

B.Sc. Third Year CBCS Pattern Semester-VI
USBCDST-15 - (DSE-III) - Biochemistry-III : Advanced Cell Biology

P. Pages : 2

Time : Three Hours



GUG/W/23/13339

Max. Marks : 50

Notes : 1. All questions are compulsory and carry equal marks.

1. Discuss in detail structure and function of: **10**

i) Tight Junctions.

ii) Gap Junctions.

OR

a) Give an account of ultrastructure of Nuclear envelope. **2½**

b) How Nuclear protein imports and exports across the nuclear envelope? **2½**

c) Discuss different types of Cell-Cell interactions. **2½**

d) Write a note on Desmosomes. **2½**

2. Discuss in detail apoptosis. **10**

OR

a) Write a note on Mitosis. **2½**

b) Discuss the regulation of cell division. **2½**

c) Discuss the hematopoiesis. **2½**

d) Write a note on Therapeutic cloning. **2½**

3. Give an account of oncogenes and Tumor viruses. **10**

OR

a) Discuss different causes of cancer. **2½**

b) Explain with example genetic basis of cancer. **2½**

c) Write a note on Molecular approach to Cancer treatment. **2½**

d) Discuss tumor suppressor genes with examples. **2½**

4. Give an account of plant tissue culture. 10

OR

- a) Discuss the separation of cell by ultracentrifugation. 2½
- b) Write a note on fluorescence microscopy. 2½
- c) Discuss transmission electron microscopy. 2½
- d) Discuss immunohistochemistry. 2½

5. Solve **any ten** from following. 10

- a) What is role of cholesterol in cell membrane?
- b) Flip-flap movement in cell membrane is carried out by ----- enzyme.
- c) The diameter of nuclear pore ranges between ----- (Fill in the blanks).
- d) Define necrosis.
- e) Who is precursor of platelets?
- f) What is time span for M-phase in cell division?
- g) Define mutagen.
- h) Name the test given to detect mutation.
- i) E.Coli^{-arg, -lys} meaning, E.coli cell could not able to synthesize arginine, lysine, -----
True or false?
- j) Define wall effects.
- k) What is density gradient centrifugation?
- l) What is full form of FACS?
