STD: XII

Marks: 30 / Time: 45 Min.

ONE MARK TEST – 1

CHEMISTRY

Lesson: 1 & 6

Choose the correct answer.

1. In the froth floatation process for the purification of ores, the particles float because
   a) they are light
   b) their surface is not easily wetted by water
   c) they bear electrostatic charge
   d) they are insoluble

2. The metal oxide which cannot be reduced to metal by carbon is
   a) PbO
   b) Al_2O_3
   c) ZnO
   d) FeO

3. Which of the following reduction is not thermodynamically feasible?
   a) $Cr_2O_3 + 2Al \rightarrow Al_2O_3 + 2Cr$
   b) $Al_2O_3 + 2Cr \rightarrow Cr_2O_3 + 2Al$
   c) $3TiO_2 + 4Al \rightarrow 2 Al_2O_3 + 3Ti$
   d) none of these

4. Frothing agent used in froth floatation process is _____.
   a) pine oil
   b) olive oil
   c) mustard oil
   d) neem oil

5. Which one of the following is not feasible
   a) $Zn(s) + Cu^{2+}(aq) \rightarrow cu(s)+Zn^{2+}(aq)$
   b) $Cu(s) + Zn^{2+}(aq) \rightarrow Zn(s) + Cu^{2+}(aq)$
   c) $Cu(s) + 2Ag^+(aq) \rightarrow 2Ag(s) + Cu^{2+}(aq)$
   d) $Fe(s) + Cu^{2+}(aq) \rightarrow Cu(s) + Fe^{2+}(aq)$

6. Leaching is also called as _____.
   a) hand picking
   b) Electrolysis
   c) Chemical process
   d) magnetic separation process

7. Extraction of gold and silver involves leaching with cyanide ion. silver is later recovered by
   a) Distillation
   b) Zone refining
   c) Displacement with zinc
   d) liquation

8. A chemical substance that forms an easily fusible slag with gangue is called as
   a) flux
   b) pure metal
   c) ore
   d) impure metal

9. Bauxite has the composition
   a) Al_2O_3
   b) $Al_2O_3.nH_2O$
   c) $Fe_2O_3 2H_2O$
   d) None of these

10. For spontaneous reaction, the change in free energy should be _____.
    a) positive
    b) negative
    c) zero
    d) neutral

11. The incorrect statement among the following is
    a) Nickel is refined by Mond's process
    b) Titanium is refined by Van Arkel's process
    c) Zinc blende is concentrated by froth floatation
    d) In the metallurgy of gold, the metal is leached with dilute sodium chloride solution

12. Which of the following is not purified by zone refining process?
    a) Ge
    b) Si
    c) Ga
    d) Al

13. Which one of the following ores is best concentrated by froth – floatation method?
    a) Magnetite
    b) Haematite
    c) Galena
    d) Cassiterite

14. Haematite and tin stone are purified by _____.
    a) gravity separation process
    b) magnetic separation process
    c) froth floatation process
    d) handpicking

15. In the Ellingham diagram, for the formation of carbon monoxide
    a) $\left(\frac{\Delta S^\circ}{\Delta T}\right)$ is negative
    b) $\left(\frac{\Delta G^\circ}{\Delta T}\right)$ is positive
    c) $\left(\frac{\Delta G^\circ}{\Delta T}\right)$ is negative
    d) initially $\left(\frac{\Delta T}{\Delta G^\circ}\right)$ is positive, after $700^\circ C$, $\left(\frac{\Delta G^\circ}{\Delta T}\right)$ is negative

16. Schottky defect in a crystal is observed when
    a) unequal number of anions and cations are missing from the lattice
    b) equal number of cations and anions are missing from the lattice
    c) an ion leaves its normal site and occupies an interstitial site   d) no ion is missing from its la[...]

