



DCC-22

Seat No. _____

B. Sc. (Sem. II) Examination

July - 2022

Biochemistry : Paper - BC - 201

(Cell Biology) (New Course)

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

Instructions : (1) Objective types of questions are compulsory.
(2) Figure on the right indicates the mark of individual questions.

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|---|---|---|
| 1 | (A) Objective type questions: | 4 |
| | (1) What is the contribution of scientist Robert Hooke | |
| | (2) Enlist general types of cell. | |
| | (3) Plastids are present in _____ cell. | |
| | (4) Microtubule is made up of tubulin proteins.
True / false ? | |
| | (B) Write the answer in brief: (any 1 out of 2) | 2 |
| | (1) Structural organization of prokaryotic cell. | |
| | (2) Overview of Viruses. | |
| | (C) Write the answer in detail: (any 1 out of 2) | 3 |
| | (1) Difference between plant cell and animal cell. | |
| | (2) Define cell and give it's introduction and write history of cell biology. | |
| | (D) Write a note on: (any 1 out of 2) | 5 |
| | (1) Structure and function of cytoskeleton elements. | |
| | (2) Structural and functional diversities in eukaryotic cells. | |

- 2** (A) Objective type questions: **4**
- (1) Cell wall is located _____ the cell membrane.
 - (2) In tertiary cell wall, compound besides cellulose and, xylene is also present.
 - (3) What do you mean by pinocytosis ?
 - (4) Mitochondria described as "cellular power plants". True/false ?
- (B) Write the answer in brief: (any 1 out of 2) **2**
- (1) Draw the figure of Golgi bodies.
 - (2) Define marker enzyme with its example.
- (C) Write the answer in detail: (any 1 out of 2) **3**
- (1) Plasma membrane.
 - (2) Types of cell wall.
- (D) Write a note on: (any 1 out of 2) **5**
- (1) Chloroplast with it's figure.
 - (2) Homogenization method and isolation of cell organelles.
- 3** (A) Objective type questions: **4**
- (1) What is cytokinesis ?
 - (2) G2 phase is followed by cell division. True/false ?
 - (3) The first growth phase after cell division is _____.
 - (4) The spindle is formed in _____ phase.
- (B) Write the answer in brief: (any 1 out of 2) **2**
- (1) Define cell cycle.
 - (2) What is mitosis ?
- (C) Write the answer in detail: (any 1 out of 2) **3**
- (1) Apoptosis
 - (2) Meiotic cell division part 1
- (D) Write a note on: (any 1 out of 2) **5**
- (1) Eukaryotic cell cycle and it's check point.
 - (2) Mitosis and their significance.

- 4 (A) Objective type questions: 4
- (1) What is plasmodesmata ?
 - (2) Which junction is called septate junction ?
 - (3) Tight junction is maintaining cell polarity and mobility of the integral protein. True/false ?
 - (4) What is gap junction ?
- (B) Write the answer in brief : (any 1 out of 2) 2
- (1) Draw the figure of Tight junction.
 - (2) What is focal adhesion ?
- (C) Write the answer in detail : (any 1 out of 2) 3
- (1) Difference between collagen and non-collagen components.
 - (2) Cell-cell interaction.
- (D) Write a note on: (any 1 out of 2) 5
- (1) Desmosome and hemi desmosome.
 - (2) Components of extra cellular matrix.
- 5 (A) Objective type questions : 4
- (1) Full form of FRAP.
 - (2) Enlist the types of passive transport.
 - (3) Which transport requires input of metabolic energy in the form of ATP ?
 - (4) In ion driven Active transport, which ions usually transported in coupled ?
- (B) Write the answer in brief: (any 1 out of 2) 2
- (1) Define phospholipid.
 - (2) What is simple diffusion and facilitated diffusion ?
- (C) Write the answer in detail: (any 1 out of 2) 3
- (1) Singer & Nicholson model of plasma membrane.
 - (2) Lateral movement and flip-flop movement of phospholipid.
- (D) Write a note on : (any 1 out of 2) 5
- (1) FRAP experiment,
 - (2) Transport of ions and molecules across the biological membrane.