

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2024
(Fourth Semester)

Branch – PHYSICS

CHEMISTRY - II

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (5 x 1 = 5)

1. An agreement between a measured value and the accepted true value is
 - (i) Error
 - (ii) Accuracy
 - (iii) Precision
 - (iv) All of these
2. Detergent can be used in
 - (i) soft water only
 - (ii) hard water only
 - (iii) both soft and hard water
 - (iv) all the ionic solvents
3. What is the process called when the molecules of a substance are retained at the surface of a solid or a liquid?
 - (i) Absorption
 - (ii) Adsorption
 - (iii) Sorption
 - (iv) Desorption
4. In an isothermal process
 - (i) temperature remains constant
 - (ii) pressure remains constant
 - (iii) volume remains constant
 - (iv) Kinetic energy remains constant
5. According to Beer Lambert's law; $A = \epsilon Cl$, A is the
 - (i) Molar extinction coefficient of the solution
 - (ii) Concentration of the solution
 - (iii) Absorbance of the solute
 - (iv) path length of the light through the sample

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 3 = 15)

6. a) Define: Normality and Molarity.
OR
b) Write the simple first aid procedure for accidents in laboratory.
7. a) Give one method of preparation of each of the following: (i) Furan
(ii) Pyridine
OR
b) Differentiate between soaps and detergents.
8. a) Describe buffer action.
OR
b) Write the difference between Chemisorption and Physisorption.

Cont...

9. a) Write the need for second law of thermodynamics.
OR
b) What are isothermal and adiabatic process?
10. a) Define with example: (i) Chromophore (ii) Auxochrome
OR
b) Write note on: (i) Hyperchromic shift (ii) Bathochromic shift.

SECTION -C (30 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks

(5 x 6 = 30)

11. a) How errors are classified?
OR
b) Explain (i) Confidence limit (ii) Standard deviation
12. a) Outline the properties and uses of amino acids.
OR
b) Describe the mechanism of cleaning action of soaps.
13. a) How equivalent conductance is determined by Kohlrausch law?
OR
b) Explain Langmuir adsorption isotherm.
14. a) Derive the relation between C_p and C_v
OR
b) Explain Joule – Thompson effect.
15. a) Discuss Lambert Beer's law
OR
b) Mention the applications of UV-Visible spectroscopy.

Z-Z-Z

END