Question 20: Red lead on reaction with dil.

HNO₃ form

(B) PbO_2

(C) PbO + Pb(
$$NO_3$$
)₂

(D) $PbO_2 +$

 $Pb(NO_3)_2$

Solution:

 $Pb_3O_4 + 4HNO_3 \rightarrow 2Pb(NO_3)_2 + PbO_2 + 2H_2O_3$

(D)

Question 18: Carbon dioxide is isostructural with

(A) HgCl₂

(B) SnCl₂

(C) C_2H_6

(D) NO₂

Solution:

HgCl₂ → linear structure

CO₂ → linear structure

(A)

Question 19: Which of the following oxides is neutral

(A) CO

(B) SnO_2

(C) SiO₂

(D) ZnO

Solution:

 SiO_2 is acidic, ZnO and SnO_2 are amphoteric only CO is neutral.

Question 17: AICI₃ fumes in air because of

(A) hydrolysis

(B)

dehydrates

(C) reduction

(D)

oxidation

Solution: It undergoes hydrolysis and gives fumes of HCl

 $AICI_3 + 3H_2O \rightarrow AI(OH)_3 + 3HCI$

(A)

Question 18: Carbon dioxide is isostructural with

(A) HgCl₂

(B) SnCl₂

(C) C_2H_6

(D) NO_2

Solution:

HgCl₂ → linear structure

CO₂ → linear structure

Question 15: Setting of plaster of paris involves

- (A) Oxidation by atmospheric oxygen
- (B) Reaction with atmospheric carbon dioxide
- (C) Dehydration
- (D) Hydration to yield another hydrate

Solution:

 $CaSO_4 \times 1/2H_2O \rightarrow CaSO_4 \times 2H_2O$

When mixed with water, it forms a plastic mass, within about half an hour, sets to a hard solid mass consisting of interlaced crystals of gypsum.

(D)