Avinashlingam Institute for Home Science and Higher education for Women

(Deemed to be University), Coimbatore-641043

Bachelor's Degree examination-November 2018

I Semester

Class: I UG **Time: 3 Hours**
Major: Biochemistry and Biotechnology **Maximum Marks: 100**

18BBCI01- DSE I – Chemistry theory for Biochemistry - I

PART-A

(Choose the Correct Answer) (10X1=10 Marks)

1. Skin can be protected from chemicals in the laboratory by using_____

a) Face mask b) Coat

c) Gloves d) Flame guard

2. Normality in solid substance denotes _____

a) Gram substance in 1 litre b) Gram substance in 500ml

c) Gram substance in 100ml d) Gram substance in 250 ml

3. Which one of the following is the shape of benzene _____

a) Linear b) Tetrahedral

c) Hexagonal d) Triangular

4. Which one is the best example of optical isomers _____

a) Cis form of compounds b) Trans form of compounds

c) d & l isomers d) Chair configuration of sugar.

5. The outer orbital of nucleus is called as _____

a) Protons b) Electrons

c) Neutrons d) Positrons

6 A molecule having same molecular formula but different structural formula is known as _____.

a) Epimers b) Anomers

c) Isomers d) Streptomycin

7 The four different groups are attached in a single carbon atom is known as _____.

a) Symmetry b) Asymmetry

c) Epimer d) Anomer

8 The isomer that rotates the plane polarised light to left is called as _____

a) D- tartaric acid b) L- tartaric acid

c) d- tartaric acid d) l - tartaric acid

9. The migration of charged particles under the influence of an electrical field is known as _____

a) Chromatography b) Electrophoresis

c) Centrifugation d) Spectrophotometer

10. A chemical reaction that releases heat is called as _____

a) Endothermic reaction b) Exothermic reaction

c) Isomerism d) Epimeraization

PART-B **(5X6=30 Marks)**

Answer ALL questions

(Answer should not exceed 400 words or two pages).

11 a) Differentiate normality and molarity

(Or)

b) Explain the safety methods in handling of glassware

12. a) Describe sp^2 hybridisation with suitable example.

(Or)

b) Explain the hybridization and geometry of acetylene.

13 a) Explain the properties of d block elements and f block elements.

(Or)

b) Explain Sidgwick electronic interpretation of co-ordination compounds

14. a) Explain the carbon source of biomolecules.

(Or)

b) How are ligands classified?

15. a) Explain the various types of catalysis.

(Or)

b) Describe the characteristic features of catalytic reactions

PART-C

Answer ALL questions

(Answer should not exceed 800 words or two pages) **(5X12=60)**

16 a) Explain eye safety and personal protection in a Lab.

(Or)

16 b) Explain the principle of acid –base and redox titrations.

17 a) Elaborate the basic concepts of bonding in organic chemistry

(Or)

17 b) Explain the types of chemical bonds and their significance.

18 a) Describe the periodic table classification of elements.

(Or)

18 b) Explain the preliminary concept of valance bond theory and molecular orbital theory.

19 a) Explain the detailed notes on classification and nomenclature of organic compounds.

(Or)

19 b) Discuss various types of isomerism.

20 a) Discuss on colloids, gels and emulsions.

(Or)

20 b) Explain the factors influencing the rate of reactions.

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