PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

1Ac.HCJC>2

BSc DEGREE EXAMINATION MAY 2017
(Third Semester)

Branch-**CHEMISTRY**

GENERAL CHEMISTRY-IH

Time : Three Hours . Maximum : 75 Marks

SECTION-A (20 Marks)

Answer **ALL** questions

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

1 Give any two uses of Diborare.

2 -. Write the structure of $SO_5^{2'}$ and $S_2O_g^{2'}$ ions.

3 Complete the reaction  CH_3COCl / $"AICI_3$?

4 Draw the Cis- and trans isomers of crotonaldehyde.

5 Write any two preparations of Dihydric alcohols.

6 Give the IUPAC name of the following halide compound.

i) $CH_3 - \underset{\displaystyle CH_3}{\overset{\displaystyle X}{\underset{|}{C}}} - CH_3$ ii>$Br-CH_2-CH = CH_2$

7 State second law of thermodynamics.

8 Define Entropy and efficiency.

9 Write the Gibbs-Deuhem equation.

10 Write the expression for Kp and Kc.

SECTION - B (25 Marks)

Answer **ALL** Questions

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

11 a Explain the structure of silicones arid mention any two uses.

OR

b Describe the structure and preparation of IF_5.

12 a Discuss the preparation and properties of Acroleis.

OR

b How does chinnamic acid reacts with the following reagents.

i) Na / Hg, H_20 ii) Chromic acid ' iii) NaOH, CaO.

13 a Explain the preparation and any three properties of CCI4.

OR

b Describe the preparation and properties of Dihydric pherol.

14 a Explain the Entropy change of an ideal gas with charges in P, V and T.

OR

b Derive the Gibbs - Helmholtz equation.

15 a Write a note on Nernst heat theorem.

OR

b Derive the Claoevron-clausius eauation.

SECTION - C (30 Marksl

' Answer any THREE Questions

ALL Questions Carry EQUAL Marks (3 x 1 0 = 30)

16 Discuss the preparation and properties of i) Barazole and ii) Dithionic acid.

17 a Explain the properties of Berzaldehyde in detail. *

b Discuss the preparation and any three properties of Alorylic acid,

18 a Explain the preparation, any two properties and uses of $CHC1_3$.

b How will you distinguish primary, secondary and tertiary alcohols?

19 Explain the Carnot cycle in detail.

20 a Briefly discuss the Le-Chatelier's Principle.

b Derive the Van't Hoff equation.

Z-Z-Z END