HOLIDAY HOMEWORK
CLASS- 11TH

A. Get up early in morning and do yoga or exercise
B. Revise chapter 1 and 2 and do NCERT question
C. Do all the following M.C.Q and assertion reasoning question

1. Which of the following is dependent on temperature?
(a)Molarity (b) Molality (c) Mole fraction (d) Mass percentage
2. If the concentration of glucose (C6H12O6) in blood is 0.9 g L molarity of glucose in blood?
(a) 5M (b) 50M (c) 0.005 M (d) 0.5 M
3. What is the mass percent of carbon in carbon dioxide?
(a) 0.034% (b) 27.27% (c) 3.4% (d) 28.7%
4. The empirical formula and molecular mass of a compound are CH_2O and 180 g respectively. What will be the molecular formula of the compound?
a) C9H18O9 b) CH2O c) C6H12O6 d) C2H4O2
5. the total number of ions present in 111 g of CaCl2 is
(a) One Mole (b) Two Mole (c) Three Mole (d) Four Mole
6. Which one will have maximum numbers of water molecules?
(a) 18 molecules of water (b) 1.8 grams of water (c) 18 grams of water (d) 18 moles of water
7. What is the normality of a 1 M solution of H3PO4
(a) 0.5 N (b) 1.0 N (c) 2.0 N (d) 3.0 N
8. The significant figures in 3400 are
(a) 2 (b) 5 (c) 6 (d) 4
9. Which of the following contains the same number of carbon atoms as are in 6.0 g of carbon (C – 12)?
(a) 6.0 g Ethane (b) 8.0g Methane (c) 21.0g Propane (d) 28.0 g C

ASSERTION AND REASON QUESTIONS

In the following questions a statement of Assertion (A) followed by a statement of Reason (R) is given. Choose the correct option out of the choices given below each question.
a) If both Assertion & Reason are true and the reason is the correct explanation of the assertion.
b) If both Assertion & Reason are true but the reason is not the correct explanation of the assertion.
c) If Assertion is a true statement but Reason is false.
d) If both Assertion and Reason are false statements.
10. Assertion (A): The empirical mass of ethene is half of its molecular mass.
Reason (R): The empirical formula represents the simplest whole number ratio of various atoms present in a compound.
11. Assertion (A) : One atomic mass unit is defined as one twelfth of the mass of one carbon-12 atom.
Reason (R) : Carbon-12 isotope is the most abundant isotope of carbon and has been chosen as standard.
12. Assertion (A) : Significant figures for 0.200 is 3 whereas for 200 it is 1.
Reason (R) : Zero at the end or right of a number are significant provided they are not on the right side of the decimal point
13. Assertion (A): Combustion of 16 g of methane gives 28 g of water.
Reason (R): In the combustion of methane, hydrogen is one of the products.
14. Assertion: Molarity is number of moles of solute in 1 lit of solution
Reason: Molality does not change with temperature.
15.Number of angular nodes for 4d orbital is _____.
(a) 4 (b) 3 (c) 2 (d) 1
16. The number of radial nodes for 3p orbital is _____.
(a) 3 (b) 4 (c) 2 (d) 1
17. g subshell is characterised by:

(a)n = 5 (b) m = 3 (c) l = 4 (d)l = 5

18. Which expression represents de Brogile relationship?

(a) h/mu = p (b) λ = h/mv (c)λ = h/mp (d)λ = u/p

19.Which of the following is responsible to rule out the existence of definite paths or trajectories of electrons?

(a) Pauli's exclusion principle.

(b) Heisenberg's uncertainty principle.

(c) Hund's rule of maximum multiplicity.

(d) Aufbau principle

20. For which of the following sets of quantum numbers, an electron will have the highest energy?

(a) 3, 2, +1, +1/2 (b) 4, 2,-1,+1/2 (c) 4,1,0,-1/2 (d) 5,0,0,+1/2

21.Which of the following atoms or atom/ion have identical ground state configuration?

(a) Li+ and He+ (b) $Cl^-$and Ar (c)Na and K d)F^+ and Ne

22.The number of spherical nodes for 4d orbital is

(a) zero (b) one (c)two (d)three

Ans: (b)

23. The configuration $1s^2\ 2s^2\ 2p^5\ 3s^1$

shows:

(a)ground state of fluorine

(b)exited state of fluorine

(c)exited state of neon

(d)exited state of O2-ion

24.Which of the following orbitals has dumb-bell shape?

(a)s (b)p (c)d (d) f

25.The total number of orbitals in a shell having principal quantum number n is

(a) 2n (b)n^2 (c)$2n^2$ (d)n+1

26.What is the wavelength of light. Given energy =$3.03x10^{-19}$ J, h=$6.6x10_{-34}$ JS, c=$3x10^8$m/s

(a) 6.54 nm (b)654nm (c)0.654nm (d)65.4nm

27.Azimuthal quantum number defines:

(a) e/m ratio of electron (b)spin of electron

(c) angular momentum of electron (d)magnetic momentum of electron

28.The correct order of increasing energy energy of atomic orbital is:

(a)5p<4f<6s<5d (b)5p<6s<4f<5d

(c)4f<5p<5d<6s (d)5p<5d<4f<6s

29.Iso-electronic species are:

(a)F-,O-2 (b)F-,O (c)F-,O+ (d)F-,O+2

30.Quantum numbers n=2,l=1 represent:

(a)1s orbital (b)2s orbital (c) 2p orbital (d)3d orbital

31. The quantum number m of a free gaseous atom is associated with:

(a)The effective volume of the orbital

(b) The shape of the orbital

(c)The spatial orientation of the orbital

(d)The energy of the orbital in the absence of the magnetic field.

32.The orientation of an atomic orbital is governed by:

(a) Principal quantum number b) Azimuthal quantum number

C) Spin quantum number d) Magnetic quantum number

Assertion –Reason type question

The questions given below consist of assertion (A)and reason (R).Use the following key to select the correct answer.

(a)If both assertion and reason are correct and reason is correct explanation for assertion.

(b) If both assertion and reason are correct and reason is not correct explanation for assertion.

(c) If assertion is correct and reason is in correct
(d) If both assertion and reason are incorrect.
33.A: Photoelectric effect is most readily shown by cesium.
R: Photon have easiest access to the surface of cesium metal.
34. A: An orbital cannot have more than 2 electrons and their spin must be opposite.
R: No two electrons in an atom can have same set of all four quantum numbers.
35.A: Both position and momentum of an electron can not be determined simultaneously with maximum
accuracy.
R: This is because of microscopic nature of electron.
36.A: The energy of an electron is mainly determined by principal quantum number.
R: The principal quantum number is the measure of the most probable distance of finding the electron around the nucleus.
37.A: Fe3+ ion is more stable than Fe^{2+} ion in ground state.
R: Fe3+ ion has more number of unpaired electrons than Fe2+ ion.
38.A: An orbital cannot have more than two electrons.
R: The two electrons in an orbital create opposite magnetic field
39.A: The 19th electron in potassium atom enters 4s-orbital and not 3d orbital'
R: The energies of the orbitals can be compared with the help of(n+l) rules.