PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2019
(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)

1 Who propose the fluid mosaic model of plasma membrane?
(i) Robertson (ii) Danielli and Davson
(iii) Singer and Nicolson (iv) Wolpers

2 Which one is an integral protein in RBC membrane?
(i) Band - 3 (ii) Spectrin
(iii) Tropomyosin (iv) Troponin

3 Name the term Macula adhaerens.
(i) Gap junction (ii) Tight junction
(iii) Demosomes (iv) intermediary junction

4 Identify the type of transport which needs energy and carriers
(i) Passive diffusion (ii) Facilitated transport
(iii) Filtration (iv) Active transport

5 Find the organelle which is involved in glyoxylate cycle.
(i) Lysosomes (ii) Glyoxysomes
(iii) Ribosomes (iv) Chromosomes

6 Label the protein present in microtubule.
(i) Actin (ii) Myosin
(iii) Tubulin (iv) Troponin .

7 What is Cristae?
(i) Outer membrane foldings (ii) Inner membrane foldings
(iii) Inter membrane space (iv) matrix

8 Identify the major function of Rough Endoplasmic Reticulum,
(i) Lipid synthesis (ii) Protein synthesis
(iii) carbohydratesynthesis (iv) Nucleic acid synthesis

9 Indicate the nature of fibronectin.
(i) Monomer (ii) Dimer
(iii) Trimer (iv) Tetramer

10 Which one is a triple helix structure?
(i) Integrin (ii) Fibronectin
(iii) Collagen (iv) Laminin

Cont...

SECTION - B (35 Marks)

Answer ALL Questions

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

11 a Bring out the important components of Plasma membrane.

OR

b Sketch the unit membrane model of the plasma membrane.

12 a Explain facilitated diffusion with example.

OR

b Describe the structure and functions of gap junction.

13 a Outline the structure and functions of peroxisomes.

OR

b Explain the chemistry and functions of micro filaments.

14 a Narrate the structure, types and functions of Endoplasmic reticulum.

OR

b How ATP is produced in Mitochondria?

15 a Bring out the different types of cell adhesion molecules.

OR

b Show the structure and functions of integrin.

SECTION - C (30 Marks)

Answer any THREE Questions

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

16 Outline the proteins present in Red Blood Cell membrane.

17 Summarise the antiport transport mechanism with one example.

18 Elucidate the structure and functions of cilia and flagella.

19 Point out the different parts of nucleus and their functions.

20 Discuss about the structure and functions of collagen.

Z-Z-Z END