PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2017
(Third Semester)

Branch - **PHYSICS**

CHEMISTRY -1

Time : Three Hours Maximum : 75 Marks

SECTION-A (20 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks (10x2 = 20)

1 Predict the shapes of the following molecules using VSEPR theory (i) PCl_5 (ii) IF_5.

2 What are chelates? Give examples.

3 Give any two uses of menthol.

4- How is polyvinyl chloride synthesized from acetylene?

5 What is a unit cell?

6 Define polymorphism.

7 What is meant by the term rate constant of a reaction?

8 Give two examples for first order reaction.

9 Name the three maj or components of the atmosphere.

10 What are the sources of thermal pollution?

SECTION - B (25 Marks!

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks (5x5 = 25)

11 a Explain Werner's co-ordination theory.

OR

b Explain the preparation, properties and uses of Caro's acid.

12 a » What are terpenses? How are they classified?

OR

b v Write notes on method of preparation, properties and uses of Teflon.

13 a Explain elements of symmetry in crystals.

OR

b Distinguish between Weiss indices and miller indices.

14 a Differentiate between order and moleualarity of a reaction.

OR

b Derive an expression for the rate constant of first order reaction.

15 a What are the environmental segments?. Explain them.

OR

b Write short notes on photovoltaic effect.

SECTION - C (30 Marks)

Answer any **THREE** Questions

ALL Questions Carry **EQUAL** Marks (3x10 = 30)

16 What are interhalogen compounds? .Explain the method of preparation properties, structure and uses of IF_7. (2+2+2+2+2)

17. Write notes on (i) Acid dye (ii) Basic dye (iii) Mordant dye (iv) Vat dye. (2+2+3+3)

18 Discuss the structure of graphite and diamond. (5+5)

19 Explain any two methods of determining the order of reaction. (5+5)

20 What are the sources and effects of radioactive pollution? How can it be controlled? (3+4+3)