Avinashilingam Institute for Home Science and Higher Education for Women
(Deemed to be University under Category 'A' by MHRD, Estd. u/s 3 of UGC Act 1956)
Re-accredited with 'A++' Grade by NAAC. Recognized by UGC Under Section 12B
Coimbatore - 641 043, Tamil Nadu, India

Continuous Internal Assessment -I August 2025
III Semester

Class : II UG **Time : 2 Hours**
Branch : Physics **Max. Marks : 60**

23BCHGE2 – Basics of Chemistry-II

Course Outcomes
1. Ability to adopt various laboratory safety measures and first aid techniques
2. Knowledge on atomic structure, chemical bonding and attractive forces
3. Knowledge on organic compounds, periodic table and general characteristics of elements
4. Fundamental knowledge of electro chemistry and thermo chemistry
5. Appreciation of the significance of Chemistry in core field

Part A **6 x 1 =6**
Choose the Correct Answer

1. General formula for alkenes homologue series is CO3K2
   a. CnH_{2n+4} b. CnH_{2n-2} c. CnH_{2n+2} d. CnH_{2n}

2. Example for electrophile among the following is CO3K1
   a. SO_3 b. H_2O c. NH_3 d.CH_4

3. Which of the following is NOT an s-block element? CO3K2
   a. Sodium b. Magnesium
   c. Potassium d. Aluminum

4. Electronic configuration of carbon is CO3K2
   a. $1s^2 2s^2 2p^3$ b. $1s^2 2s^2 2p^2$ c. $1s^2 2s^2 2p^1$ d. $1s^2 2s^2$

5. The maximum number of electrons which can be present in a sub shell can be represented by CO2K2
   a. $2l + 1$ b. $2n^2$ c. $4l + 2$ d. $4l – 2$

6. The concentration of the solutions are expressed in CO5K2
   a. Molarity b. Molality c. Normality d. Mole-fractions

Part B **3 x 6 = 18**
Answer ALL questions
Each answer should not exceed 400 words or two pages

7. a. Describe the isolation and uses of naphthalene CO3K2
   (or)
7. b. Give any two chemical properties of naphthalene CO3K2

8. a. Write a note on "s" block elements CO3K1
   (or)
8. b. Discuss the formation of ionic bond. CO2K2

9. a. Illustrate Aufbau principle and Hund's rule CO2K3
   (or)
9. b. Write in detail about the principle of titrimetric analysis of Acid - base and redox titration. CO2K3

Part C **3 x 12 = 36**

Answer ALL questions

Each answer should not exceed 800 words or four pages

10. a. Describe the classification of organic compounds CO3K2

(or)

10. b. Illustrate the following reactions with mechanism giving suitable examples
(i) Nitration (ii) Halogenation CO3K2

11. a. Explain the size, density and ionization energy of s ,p d block elements CO3K2

(or)

11. b. Elucidate the structure of benzene CO3K2

12. a. Describe the properties of an electron associated with each of the four quantum numbers CO2K2

(or)

12. b. Explain the hybridization and geometry of sp^3, sp^2, sp CO2K4

*****