



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. Recognised by UGC Under Section 12B
Coimbatore - 641 043, Tamil Nadu, India

Bachelor's Degree Examination – March 2021
I Semester

Class : I UG
Major : Zoology

Time : 3 Hours
Max. Marks: 100

18BZOI01 DSE-I Chemistry Theory for Zoology

Part A
Choose the Correct Answer

10 x 1 = 10

- Which one is powerful oxidising and solvent properties of cleaning mixture?
a. Acetic Acid + HCl
b. HCl + H₂SO₄
c. Chromic acid + Sulphuric Acid
d. HCl + HNO₃
- What is the formula to find out Normality of the solution?
a. $N = Eq/V$
b. $M = mol/kg$
c. $M = n/v$
d. $N = mol/kg$
- Attraction and repulsion between atoms, molecules and surfaces is called
a. Electrostatic force
b. Vander waals force
c. Microscopic forces
d. Ion dipole forces
- What is the pH of water?
a. 7.0
b. 7.5
c. 6.8
d. 6.0
- An object that is not superimposable on its mirror image is called
a. Achiral
b. Chiral
c. Symmetrical
d. None of the Above
- A compound rotating the plane polarisation towards right (clockwise) is termed
a. Levorotatory
b. Polarity
c. Dextrorotatory
d. Racemic mixture
- Which one is exhibit tertiary structure of proteins?
a. Enzyme carbonic anhydrase
b. Glycine
c. Proline
d. Beta - keratin
- What is general formula for Monosaccharides?
a. CH_nO_n
b. C_nH_{2n}O_n
c. C_nHO_n
d. C_nH₂O_n
- Wagner's test is used to find out the
a. Alkaloids
b. Flavonoids
c. Phenols
d. Tannins
- Which test is used to find out proteins and amino acids?
a. Benedict's test
b. Fehling's test
c. Brontager's test
d. Biuret and Ninhydrin

Part B

5 x 6 = 30

Answer ALL questions

Each answer should not exceed 400 words or two pages

- 11.a. Elucidate i. eye safety ii. personal protection equipment iii. Health hazardous materials.
(or)
- 11.b. Demonstrate the maintenance of reagents and antioxidants.
- 12.a. Define Covalent Bond and Explain the degree of ionic or covalent character with an example.
(or)
- 12.b. Explain the following terms with an example i. Van der waal's forces ii. Hydrophobic Interactions.
- 13.a. What is the difference between geometrical isomerism and optical isomerism ? Explain with an example.
(or)
- 13.b. Define asymmetric centre of the molecule and what is difference between Chiral and achiral molecule?
- 14.a. Explain open chain and ring structures of glucose and fructose.
(or)
- 14.b. Explain the uses of starch, cellulose and colour tests for carbohydrates.
- 15.a. What are secondary metabolites? Classify.
(or)
- 15.b. Illustrate the following i. Solvent Extraction ii. Evaporation iii. Crystallisation

Part C

5 x 12 = 60

Answer ALL questions

Each answer should not exceed 800 words or four pages

- 16.a. i. Explain the Principles of titrimetric analysis, Acid- base and redox titrations.
ii. Define Corrosive chemicals, waste chemical handling and maintenance of reagents.
(or)
- 16.b. Define the following i. Normality ii. Molarity iii. Molality iv. Mole fractions
- 17.a. Classify types of chemical bonds and explain the following
i. Ionic bond ii. coordinate covalent bond iii. Hydrogen Bonding
(or)
- 17.b. Explain polarity, chemical structure and ionisation of water molecule.
- 18.a. Describe optical isomerism in Lactic acid and Tartaric acid.
(or)
- 18.b. What is meant by optical activity? Explain the optical and specific rotations and conditions for optical activity.
- 19.a. Classify carbohydrates with an example and explain basic properties of carbohydrates.
(or)
- 19.b. Explain the primary, secondary, tertiary and quaternary protein structure.
- 20.a. Explain the Soxhlet extraction of phytochemical constituents and give polarity order of the solvents.
(or)
- 20.b. Explain i. Distillation ii. Gravity and vacuum filtration iii. Liquid –liquid extraction.
