Type: MCQ

Q1. The concept of matter wave was suggested by_____

1. Heisenberg
2. de Broglie
3. Schrodinger
4. Laplace

Q2. The intensity of the diffraction pattern is proportional to _____ of the wave function.

1. forth power
2. cube
3. sixth power
4. square

Q3. The function representing matter waves must be _____

1. complex
2. real
3. zero
4. infinity

Q4. The total probability of finding the particle in space must be _____.

1. Zero
2. Unity
3. Infinity
4. Double

Q5. The operator ∇ is called _____ operator.

1. Hamiltonian
2. Laplacian
3. Poisson
4. Vector

Q6. Which set of quantum numbers uniquely defines one of the electrons in an atomic orbital with $n = 2$ and $l = 0$?

1. $n = 2, l = 0, m_l = 0, m_s = +½$
2. $n = 2, l = 0, m_l = 0, m_s = +1$
3. $n = 2, l = 0, m_l = 1, m_s = +½$
4. $n = 2, l = 0, m_l = 1, m_s = +1$

Q7. Suppose x is concentration of reactant and Kp is called the parabolic rate constant then parabolic rate law will be____

1. dt/dx=Kp/x
2. dx/t=Kp/x
3. **dx/dt=Kp/x**
4. dx/dt=x/Kp

Q8. The solvent influences the value of the rate constant mainly by its polarity which is determined essentially by the _____

1. rate constant
2. frequency constant
3. transition constant
4. **dielectric constant**

Q9. If reaction involves creation of the charges in Transition state then _____will stabilizes these charges and the rate of the reaction is enhanced.

1. hydrophobic nature
2. hydrophilic nature
3. **polar solvent**
4. Non polar solvent

Q10. The decrease in solubility with an increase in _____is usually attributed to the colloidal stability of a protein.

1. **ionic strength**
2. solubility
3. ionization constant
4. ionic product