A+ Coaching Point, DMR

1ST Unit Test 2016

Class-XI **CHEMISTRY (A)** **F.M: 25**

General instructions

i) All questions are compulsory

ii) Do not write anything on the question paper.

iii) Use of simple calculators (non-scientific and non-programmable) is permitted

1. Which of the following is not correct? **1**

   a) $\lambda = \nu/c$ b) $E = mc^2$ c) $E/\nu = h$ d) $\lambda = hp$

2. The number of electrons that can be accommodated in an orbital is, **1**

   a) One b) Two c) Three d) Four

3. Define Mole **1**

4. What is called Isotope? **1**

5. Define Limiting reagent. **1**

6. State the law of multiple proportion. Give example. **2**

7. State (a) Aufbau's principle (b) Pauli exclusion principle **2**

8. Define Heisenberg uncertainty principle and give its mathematical expression. **2**

9. Define the following terms (a) Molarity (b) Molality **2**

10. Derive de-Broglie relationship. **3**

11. The uncertainty in the position and velocity of a particle are $10^{-2} m$ and $5.27\times10^{-24} ms^{-1}$ respectively .Calculate the mass of the particle. **3**
($h = 6.626\times10^{-34} kgm^2s^{-1}$)

12. A hydrocarbon contains 92.3% carbon and 7.66 % of hydrogen. If its molecular mass is found to be 78u.Determine its molecular formula. **3**

13. What are quantum numbers? Write the physical significance of all four quantum numbers. **3**

****

A+ Coaching Point, DMR

1ST Unit Test 2016

Class-XI **CHEMISTRY (B)** **F.M: 25**

General instructions

i) All questions are compulsory

ii) Do not write anything on the question paper.

iii) Use of simple calculators (non-scientific and non-programmable) is permitted

1. The modern basis of expressing atomic and molecular masses is based on
a) Oxygen-16 b) hydrogen-1 c) carbon-12 d) chlorine -35.5 **1**

2. When the azimuthal quantum number, *l*=1, the shape of the orbital will be **1**
a) Spherical b) dumb-bell c) double dumb-bell d) circular

3. Define Mole. **1**

4. What is called isobar? **1**

5. Define atomic orbital. **1**

6. State Avogadro's law. What is Avogadro's number? **2**

7. State Hund's rule of maximum multiplicity. Mention one major limitation of Bohr's atomic model. **2**

8. State Heisenberg uncertainty principle and give its mathematical representation. **2**

9. Define the following terms (a) Normality (b) Mole fraction **2**

10. Calculate the wavelength of a particle of mass (m) 6.6×10^{-27} kg moving with a kinetic energy 7.425×10^{-13} J. ($h = 6.6\times10^{-34} kgm^2s^{-1}$) **3**

11. Write all the four postulates of Bohr's atomic model. **3**

12. A compound contains 75% carbon and 25 % of hydrogen. If its molecular mass is found to be 16u.Determine its molecular formula. **3**

13. What are quantum numbers? Write the physical significance of all four quantum numbers. **3**

****