floatation
- The most abundant element on the earth's crust is
(a) hydrogen (b) oxygen
(c) silicon (d) carbon
- Zone refining is a method to obtain
(a) a very high temperature (b) ultra pure Al
(c) ultra pure metals (d) ultra pure oxides
- The impurities associated with minerals used in metallurgy are collectively known as
(a) slag (b) flux
(c) gangue (d) ore
- Galena is an ore of
(a) lead (b) mercury
(c) tin (d) zinc
- Which of the following flux is used to remove acidic impurities in metallurgical processes?
(a) silica (b) lime stone
(c) sodium chloride (d) sodium carbonate
- The chief source of iodine, in which iodine is present as sodium iodate, is
(a) carnallite (b) sea weeds
(c) caliche (d) iodine does not exist as sodium iodate
- Malachite is an ore of
(a) iron (b) copper
(c) mercury (d) zinc
- Which of the following elements is extracted commercially by the electrolysis of an aqueous solution of its compound?
(a) chlorine (b) bromine
(c) sodium (d) aluminium

11. Which of the following is manufactured by Siemens Martin process?
(a) pig iron (b) cast iron
(c) wrought iron (d) steel
12. Which of the following crystals acquire a brownish-yellow colour due to atmospheric oxidation?
(a) MgSO_4 (b) CaSO_4
(c) FeSO_4 (d) CuSO_4
13. FeSO_4 reduces
(a) acidic KMnO_4 (b) acidic $\text{K}_2\text{Cr}_2\text{O}_7$
(c) HgCl_2 (d) all of the above
14. A chocolate-brown precipitate is formed by adding potassium ferrocyanide to
(a) FeSO_4 (b) CuSO_4
(c) $\text{Al}_2(\text{SO}_4)_3$ (d) ZnSO_4
15. The molten matte obtained after the treatment of copper pyrites in a blast furnace is
(a) Cu_2S (b) $\text{Cu}_2\text{S} + \text{FeS}$
(c) $\text{Cu}_2\text{S} + \text{Fe}_2\text{S}_3$ (d) $\text{CuS} + \text{Fe}_2\text{S}_3$
16. Iron is rendered passive by treating it with
(a) conc. H_2SO_4 (b) conc. HCl
(c) conc. HNO_3 (d) conc. H_2PO_4
17. The compound which gives oxygen on moderate heating is
(a) cupric oxide (b) mercuric oxide
(c) zinc oxide (d) aluminium oxide
18. Thomas slag is
(a) $\text{Ca}_3(\text{PO}_4)_2$ (b) MnSiO_3
(c) CaSiO_3 (d) FeSiO_3
19. Which of the following metals does not liberate H_2 from dilute H_2SO_4 ?
(a) Al (b) Mg
(c) Zn (d) Cu
20. Invar is an alloy of
(a) steel and chromium (b) steel and nickel
(c) tungsten and chromium (d) molybdenum and tungsten
21. Cyanide process is used for obtaining
(a) Cr (b) Ag
(c) Cu (d) Zn
22. Which of the following metals cannot be extracted by carbon reduction process?
(a) Pb (b) Al
(c) Hg (d) Zn

23. One of the following metals forms a volatile compound and this property is taken advantage of for its extraction. The metal is
 (a) iron (b) nickel
 (c) cobalt (d) tungsten
24. Chromium is obtained by reducing purified chromite ore with
 (a) red-hot coke (b) gaseous hydrogen
 (c) aluminium powder (d) carbon monoxide
25. The slag obtained during the extraction of Cu is mainly composed of
 (a) Cu_2S (b) FeSiO_3
 (c) CuSiO_3 (d) SiO_3
26. In a blast furnace, the maximum temperature is in
 (a) zone of fusion (b) zone of combustion
 (c) zone of slag formation (d) zone of reduction
27. Cassiterite is an ore of
 (a) Mn (b) Ni
 (c) Sb (d) Sn
28. Nickel is purified by thermal decomposition of its
 (a) hydride (b) chloride
 (c) azide (d) carbonyl
29. Silver containing lead as an impurity is removed by
 (a) poling (b) cupellation
 (c) lavigation (d) distillation
30. The lustre of a metal is due to
 (a) its high density (b) its high polishing
 (c) its chemical inertness (d) presence of free electrons

ANSWER KEY

Que.	1	2	3	4	5	6	7	8	9	10
Ans.	A	A	B	C	C	A	B	C	B	A
Que.	11	12	13	14	15	16	17	18	19	20
Ans.	D	C	D	B	B	C	B	A	D	B
Que.	21	22	23	24	25	26	27	28	29	30
Ans.	B	B	B	C	B	B	D	D	B	D