

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2019
(Third Semester)

Branch - BOTANY

CELL AND TISSUE BIOLOGY

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (10 x 1 = 10)

- 1 Which of the following groups has cell wall?
(i) Bacteria, Plants and Animals (ii) Bacteria, Fungi, Plants and Animals
(iii) Bacteria, Fungi and Plants (iv) Bacteria and Plants only
- 2 Plant cell wall is mainly composed of
(i) Cellulose (ii) Starch
(iii) Protein (iv) Lipid
- 3 Photosynthetic pigments are located on the
(i) Outer Membrane (ii) Inner Membrane
(iii) Thylakoid (iv) Cristae
- 4 Lipid bilayer is
(i) Hydrophilic (ii) Hydrophobic
(iii) Hydrophilic and Hydrophobic (iv) Depends on the surrounding medium
- 5 Zone of exclusion is associated with
(i) Golgi complex (ii) Nucleus
(iii) Nucleolus (iv) Nucleoplasm
- 6 RER is involved in
(i) Protein synthesis (ii) Lipid synthesis
(iii) Phospholipid synthesis (iv) Carbohydrate synthesis
- 7 Nucleoplasm is also known as
(i) Karyoplasm (ii) Hyaloplasm
(iii) Chromoplasm (iv) Cytosol
- 8 The basic protein of the nucleus is '
(i) Nucleohistone (ii) Glycoprotein
(iii) Chromoprotein (iv) Lipoprotein
- 9 The food conducting tissue of the plant is
(i) Phloem (ii) Xylem
(iii) Collenchyma (iv) Sclerenchyma
- 10 Collenchyma mainly forms
(i) Epidermis (ii) Endodermis
(iii) Hypodermis (iv) Pericycle

Cont...

SECTION - B (35 Marks)

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks (5 x 7 = 35)

- 11 a Explain the process of plasmolysis.
OR
b Outline the chemical composition of cell wall.
- 12 a Sketch and explain the structure of fluid mosaic model.
OR
b Describe the structure of mitochondria.
- 13 a Explain the various functions of endoplasmic reticulum.
OR
b Narrate the structure of ribosome.
- 14 a Describe the structure and functions of nuclear pore complex.
OR
b Summarise the chemistry of nucleus.
- 15 a Explain the types and function of collenchyma.
OR
b Classify the different types of sclereids.

SECTION - C (30 Marks)

Answer any **THREE** Questions

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

- 16 Elucidate the ultra structure of cell wall.
- 17 Discuss the ultra structure and functions of chloroplast.
- 18 Outline the structural variations and functions of golgi bodies.
- 19 Trace the ultra structure of nucleus.
- 20 Compare the structure of xylem and phloem.

Z-Z-Z

END