



## 2018/TDC/ODD/BTCC-102T/109

**TDC (CBCS) Odd Semester Exam., 2018**

### BIOTECHNOLOGY

**( 1st Semester )**

Course No. : BTCHCC-102T

**( Cell Biology )**

*Full Marks : 50*

*Pass Marks : 20*

*Time : 3 hours*

*The figures in the margin indicate full marks  
for the questions*

**Answer all questions**

#### UNIT—I

1. Answer any *two* questions of the following :

- (a) Who proposed modern cell theory with the statement? 2
- (b) What is plasmodesmata? What is its importance? 2
- (c) What are the chemical composition of cytosol? 2

( 2 )



<http://www.elearninginfo.in>

2. (a) Based on the structure of cell, briefly classify the organism with citing proper example. 6

Or

(b) Define cell fractionation. Describe the process of cell fractionation. 6

UNIT—II

3. Answer any two questions of the following :

(a) Write the difference between permeability and semipermeability. 2

(b) Write the chemicals involved in structural stability of cell membrane. 2

(c) What do you mean by cell recognition? 2

4. (a) Illustrate the membrane transport system in cell with proper model. 6

Or

(b) Who discovered fluid mosaic model? Draw and describe the fluid mosaic model. 6

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( Continued )

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UNIT—III

5. Answer any two questions of the following :

(a) What is cytoskeleton? Write its function. 2

(b) What are the different types of intermediate filaments? 2

(c) Name two proteins with their functions associated with the microtubules. 2

6. (a) Draw and describe the structure of endoplasmic structure with function. 6

Or

(b) Write a note on biogenesis of Golgi complex and its role in protein secretion. 6

UNIT—IV

7. Answer any two questions of the following :

(a) When and who discovered nucleus? 2

(b) What is  $F_0-F_1$  particle? 2

(c) Why is lysosome known as the suicidal bag of the cell? 2

8. (a) Describe the ultrastructure of mitochondria and add a note on how ATP is forming inside the mitochondria. 6

Or

(b) What is kinetochore? Write in detail the structure of eukaryotic chromosome. 6

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( Turn Over )





UNIT—V

9. Answer any *two* questions of the following :

(a) What are extracellular matrix (ECM)?  
What are the functions of ECM? 2

(b) Write the name of some signalling molecule with function. 2

(c) What are macromolecules? What are the importance of microtubule? 2

10. (a) Add a note on receptor molecules of cell and describe the signal transduction pathway in cell. 6

Or

(b) Write in detail about molecular basis of cancer generations. 6

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