

**PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)**

**BSc DEGREE EXAMINATION DECEMBER 2022
(Third Semester)**

Branch – **BOTANY**

CELL & TISSUE BIOLOGY

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks

(5 x 1 = 5)

1. Glucose molecules of cellulose are linked by

(i) peptide bond	(ii) glycosidic bond
(iii) hydrogen bond	(iv) phosphodiester bond
2. Lipids of plasma membrane are

(i) hydrophobic	(ii) hydrophilic
(iii) amphipathic	(iv) lipophilic
3. From the following find the odd function of Endoplasmic Reticulum.

(i) ATP synthesis	(ii) Transport of synthetic products
(iii) Synthesis of Nucleic acids	(iv) Synthesis of lipids
4. Each annulus of a nuclear pore consists of

(i) 4 granules	(ii) 6 granules
(iii) 8 granules	(iv) 10 granules
5. Tyloses can be seen in

(i) Tracheids	(ii) Vessels
(iii) Fibers	(iv) Sieve cells

SECTION - B (15 Marks)

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks

(5 x 3 = 15)

6. a State the chemical nature and functional significance of middle lamella of a plant cell wall.
OR
b Explain about lignin and their functional stability.
7. a Analyze the details of F₁ particles.
OR
b Elucidate various types of plastids.
8. a Classify the kinds of Endoplasmic Reticulum.
OR
b Summarize the details of microtubules.
9. a Highlight the functions of Nucleolus.
OR
b Bring out the features of chromatin network.
10. a Show the phenomenon of tissue differentiation.
OR
b Narrate the functions of collenchyma.

Cont...

SECTION -C (30 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks

(5 x 6 = 30)

11. a Discuss the plant cell as an osmotic system.
OR
b Outline the synthesis of plant cell wall.
12. a Justify the autonomous status of mitochondria.
OR
b Analyse the ultra-structure of a chloroplast.
13. a Expound the structure of ribosomes.
OR
b Explain the structure and functions of Golgi complex.
14. a Analyse the structure and components of nuclear pore.
OR
b Describe the ultra-structure of nucleus.
15. a Explain the structure of different sclereids.
OR
b Describe the structure of various elements of xylem.

Z-Z-Z

END