PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION DECEMBER 2017
(Third Semester)

Branch- **BOTANY**

CHEMISTRY-I

Time : Three Hours   Maximum : 75 Marks

SECTION-A (20 Marks!
Answer **ALL** questions.
ALL questions *carry'* **EQUAL** marks •   (10 x 2 = 20)

1   Calculate the oxidation number of M_n in K_2MnO_4.
2   Draw the shapes of 'd' orbitals.
3   State HuckeTs rule.
4   How are terpenoids classified?
5   What is chemotherapy?
6   Define dyes.
7   Define parallel reactions. Give an example.
8   What are promoters? Give an example.
9   What is BOD?
10 Mention any two effects of acid rain.

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

11 a What are oxidizing and reducing agents? Give two examples for each.
OR
    b What are the postulates of VSEPR theory?

12 a Explain the structure of cellulose.
OR
    b How is nicotine prepared?

13 a What are tranquilizers and disinfectants? Give two examples and two uses
         of each of them.
OR
    b How are dyes classified on the basis of chemical structure and application?

14 a Define catalysis. What are the different types of catalysis? Give an
         example for each type.
OR
    b Define consecutive reactions and reversible reactions. Give one example
         for each of them.

15 a What are the factors affecting soil pollution?
OR
    b Write a note on '"Global warming".

SECTION - C (30 Marks)
Answer any **THREE** Questions
ALL Questions Carry **EQUAL** Marks (3 x 1 0 = 30)

16   Discuss the shapes of (i) PCl_5 and (ii) TF_6.

17   How will you prepare benzene from (i) Acetylene (ii) Sodium benzoate
       (iii) n-hexane (iv) Benzene diazonium chloride and (v) Benzenesulphonic acid.
                                                                        (5x2=10)

18 a Give any five requisites of a dye.
    b Explain chromophore, auxochrome and chromogen with suitable examples. (5+5)

19 a Derive an expression for first order rate constant. What is its unit?
    b Discuss the mechanism of enzyme catalysis.   (5+5)