17. Silicon carbide is an example of
    a) Ionic solid
    b) Covalent solid
    c) Polar molecular solid
    d) Non – polar molecular solid

18. If 'a' is the length of the side of the cube, the distance between the body centered atom and one corner at[...]
    in the cube will be   a) $\left(\frac{2}{\sqrt{3}}\right) a$ b) $\left(\frac{4}{\sqrt{3}}\right) a$ c) $\left(\frac{\sqrt{3}}{4}\right) a$ d) $\left(\frac{\sqrt{3}}{2}\right) a$

19. Molecular solids contains neutral molecules held together by _____.
    a) strong cohesive forces   b) weak vanderwaals forces   c) weak ionic forces   d) strong electrostatic forces

20. Which is the coordination number in both hcp and ccp arrangements?
    a) 12   b) 6   c) 4   d) 8

21. The radius of an atom is 300pm, if it crystallizes in a face centered cubic lattice, the length of the edge of the unit cell is
    a) 488.5pm   b) 848.5pm   c) 884.5pm   d) 484.5pm

22. Which one of the following is a covalent crystal?
    a) Glass   b) Diamond   c) Anthracene   d) Glucose

23. CsCl has bcc arrangement, its unit cell edge length is 400pm, its inter atomic distance is
    a) 400pm   b) 800pm   c) $\sqrt{3} \times 100$pm   d) $\left(\frac{\sqrt{3}}{2}\right) \times 400$pm

24. The number of atoms belongs to fcc unit cell is _____.
    a) 2   b) 4   c) 6   d) 12

25. The number of unit cells in 8 gm of an element X (atomic mass 40) which crystallizes in bcc pattern is
    (N_A is the Avogadro number) a) 6.023×10^{23} b) 6.023×10^{22} c) 60.23×10^{23} d)$\left(\frac{6.023 \times 10^{23}}{8 \times 40}\right)$

26. Which one of the following is an ionic crystal?
    a) Glass   b) Rubber   c) NaCl   d) SiO_2

27. The crystal with a metal deficiency defect is
    a) NaCl   b) FeO   c) ZnO   d) KCl

28. Which one of the following formula is used to calculate the density of the unit cell?
    a) $\rho = nM/a^3 N_A$ b) $\rho = a^3 N_A/nM$ c) $\rho = N_A a^3 n/M$ d) $\rho = a^3 N_A n$

29. The ratio of close packed atoms to tetrahedral hole in cubic packing is
    a) 1:1   b) 1:2   c) 2:1   d) 1:4

30. Graphite and diamond are   a) Covalent and molecular crystals   b) ionic and covalent crystals
                                c) both covalent crystals   d) both molecular crystals

1. Metallurgy. 12. Carbonyl Compounds carboxylic Acids.

1.	b]	their Surface is not easily wetted by water
2.	b]	Al_2O_3
3.	b]	$Al_2O_3 + 2Cr \rightarrow Cr_2O_3 + 2Al$
4.	a]	Pine oil
5.	b]	$Cu(s) + Zn^{2+}(aq) \rightarrow Zn(s) + Cu^{2+}_{(aq)}$
6.	c]	Chemical Process
7.	a]	Displacement with Zinc
8.	c]	flux
9.	b]	$Al_2O_3 \cdot nH_2O$
10.	b]	negative
11.	d]	In the metallurgy of gold, the metal is leached with dilute Sodium chloride solution
12.	d]	Al
13.	c]	Galena
14.	a)	gravity separation process
15.	c]	$\left(\dfrac{\Delta G^\circ}{\Delta T}\right)$ is negative
16.	b]	equal number of cations and anions are missing from the laltic
17.	b]	covalent solid
18.	d]	$\left(\dfrac{\sqrt{3}}{2}\right) a$
19.	b]	weak vanderwaals force
20.	a]	12

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21.	a]	488.5 pm
22.	b]	Diamond
23.	d]	$\left(\frac{\sqrt{3}}{2}\right) \times 400$ pm
24.	b]	4
25.	a)	6.023×10^{23}
26.	c]	NaCl
27.	b]	FeO
28.	a]	$P = n Ma/a^3 Na$
29.	b]	1 : 2
30.	c]	both covalent crystalls.