PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION MAY 2019
(Third Semester)

Branch-BOTANY

CHEMISTRY -1

Time : Three Hours   Maximum : 75 Marks
SECTION-A (20 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks   (10 x 2 = 20)

1   State Hund's rule.
2   Calculate the oxidation number of (i) Cr in $K^{\wedge}C^{\wedge}Oy$ (ii) S in $Si\,o_3^{2'}$.
3   State isoprene rule.
4   Draw the structure of Starch.
5   What are analgesics? Give an example.
6   Define auxochrome. Give an example.
7   What is order?
8   What are promoters? Give an example.
9   Define chemical oxygen demand.
10   Define the term acidrain.

SECTION - B (25 Marksl
Answer **ALL** Questions
ALL Questions Carry **EQUAL** Marks (5 x 5 = 25)

11   a State and explain Pauli exclusion principle.
                    OR
     b Explain the orbital representation of (i) HC1 molecule (ii) O_2 molecule.

12 a   Describe the preparation and four properties of benzene.
                    OR
     b Write the classification of terpenoids.

13   a Write notes on (i) antibiotics (ii) antiseptics.
                    OR
     b Give the preparation and uses of (i) Indigo (ii) Alizarin.

14   a Derive an expression for the first-order rate constant.
                    OR
     b What are the characteristics of catalytic reactions?

15   a What are the sources of air pollution?
                    OR
     b Discuss the types of water pollution.

SECTION - C (30 Marks!
Answer any **THREE** Questions
ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

16   a Explain the bond angle and geometry of (i) NH_3 (ii) PCI_5 molecule on the
        basis of VSEPR theory.

      b Define the following terms with suitable examples :
         (i) Oxidising agents (ii) Reducing agents

17   Discuss the preparation, properties and uses of nicotine.

18   a Write a note on sulpha drugs.
      b Write the classification of dyes on the basis of applications.

19   Write notes on : (i) Parallel reaction (ii) Auto catalysis (iii) Catalytic poisoning