**PSG COLLEGE OF ARTS & SCIENCE**
(AUTONOMOUS) • ) -4-C-HCUc^

**BSc DEGREE EXAMINATION MAY 2017**
(Fifth Semester)

Branch- **CHEMISTRY**

**CORE ELECTIVE ! POLYMER CHEMISTRY**

Time : Three Hours Maximum : 75 Marks

**SECTION-A (20 Marks)**

Answer **ALL** questions
**ALL** questions carry **EQUAL** marks ( 1 0 x 2 = 20)

1 . What is addition polymerization?
2 What are emulsion polymerization?
3 What is end group analysis?
4* What are membrane osmometry?
5 ' What are glass transition temperature?
6 What is coherence energy?
7 Mention the preparation.of polyvinylchloride.
8 Draw the structure of starch and cellulose.
9 Mention any two degrading agents.
•10 • What are stabilizers?

**SECTION - B (25 Marks)**

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

11 a Explain the complex cationic mechanism of chain polymers.

OR

b Write note on natural polymers.

12 a How will you determine the weight average molecular weight of polymers?

OR

b What is Osmometry? How is it used to determine the molecular wt of polymer?

13 a Write note an electrical conductivity of polymers.

OR

v . .

b Write note on flame resistance property of polymers.

14 a Mention the characteristic applications of polyethylene.

OR

b Mention the applications of natural polymers.

15 a Write note on bio-degradable plastics.

OR

b Write note on anti-oxidant.

**SECTION - C (30 Marks)**

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

16 Write brief note on classification of polymers.

17 Calculate the molecular weight of polymers by ultra centrifugate method.

18 Explain primary and secondary bond forces in polymers. *

19 Write down any two characteristic applications of following:

i) PVC (ii) polyamide iii) Polyproplene iv) polyformaldehyde v) polyester

20 Write note on (!) Inhibitors (ii) Initiators (iii) Flame (iv) retardants (v) colourants.