

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION DECEMBER 2017
(First Semester)

Branch - **BIOTECHNOLOGY**

CELL BIOLOGY

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks (10 x 2 = 20)

- 1 Define polysome.
- 2 What are the functions of microtubules?
- 3 Write the applications of fluorescence microscopy.
- 4 Define the principle of autoradiography.
- 5 What are the phases observed in mitotic cell division?
- 6 Write the role of MPF.
- 7 Draw the structure of proteoglycon.
- 8 What are the functions of plasmodesmata?
- 9 Define apoptosis.
- 10 Define heat shock protein with example.

SECTION - B (25 Marks)

Answer **ALL** Questions

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

- 11 a Write a short note on microfilaments.
OR
b Give a short note on cell organization.
- 12 a Write a detailed note on shadow casting for electron microscopy.
OR
b Give a detailed note on the principle and working mechanism of SEM.
- 13 a Write a short note on growth factor.
OR
b Give a short note on molecular mechanism of meiosis.
- 14 a Discuss on ECM.
OR
b Write a short note on collagen and fibronectin.
- 15 a Write a short note on role of calcium in cell signaling.
OR
b Write a short note on cancer genes.

SECTION - C (30 Marks)

Answer any **THREE** Questions

ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

- 16 Explain the ultra structure of cell organelles and their functions.
- 17 Explain the principle and applications of phase contrast microscopy.
- 18 Give a detailed note on cell cycle in eukaryotes.
- 19 Explain the structure and function of cell interaction.
- 20 Write a detailed note on cell signaling.