18BOU14

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2023
(Fourth Semester)

Branch – **BOTANY**

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 Potassium is used as fertilizer for which purpose?
(i) Development of stems and leaves (ii) Accelerating seeding
(iii) To prevent disease (iv) Early stages of plant growth

2 What is a bond between amino acids called?
(i) Ionic bond (ii) Peptide bond
(iii) Acidic bond (iv) Hydrogen bond

3 Example for natural vat dye is
(i) Martius blue (ii) Malachite green
(iii) Alizarin (iv) Indigo

4 Adsorption of gases on solid surface is exothermic because
(i) Entropy increases (ii) Free energy increases
(iii) Entropy decreases (iv) Enthalpy is positive

5 Heavy metals are
(i) non-toxic (ii) highly effective
(iii) biodegradable (iv) none of above

SECTION - B (15 Marks)
Answer **ALL** Questions
ALL Questions Carry **EQUAL** Marks (5 x 3 = 15)

6 a Define fertilizer. How are they classified?
OR
b What is Nitrogen fixation. Mention its importance.

7 a Explain the preparation and properties of alanine.
OR
b Briefly explain the preparation of ethyl alcohol from molasses.

8 a Outline the preparation of indigo dye.
OR
b Explain the general characteristics of anthocyanin.

Cont...

9 a Discuss the relationship between specific conductance and equivalent conductance.

OR

b State and explain Kohlrasch law.

10 a Discuss the role of any threee essential and trace elements in biological systems.

OR

b Explain the toxicity of any three heavy metals.

SECTION -C (30 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 x 6 = 30)

11 a Discuss the manufacture of urea and triple superphosphate. (3+3)

OR

b Write a note on the following i). Nicotine ii). Allethrin (3+3)

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

OR

b Explain the structures of protein.

13 a Compare on chromophore and auxochrome. (3+3)

OR

b Define pigment. Discuss the general characteristics and structure of chlorophyll. (1+5)

14 a Explain the measurement of conductance of the solution.

OR

b Define Adsorption. Explain the Langmuir adsorption isotherm.(1+5)

15 a Discuss the chemistry of hemoglobin and myoglobin. (3+3)

OR

b Explain green synthesis with two examples.

Z-Z-Z END