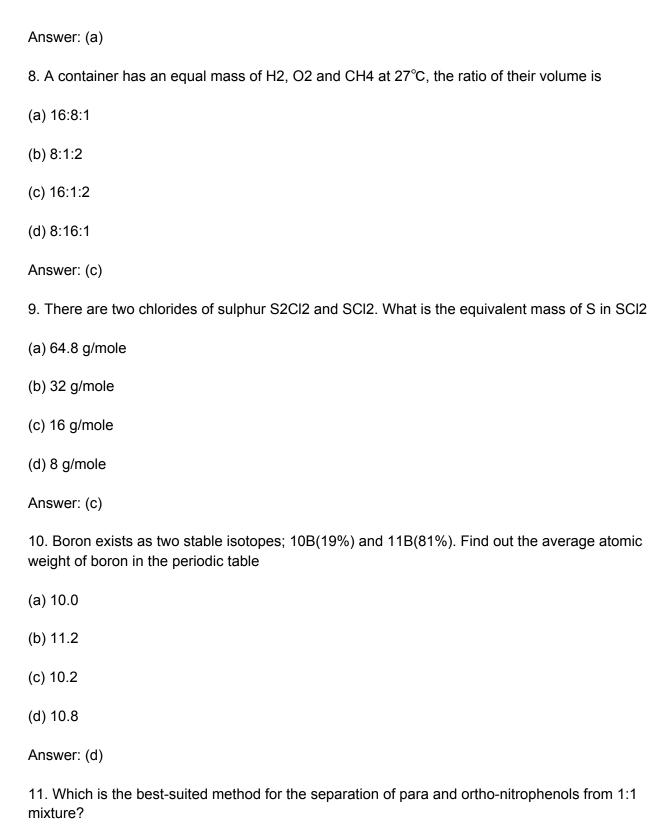




(b) 7 L
(c) 6 L
(d) 5 L
Answer: (d)
5. A gas X has Cp and Cv ratio as 1.4, at NTP 11.2 L of gas X will contain number of atoms
(a) 1.2 × 1023
(b) 3.01 × 1023
(c) 2.01 × 1023
(d) 6.02 × 1023
Answer: (d)
6. Which of the species is not paramagnetic?
(a) As+
(b) CI–
(c) Ne2+
(d) Be+
Answer: (b)
7. Pressure has the same dimension as
(a) energy per unit volume
(b) energy
(c) force per unit volume
(d) force

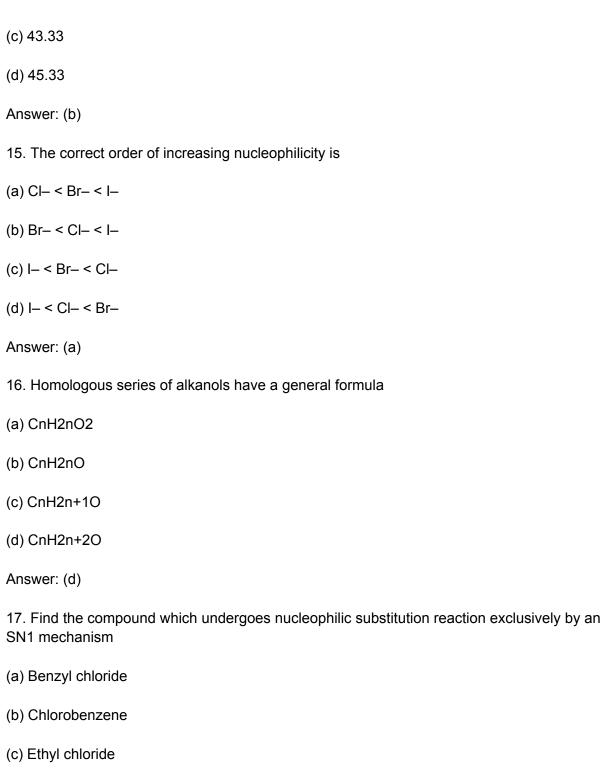






(a) crystallisation
(b) chromatography
(c) sublimation
(d) steam distillation
Answer: (d)
12. Find the incorrect statement for a nucleophile
(a) A nucleophile is a Lewis acid
(b) Nucleophiles do not seek electron
(c) Ammonia is a nucleophile
(d) Nucleophiles attack low electron density sites
Answer: (a)
13. Which among the following is the most deactivating meta-directing group in aromatic substitution reaction?
(a) -COOH
(b) -SO3H
(c) -NO2
(d) -CN
Answer: (c)
14. Ammonia evolved from 0.75 g of the soil sample in the Kjeldahl's method for nitrogen estimation, neutralises 10 ml of 1M H2SO4. Find the percentage of nitrogen present in the soil
(a) 35.33
(b) 37.33





