

GENERAL INTRODUCTION TO METALLURGY

ANSWER ALL THE QUESTIONS:

- 1) The earth impurities associated with are called
a) Gangue b) Mineral c) Ore d) Flux
- 2) Malachite is made of
a) Oxide b) Sulphide c) Carbonate d) Halide
- 3) Very pure metal is purified by
a) Froth floatation b) Chemical method c) calcination d) Smelting
- 4) Ore is converted into metal oxide by the process is
a) Roasting b) Smelting c) Zone refining d) Reduction
- 5) As in bessemerization process the lining of silica brick is used and the process is known as
a) Acid bessemer b) Basic bessemer c) Neutral bessemer d) Bessemerization
- 6) The insoluble impurities either dissolve in the electrolyte or fall at the bottom and collect as
a) Anode mud b) Cathode mud c) Electrolyte mud d) Blister, copper
- 7) Copper is refined to 99.98 % pure copper by
a) Electrolyte refining b) Mond process c) Zone refining d) Froth floatation
- 8) A highly pure metal is prepared by
a) Mond process b) Zone refining c) Roasting d) Bessemerization
- 9) Other name of carbonyl method is
a) Zone refining b) Electrolytic refining c) Thermal method d) Oxidation method
- 10) The biggest source of metal is the earth crust and the process of taking out the ore from the earth crust is called
a) Mining b) Mineral c) Ore d) Flux
- 11) An example of halide ore
a) Zincite b) Dolomite c) Rock salt d) Felspar
- 12) Which type of ore is suitable for froth floatation process
a) Sulphide ore b) Carbonate ore c) Bauxite ore d) Silicate ore
- 13) In a magnetic separation process impurities fall from the belt in a heap near the magnet and while non-magnetic concentrated ore is always from the magnet due to the influence of
a) Centrifuge force b) Centripetal force c) Electrostatic force d) Gravitational force
- 14) Which is noble metal
a) Neon b) Zinc c) Gold d) Aluminum
- 15) Formula of limonite
a) $ZnCO_3$ b) $CaCO_3$ c) $2Fe_2O_3 \cdot H_2O$ d) $MgCO_3$

II ANSWER ALL THE QUESTIONS: (21 is compulsory)**2×6=12**

- 16) Mention the fact by the mond process ?
- 17) What are the noble impurities are present in copper pyrites ore?
- 18) Define anode mud?
- 19) Write the different type of steel based on the carbon content?
- 20) What is smelting?
- 21) Mention the composition of earth crust?
- 22) Write any three halide ores with formula?
- 23) What is meant by electrolytic refining?
- 24) What are the major steps involved in metallurgical process?

III ANSWER ALL THE QUESTIONS: (30 is compulsory)

- 25) (i) Mention the source from sea (1)
(ii) Mention the noble metals (2)
- 26) Write a note on hydraulic washing (3)
- 27) (i) Define reduction? (1)
(ii) Define oxidation with equation? (2)
- 28) Write the principle for zone refining process? (3)
- 29) Mention anode , cathode and electrolyte by electrolytic refining of copper ? (3)
- 30) Mention the ore of aluminum, copper, lead, zinc, magnesium, iron with equation ? (3)
- 31) (i) What you mean by slag?
(ii) Write example?
- 32) Distinguish between ore and mineral ? (3)
- 33) What are the different methods of concentration of ores? (3)

IV ANSWER ALL THE QUESTIONS:

- 34) Write a short note on source of element in living system?
(or)
How will you separate magnetic impurities from Non - magnetic impurities?
- 35) Explain thermal decomposition process?
(or)
- 36) Explain Bessemerisation ?
(or)
Explain zone refining ?
- 37) Explain chemical method ?
(or)
Explain froth flotation ?
- 38) Write a short note on source of element from earth ?
(or)
Tabulate descending mass abundance of elements of earth crust , ocean and humans ?