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| **B.Sc I (Semester I) ODD** |
| **Subject –** | Course outcome |  |
| **Inorganic Chemistry** | CO1 | Discuss the concept of de Broglie matter waves, heinsberg uncertainity principle, schrodinger wave equation along with wave fuctions Ψ1, Ψ2 its significance and terms related to it. |
|  | CO2 | Discuss the position of elements in the periodic table and their various properties when we move from left to right and top to bottom |
|  | CO3 | Discuss the bonding ,hybridization, structure in different compounds using theories like VSEPR and M.O. |
|  | CO4 | To study different types of defects in solids and concept of lattice energy, solvation energy and Fajan’s rule.  |
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| **Physical Chemistry** | CO1 | Define the kinetic theory of gases, Maxwell’s distribution of velocity and derive expression for various velocities. |
|  | CO2 | Give the various terms associated with collision, derivation and application of Vander waal’s equation of state and deviation of Real gases from Ideal gases. |
|  | CO3 | Discuss the various critical phenomenon and Vander waal-isotherm for different states of Real gases. |
|  | CO4 | Explain structure of liquid and different properties associated with it (viscosity, surface tension, etc.) |
|  | CO5 | Give the different elements of symmetry, crystal system Bragg’s Law and various methods associated with it. |
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| **Organic Chemistry** | CO1 | Describe localized and delocalized bond and different interaction among organic compound |
|  | CO2 | Illustrate all the configuration isomer and various terms associated with it and discuss the stability |
|  | CO3 | Describe various organic reaction with different reagent and intermediate involved in it  |
|  | CO4 | Discuss Methods of formation and physical and chemical properties of alkanes ,cycloalkanes |
| **B.Sc I (Semester II) EVEN** |
| **Inorganic Chemistry** | CO1 | Discuss Concept of H bonding , vander waals forces, Different theories of Metallic Bonding and Semiconductors. |
|  | CO2 | Comparative study of physical and chemical properties of elements of alkali and alkaline earth metals and their application in daily life. |
|  | CO3 | To study the inert behaviour of noble gases by using electronic configuration and their reactivity of Xe , Kr in forming various compounds and determining their structures |
|  | CO4 | To study the physical , chemical properties of p block elements on the basis of size, configuration ,electronegativity when move from left to right and top to bottom. |
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| **Physical Chemistry** | CO1 | Define the rate of reaction, rate equation, its types and various factors influencing the rate of reaction (concentration, catalyst, etc.) |
|  | CO2 | Illustrate the order of reaction and integrated rate expression for zero, first, second and third order reaction with half-life period. |
|  | CO3 | Discuss the effect of temperature on rate of reaction (Arrehenious Theory) and various theories associated with rate of reaction. |
|  | CO4 | Explain the electrolytic conduction, factors, various types of conductance, relation among them and their variation with concentration (Ostwald dilution law, Debye-Huckel-Onsager equation). |
|  | CO5 | Give the various applications of Kohlrausch’s law and concept of pH and buffer along with Henderson-Hazel equation. |
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| **Organic Chemistry** | CO1 | Methods of formation of alkenes, arenes, dienes ,alkynes ,alkyl and aryl halide  |
|  | CO2 | Discuss the physical and chemical properties of the above given topic  |
|  | CO3 | Study huckel rule |
|  | CO4 | Orientation of the incoming groups based on already attached group and effect of activating and deactivating group  |
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| **PRACTICAL(ODD + EVEN)** | CO1 | To study the strength of ions present in solutionand calculate no. of water molecules of compounds using redox, iodometric, complexatric titrations. |
| CO2 | To study the separation of ions using chromatography |
| CO3 | To determine the surface tension, viscosity, refractive index for various compounds by using stalagmometer, viscometer, Abbe’s refractometer respectively. |
| CO4  | Preparation of different organic compounds and determine their melting point |