(d) Isopropyl chloride



Answer: (a)
18. Which of the following methods is best suited for the separation of a mixture containing naphthalene and benzoic acid
(a) Crystallisation
(b) Chromatography
(c) Sublimation
(d) Distillation
Answer: (c)
19. How many structural isomers are possible if one hydrogen in diphenylmethane is replaced by chlorine?
(a) 8
(b) 4
(c) 7
(d) 6
Answer: (b)
20. Why do we boil the extract with conc. HNO3 in Lassaigne's test for halogens?
(a) to increase the concentration of NO3– ions
(b) to increase the solubility product of AgCl
(c) it increases the precipitation of AgCl
(d) for the decomposition of Na2S and NaCN formed
Answer: (d)
21. Photochemical smog normally does not contain



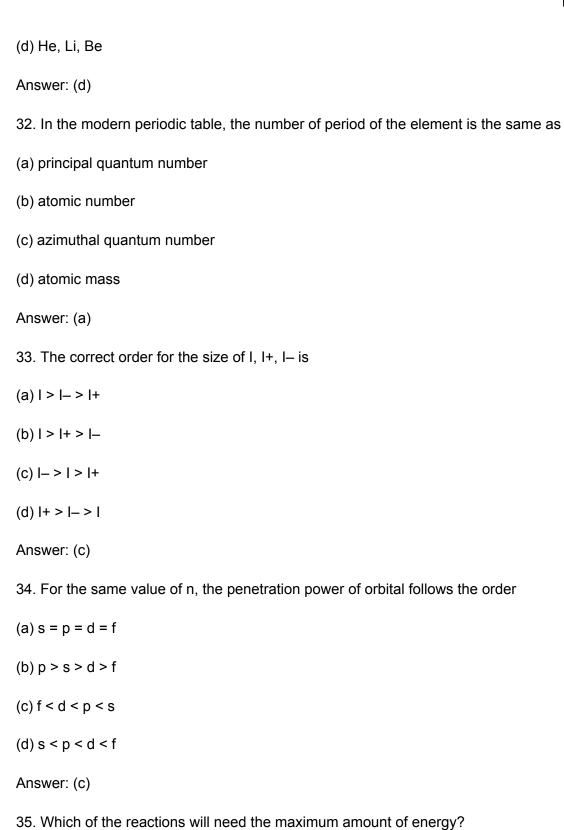
(a) Chlorofluorocarbons
(b) Peroxyacetyl nitrate
(c) Ozone
(d) Acrolein
Answer: (a)
22. Depletion of the ozone layer is caused due to
(a) Ferrocene
(b) Fullerenes
(c) Freons
(d) Polyhalogens
Answer: (c)
23. Find the incorrect statement
(a) BOD value of clean water is less than 5 ppm
(b) Drinking water pH should be between 5.5-9.5
(c) carbon, sulphur and nitrogen oxides are the most widespread air pollutants
(d) dissolved oxygen concentration below 5 ppm is ideal for the growth of fish
Answer: (d)
24. Find the secondary pollutant among these
(a) PAN
(b) N2O
(c) SO2



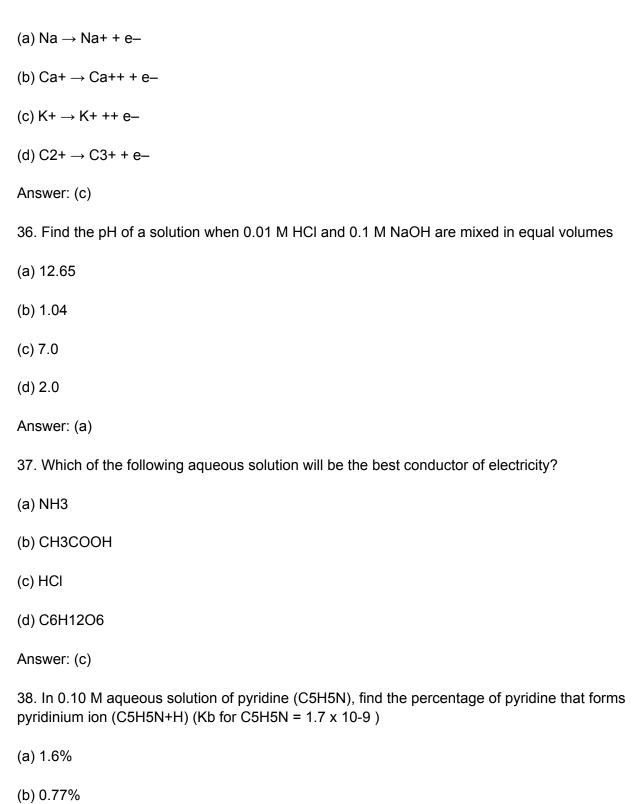
(d) CO2
Answer: (a)
25. The reaction responsible for the radiant energy of the Sun is
(a) nuclear fission
(b) nuclear fusion
(c) chemical reaction
(d) combustion
Answer: (b)
26. C-O bond length is minimum in
(a) CO2
(b) CO32-
(c) HCOO–
(d) CO
Answer: (d)
27. Molecules are held together in a crystal by
(a) hydrogen bond
(b) electrostatic attraction
(c) Van der Waal's attraction
(d) dipole-dipole attraction
Answer: (c)
28. Sp3d2 hybridization is present in [Co(NH3)63+], find its geometry



