

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION DECEMBER 2019
(First Semester)

Branch - NUTRITION, FOOD SERVICE MANAGEMENT & DIETETICS

CHEMISTRY-I

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (10 x 1 = 10)

Which indicator gives pink colour with NaOH?

- (i) Methyl orange (ii) Phenolphthalein
(iii) Methyl red (iv) Eriochrome BlackT

The middle value in the list of numbers is known as _____

- (i) median (ii) mean
(iii) mode (iv) average

Mention the name of the bond present in NH_3

- (i) Ionic (ii) Covalent
(iii) Co-ordinate (iv) Hydrogen

Identify the reducing agent from the following

- (i) $\text{K}_2\text{Cr}_2\text{O}_7$ (ii) KClO_4
(iii) KMnO_4 (iv) $\text{C}_2\text{H}_2\text{O}_4$

Which hetero atom is present in thiophene?

- (i) Sulphur (ii) Nitrogen
(iii) Oxygen (iv) Chlorine

The Substance on which an enzyme acts is termed as

- (i) Protein (ii) Hormone
(iii) Substrate (iv) Vitamin

Drug which reduces anxiety and tension is

- (i) Analgesic (ii) Antipyretic
(iii) Antiseptic (iv) Tranquillizer

Identify the chromophore among the following.

- (i) -OH (ii) -OR
(iii) -NHR (iv) -N=N-

Number of gram equivalents present in one liter of the solvent is known as

- (i) Normality (ii) Molarity
(iii) Molality (iv) Molefraction

10 The Colloidal solution which has liquid dispersed phase and liquid dispersion medium is called as

- (i) Gel (ii) Sol
(iii) Foam (iv) Emulsion

SECTION - B (25 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks (5x5 = 25)

11 a Explain the following titrations with principle and examples,

- (i) Acid -Base (ii) Redox

12 a Summarise the Characteristics of co - ordinate compounds.

OR

b Define the electronic concepts of oxidation and reduction with appropriate examples.

13 a Discuss the preparation, properties and uses of furan.

OR

b How is glycine prepared ? Outline its properties and uses.

14 a What are anaesthetics? What are the types? Explain their function with suitable examples.

OR

b Define the term 'dye'. List out the requisites of a dye.

15 a Explain the following concentration terms.

(i) Mass percentage (ii) Molarity

OR

b Distinguish between true solution, colloidal solution and suspension.

SECTION -C (40 Marks!

Answer **ALL** questions

ALL questions carry **EQUAL** Marks

(5 x 8 = 40)

16 a Discuss the simple first -aid procedures followed for accidents taking place in a laboratory.

OR

b Define the following terms

(i) precision (ii) Accuracy (iii) Confidence limits (iv) standard deviation

17 a (i) Compare the properties of ionic and covalent compounds. (6)

(ii) What are inter and intra molecular Hydrogen bonding . (2)

OR

b (i) Calculate the Oxidation member of M_n in KM_nO_4 and Cr in $K_2Cr_2O_7$? (4)

(ii) State Lewis concept of acids and bases (4)

18 a Discuss the preparation, properties and uses of the following

(i) Pyridine (ii) Thiophene

OR

b Summarise the analytical tests for Proteins.

19 a Discuss the following with suitable examples.

(i) Analgesics (ii) Antipyretics (iii) Antiseptics (iv) Antibiotics

OR

b Classify dyes based on their application with suitable examples.

20 a (i) What are emulsions and their types? (3)

(ii) Explain the cleaning action of Soap with a Schematic diagram.

OR

b How are Colloids classified based on physical state and solvent affinity?