

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2018  
(First Semester)

Branch – **BIOCHEMISTRY**

**CELLULAR BIOCHEMISTRY**

Time: Three Hours

Maximum: 75 Marks

**SECTION -A (30 Marks)**

Answer **ALL** questions

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

- 1 a How is glucose transported in the erythrocytes?  
OR  
b Comment on porins in gram negative bacterial membrane.
- 2 a Comment on the Laws of Thermodynamics.  
OR  
b Discuss on Glycerol phosphate shuttle.
- 3 a Brief on MAP kinase pathway.  
OR  
b What is the role of CREB downstream genes?
- 4 a Brief on the biochemical studies with oocytes, eggs and embryos.  
OR  
b What is Apoptosis and comment on apoptotic pathway?
- 5 a Comment on chemical carcinogenesis.  
OR  
b Discuss about the oncogenes in human cancer.

**SECTION -B (45 Marks)**

Answer any **THREE** questions

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

- 6 Notes on (i) Ionophores (ii) receptor mediated endocytosis.
- 7 Discuss on the shuttle system in mitochondria.
- 8 What is the role of Calcineurin and NFAT signaling in the development and function of the brain?
- 9 Discuss on the overview of the cell cycle and its control.
- 10 Elaborate on Tumour suppressor genes in the molecular diagnosis of cancer.