

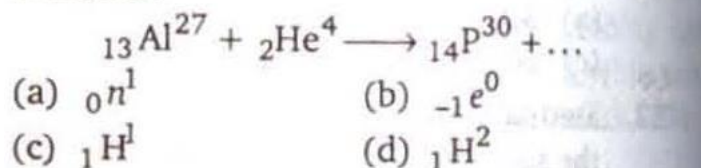
1. If the wavelength of photon is 2.2×10^{-11} m, $h = 6.6 \times 10^{-34}$ J-s, then momentum of photon is

- (a) 3×10^{-23} kg ms⁻¹
- (b) 3.33×10^{22} kg ms⁻¹
- (c) 1.452×10^{-44} kg ms⁻¹
- (d) 6.89×10^{43} kg ms⁻¹

2. In a given atom no two electrons can have the same values for all the four quantum numbers. This is called

- (a) Hund's rule
- (b) Aufbau's principle
- (c) Uncertainty principle
- (d) Pauli's exclusion principle

3. Which of the following particle is emitted in the reaction ?



4. For reaction, $2\text{NOCl}(g) \rightleftharpoons 2\text{NO}(g) + \text{Cl}_2(g)$, K_c at 427°C is 3×10^{-6} L mol⁻¹. The value of K_p is nearly

- (a) 7.5×10^{-5}
- (b) 2.5×10^{-5}
- (c) 2.5×10^{-4}
- (d) 1.72×10^{-4}

5. What is the order of a reaction which has a rate expression rate = $k(A)^{3/2}(B)^{-1}$?

- (a) 3/2 (b) 1/2
- (c) 0 (d) None of these

6. Which compound is highest covalent ?

- (a) LiCl (b) LiF
- (c) LiBr (d) LiI

7. Shape of XeF_4 molecule is
(a) linear (b) pyramidal
(c) tetrahedral (d) square planar
8. An aqueous solution of glucose is 10% in strength. The volume in which 1 g mole of it is dissolved will be
(a) 18 L (b) 9 L
(c) 0.9 L (d) 1.8 L
9. Which one of the following elements has the highest ionisation energy ?
(a) $[\text{Ne}]3s^2 3p^1$ (b) $[\text{Ne}]3s^2, 3p^2$
(c) $[\text{Ne}]3s^2 3p^3$ (d) $[\text{Ar}]3d^{10} 4s^2 4p^2$
10. Important ore of zinc is
(a) calamine (b) cryolite
(c) cassiterite (d) malachite
11. A metal which is refined by polling is
(a) sodium (b) blister copper
(c) zinc (d) silver
12. Nessler's reagent is
(a) KHgI_4 (b) $\text{K}_2\text{HgI}_4 + \text{NH}_4\text{OH}$
(c) $\text{K}_2\text{HgI}_4 + \text{KOH}$ (d) $\text{KHgI}_4 + \text{NH}_4\text{OH}$
13. A brown ring appears in the test for
(a) nitrate (b) nitrite
(c) bromide (d) iron
14. Potassium is kept in
(a) alcohol (b) water
(c) kerosene (d) liquid ammonia

15. Glauber salt is
(a) $\text{MgSO}_4 \cdot \text{H}_2\text{O}$ (b) $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$
(c) $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$ (d) $\text{Na}_2\text{SO}_4 \cdot 10\text{H}_2\text{O}$
16. The liquid field metal expanding on solidification is
(a) Ga (b) Al
(c) Zn (d) Cu
17. Which of the following oxides of nitrogen is the anhydride of nitrous acid ?
(a) NO (b) N_2O_3
(c) N_2O_4 (d) N_2O_5
18. Which one below is a pseudohalide ?
(a) CN^- (b) ICl
(c) IF_5 (d) I_3^-
19. Which of the following gas mixture is used by the divers inside the sea ?
(a) $\text{O}_2 + \text{He}$ (b) $\text{O}_2 + \text{Xe}$
(c) $\text{O}_2 + \text{Ar}$ (d) $\text{O}_2 + \text{N}_2$
20. In which of the following metallic bond is strongest ?
(a) Fe (b) Sc
(c) V (d) Cr
21. Acidified potassium permanganate solution is decolourised by
(a) bleaching powder
(b) white vitriol
(c) Mohr's salt
(d) microcosmic salt

22. The pressure and temperature of 4 dm^3 of carbon dioxide gas are doubled. Then volume of carbon dioxide gas would be
(a) 2 dm^3 (b) 3 dm^3
(c) 4 dm^3 (d) 8 dm^3
23. An fcc unit cell of aluminium contains the equivalent of how many atoms ?
(a) 1 (b) 2
(c) 3 (d) 4
- Hess law deals with
24. (a) changes in heat of reaction
(b) rate of reaction
(c) equilibrium constant
(d) influence of pressure on volume of gas
25. By adding 20 mL 0.1 N HCl to 20 mL 0.001 N KOH, the pH of the obtained solution will be
(a) 2 (b) 1.3
(c) 0 (d) 7
26. Hydrolysis of sodium acetate will give
(a) acidic solution
(b) basic solution
(c) neutral solution
(d) normal solution
27. Which of the following is not a non-electrolyte ?
(a) Acetic acid (b) Glucose
(c) Ethanol (d) Urea

28. When lead storage battery is charged
(a) lead dioxide dissolves
(b) sulphuric acid is regenerated
(c) the lead electrode becomes coated with lead sulphate
(d) the amount of sulphuric acid decrease
29. The oxidation state of S in $\text{H}_2\text{S}_2\text{O}_8$ is
(a) + 2 (b) + 4
(c) + 6 (d) + 7

ANSWER KEYS

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|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1. a | 2. d | 3. c | 4. d | 5. b | 6. d | 7. d | 8. d | 9. c | 10. a |
| 11. b | 12. c | 13. a | 14. c | 15. d | 16. a | 17. b | 18. a | 19. a | 20. d |
| 21. c | 22. c | 23. d | 24. a | 25. b | 26. b | 27. a | 28. b | 29. c | |