

**PSG COLLEGE OF ARTS & SCIENCE**  
(AUTONOMOUS)  
**BSc DEGREE EXAMINATION MAY 2017**  
(Third Semester)

Branch- **BOTANY**

**CELL & TISSUE BIOLOGY**

Time : Three Hours

Maximum : 75 Marks

**SECTION-A (20 Marks!)**

Answer **ALL** questions

**ALL** questions carry **EQUAL** marks

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(10 x 2 = 20)

- 1 Distinguish between endosmosis and exosmosis.
- 2 Expound functions of cell wall.
- 3 Comment on PLP model of membrane.
- 4 Distinguish between quantasomes and oxysomes.
- 5 Expound the functions of microtubules.
- 6 Comment on structural components of endoplasmic reticulum.
- 7 Distinguish between euchromatin and heterochromatin.
- 8 Comment on the zones of nucleolus. . \*
- 9 Expound companion cell.
- 10 Differentiate xylem fibres from bast fibres.

**SECTION - B (25 Marks)**

Answer **ALL** Questions

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

- 11 a Describe the process of imbibitions and add a note on its significance.  
OR  
b Describe various types of thickenings of cell wall.
- 12 a Describe the fluid mosaic model of plasma membrane.  
OR  
b "Mitochondria is a semi autonomous organelle" - Substantiate.
- 13 a Explain the types of endoplasmic reticulum and their functions.  
OR  
b Explain the structural components of Golgi complex.
- 14 a Comment on nucleocytoplasmic index and its significance.  
OR  
b Highlight the characteristic features of prokaryotic cell.
- 15 a Explain the characteristic features of collenchymas and its types.  
OR  
b Write a short note on various types of Sclereids.

**SECTION - C (30 Marks)**

Answer any **THREE** Questions •

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

- 16 Explain a) structure of cell wall b) chemical nature of cell wall and  
c) synthesis of cell wall.
- 17 Discuss the ultra structure of chloroplast.
- 18 Describe the types and ultra structure of ribosome. Add a note on its  
functions. \*
- 19 Explain various components seen in the ultra structure of an interphase nucleus.
- 20 Analyse the various structural components seen the Xylem.