NEET Sample Paper 2 PDF for Class 11 (Chemistry)

1. The weight of iron which will be converted into its oxide (Fe_3O_4) by the action of 18g of steam on it will be;
(a) 168 g
(b) 42 g
(c) 8 g
(d) 72 g

2. The correct order of acidic strength is;
(a) $Cl_2O_7 < SO_2 < P_4O_{10}$
(b) $CO_2 < N_2O_5 < SO_3$
(c) $Na_2O > MgO > Al_2O_3$
(d) $K_2O > CaO > MgO$

3. The geometry of electron pairs around I in IF_5 is;
(a) octahedral
(b) trigonal bipyramidal
(c) square pyramidal
(d) pentagonal planar

4. The number of moles of $CaCl_2$ needed to react with excess of $AgNO_3$ to produce 4.31 gm of AgCl (Molecular mass of AgCl = 143.5 amu);
(a) 0.03
(b) 0.015
(c) 0.045
(d) 0.06

5. According to the molecular orbital theory, which of the following statements about magnetic character and bond order is correct regarding O_2 + ?
(a) Paramagnetic and bond order < O_2
(b) Paramagnetic and bond order > O_2
(c) Diamagnetic and bond order < O_2
(d) Diamagnetic and bond order > O_2

6. In Bohr series of lines of hydrogen spectrum, which of the following inter-orbit jumps of the electron represents highest energy emission?
(a) 5 → 1
(b) 4 → 1
(c) 3 → 1
(d) 2 → 1

7. Which of the following is correct about the dipole moment (μ) of NH3 and NF3?
(a) μ(NH3) < μ(NF3)
(b) μ(NF3) < μ(NH3)
(c) μ(NF3) = μ(NH3)
(d) μ(NF3) = 2μ(NH3)

8. A reversible reaction having two reactants in equilibrium if the concentration of reactants are doubled, the equilibrium constant will;
(a) Become 4 times.
(b) Become 1/4th time.
(c) Become 1/16th times.
(d) Remains the same.

9. In which molecule hybrid orbital have only 20% d- character?
(a) CCl_4
(b) SF_6
(c) SF_4
(d) Cl_2O

10. Bond energies of (H − H), (O = O) and (O − H) are 105, 120 and 220 kcal/mol, respectively then ΔH of the reaction, $_2H_2(g) + O_2(g) \rightarrow {}_2H_2O(g)$;
(a) −115 kcal
(b) −130 kcal
(c) −118 kcal
(d) −550 kcal

11. $S(s) + 3/2\ O_2(g) \rightarrow SO_3(g)$; x k cals $SO_2(g) + ½\ O_2(g) \rightarrow SO_3(g)$; y k cals What is the heat of formation of SO_2 (k cals)?

(1) x – y
(2) 2x + y
(3) x + y
(4) 2x/y

12. One mole of an ideal gas at 300 K is expanded isothermally from an initial volume of 1 litre to 10 litres. The ΔE for this process is;
(a) 16.7 cal
(b) 1381.1 cal
(c) 9 lit atm
(d) zero

13. Which salt undergoes hydrolysis?
(1) CH_3COONa
(2) KNO_3
(3) NaCl
(4) K_2SO_4

14. The first ionization potentials (eV) of N and O respectively are
(a) 8.29, 8.29
(b) 11.32, 11.32
(c) 8.29, 11.32
(d) 11.32, 8.21

15. When Al is added to sodium hydroxide solution:
(a) no reaction takes place.
(b) oxygen is evolved.
(c) water is produced.
(d) hydrogen is evolved.

16. Identify the incorrect statement about the structure of diborane.
(a) The four terminal hydrogen atoms and the two boron atoms lie in one plane.
(b) There are two bridging hydrogen atoms.
(c) All six B – H bond are regular two centre two electron bonds.
(d) The hybridisations of both the boron atoms are same and sp3 .

17. The element with highest electronegativity will belong to;
(a) Period 2, group 17
(b) Period 3, group 17
(c) Period 2, group 18
(d) Period 2, group 1

18. The gas used in the hydrogenation of oils presence of nickel as a catalyst is;
(a) methane
(b) ethane
(c) ozone
(d) hydrogen

19. Ostwald's dilution law gives satisfactory results with the solution of which electrolyte?
(a) HCl
(b) HNO_3
(c) CH_3COOH
(d) NaOH

20. On adding 0.04 g solid NaOH to a 100 mL, M/200 $Ba(OH)_2$ solution, determine change in pH;
(1) 0
(2) +0.3
(3) –0.3
(4) +0.7

21. Zeolites are extensively used in;
(a) softening of water and catalyst.
(b) preparing heavy water.
(c) increasing the hardness of water.
(d) Mond’s process.

22. Statement I: Boiling point of alkanes increase with decrease in branching. Statement II: The decreasing order of boiling points of n- Pentane, iso-Pentane, neo-Pentane is n-Pentane > iso-Pentane > neo-Pentane.
(a) Statement I and Statement II both are correct.
(b) Statement I is correct, but Statement II is incorrect.
(c) Statement I is incorrect, but Statement II is correct.
(d) Statement I and Statement II both are incorrect.

23. Statement I: According to molecular orbital theory C_2 molecules exist with bond order 2. Statement II: C_2 molecule has 8 electrons in bonding molecular orbitals and 2 pair of electrons in anti-bonding molecular orbitals.
(a) Statement I and Statement II both are correct.
(b) Statement I is correct, but Statement II is incorrect.
(c) Statement I is incorrect, but Statement II is correct.
(d) Statement I and Statement II both are incorrect.

24. Compounds with $C_4H_{11}N$ as molecular formula can exhibit;
(a) position isomerism
(b) metamerism
(c) functional isomerism
(d) all of these

25. Equal volumes of two solutions, one having pH = 6 and other having pH = 4 are mixed. The pH of the resulting solution would be:
(a) 5.7
(b) 4.3
(c) 5.0
(d) 5.5

26. The most suitable method of separation of 1 : 1 mixture of ortho and para-nitrophenols is;
(a) chromatography
(b) crystallisation
(c) steam distillation
(d) sublimation

27. Assertion: In Neon, the atoms are held together by covalent bond. Reason: Noble gases like Neon only have Vander waals force between the atoms.
(a) Both Assertion (A) and Reason (R) are the true, and Reason (R) is a correct explanation of Assertion (A).
(b) Both Assertion (A) and Reason (R) are the true, but Reason (R) is not a correct explanation of Assertion (A).
(c) Assertion (A) is true, and Reason (R) is false.
(d) Assertion (A) is false, and Reason (R) is true.