

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION DECEMBER 2018
(First Semester)

Branch - **BIOCHEMISTRY**

SUBCELLULAR BIOCHEMISTRY

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

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

Bacterial cell wall is made up of which chemicals?

- (i) N-acetyl glucosamine
- (ii) N-acetyl muranic acid
- (iii) Both (i) & (ii)
- (iv) N-acetyl glucosamine, N-acetyl muranic acid and amino acids.

Which is a moving gel like mixture inside the cell that holds all the organelles?

- (i) Cell membrane
- (ii) Cytoplasm
- (iii) Ribosomes
- (iv) Vacoules

Glucose Transporter in RBC is an example for which mechanism?

- (i) antiport
- (ii) Uniport
- (iii) Symport
- (iv) Facilitated diffusion

4 Name the process of engulfing of fluid particles through plasma membrane,

- (i) Phagocytosis
- (ii) Pinocytosis
- (iii) Exocytosis
- (iv) Endocytosis

Identify the non-membraneous organelle from the following.

- (i) Nucleus
- (ii) Endoplasmic reticulum
- (iii) Ribosome
- (iv) Chloroplast

Which organelle recycles or breaks down worn out cell parts?

- (i) Nucleus
- (ii) Vacoules
- (iii) Ribosomes
- (iv) Lysosome

Smooth ER is the site for synthesizing what?

- (i) Protein
- (ii) Lipid
- (iii) Carbohydrate
- (iv) Aminoacid

Which of the following is associated with the structure of golgi bodies?

- (i) Cisternae
- (ii) Cristae
- (iii) Annuli
- (iv) Quantasomes

Name he protein which is not involved in cell-cell adhesion.

- (i) Selection
- (ii) Integrin
- (iii) Cadherin
- (iv) Fibronectin

10 Which protein is found in connective tissues such as tendons and cartilage?

- (i) Collagen
- (ii) Mucin
- (iii) Selectin
- (iv) Is super family

SECTION - B (35 Marks)

Answer ALL Questions

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

- 12 a Explain the mechanism of phagocytosis.
OR
b State the structure and functions of gap junctions and desmosomes.
- 13 a State the morphology and functions of Glyoxysomes.
OR
b Describe the structure and functions of lysosomes.
- 14 a Sketch the structure of nucleus and add a note on its functions.
OR
b Describe the structure and function of Endoplasmic reticulum.
- 15 a Explain about cell adhesion molecules.
OR
b Outline the cell junctions - Gap and tight junctions.

SECTION - C (30 Marks)

Answer any **THREE** Questions

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

- 16 Summarise the proteins present in RBC membrane.
- 17 Highlight the transport of molecules across cell membrane with reference to active and passive diffusion.
- 18 Discuss the structure and functions of micro tubules.
- 19 Outline the structure and functions of mitochondria.
- 20 Examine the proteins present in ECM and illustrate its structure and function.

Z-Z-Z

END