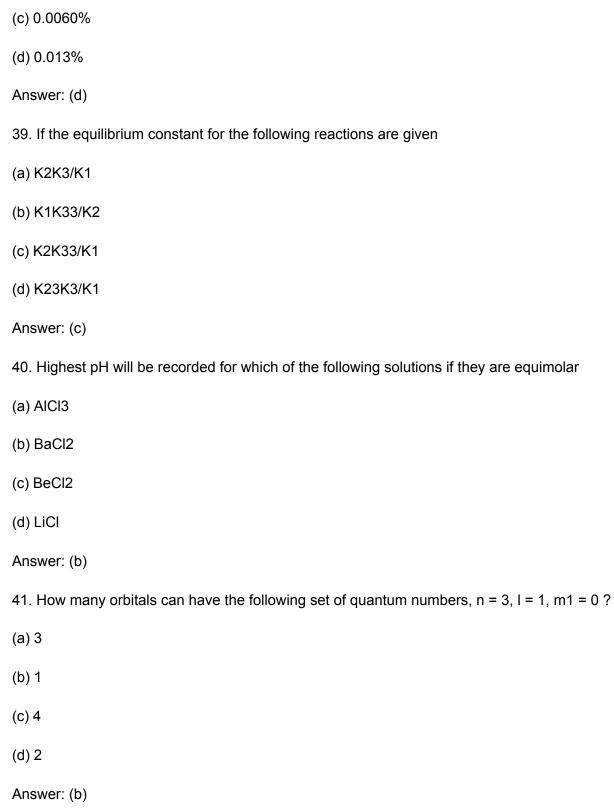
(a) octahedral geometry
(b) square planar geometry
(c) tetragonal geometry
(d) tetrahedral geometry
Answer: (a)
29. Find the molecule with the maximum dipole moment
(a) CH4
(b) NH3
(c) CO2
(d) NF3
Answer: (b)
30. MX6 is a molecule with octahedral geometry. How many X – M – X bonds are at 180°?
(a) four
(b) two
(c) three
(d) six
Answer: (c)
31. Find the successive elements of the periodic table with ionisation energies, 2372, 520 and 890 kJ per mol respectively
(a) Li, Be, B
(b) H, He, Li
(c) B, C, N







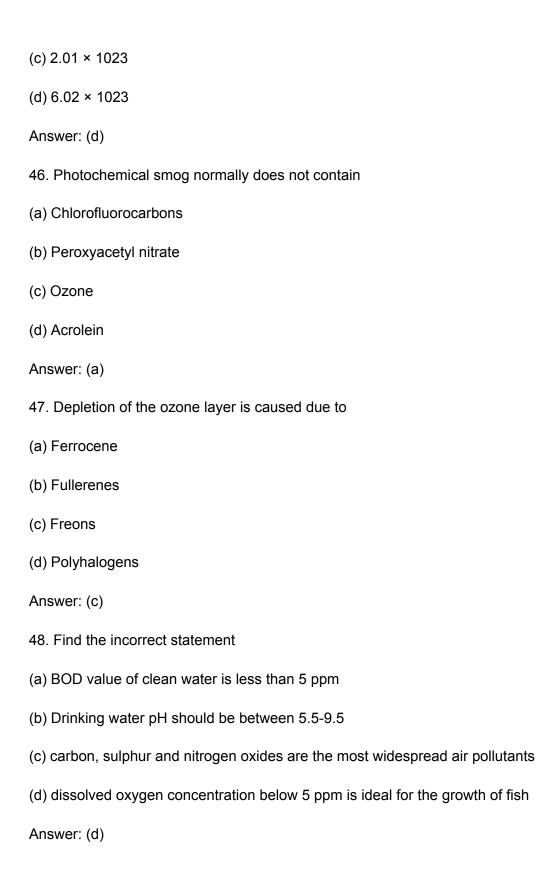






42. Electronic configuration of the outer shell of the element Gd with atomic number 64 is
(a) 4f4 5d5 6s1
(b) 4f3 5d5 6s2
(c) 4f5 5d4 6s1
(d) 4f7 5d1 6s2
Answer: (d)
43. Maximum number of electrons in a subshell can be
(a) 4I + 2
(b) 4I – 2
(c) 2n2
(d) 2I + 1
Answer: (a)
44. The orientation of atomic orbitals depends on their
(a) spin quantum number
(b) magnetic quantum number
(c) azimuthal quantum number
(d) principal quantum number
Answer: (b)
45. A gas X has Cp and Cv ratio as 1.4, at NTP 11.2 L of gas X will contain number of atoms
(a) 1.2 × 1023
(h) 3.01 x 1023







49. Find the secondary pollutant among these
(a) PAN
(b) N2O
(c) SO2
(d) CO2
Answer: (a)
50. The reaction responsible for the radiant energy of the Sun is
(a) nuclear fission
(b) nuclear fusion
(c) chemical reaction
(d) combustion
Answer: (b)