

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2018  
(First Semester)

Branch – BIOCHEMISTRY

CHEMISTRY OF BIOPOLYMERS

Time: Three Hours

Maximum: 75 Marks

**SECTION -A (30 Marks)**

Answer ALL questions

ALL questions carry EQUAL Marks (5 x 6 = 30)

- 1 a Explain brief about the properties and functions of polysaccharides with mannose backbone.  
OR  
b Comment on the structure and biological functions of chitin and galactans.
- 2 a Give the importance of Ramachandran in elucidation of primary structure of proteins.  
OR  
b Write a note on supersecondary structures of proteins.
- 3 a What is Renaturation?  
Explain the agents which bring about renaturation.  
OR  
b Explain the structural conformation of collagen triple helix.
- 4 a Write the effect of salt and temperature on super coiling DNA.  
OR  
b Give an account on various models meant for bending of DNA.
- 5 a Write notes on 'unusual forms of DNA'.  
OR  
b Comment on the formation and stability of triple stranded DNA.

**SECTION -B (45 Marks)**

Answer any THREE questions

ALL questions carry EQUAL Marks (3 x 15 = 45)

- 6 Describe the occurrence, structure, properties and biological functions of Heteroglycans.
- 7 Discuss the various forces involved in the determination of secondary structure of proteins.
- 8 Explain in detail about mechanism of action of lysozyme.
- 9 Describe the Maxam and Gilbert method in sequencing DNA.
- 10 Define 'Triple DNA'. Explain various types of interactions between DNA and proteins.