2018/ODD/09/28/BTY–102/030

PG Odd Semester (CBCS) Exam., December—2018

BIOTECHNOLOGY

(1st Semester)

Course No. : BTYCC–102

(Cell Biology)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. *(a)* What are cell organelles? Write about the structure and function of mitochondria. 8

(b) Write a note on cell motility. 6

OR

2. *(a)* What is microscopy? Discuss the features of a scanning electron microscope. 2+6=8

(b) Write a note on cell counting. 6

3. *(a)* Discuss the 'Fluid Mosaic Model' of membrane structure. 6

(b) Write short notes on the following : 4+4=8

(i) PIP_2 signaling

(ii) Akt signaling

OR

4. *(a)* Differentiate between structure and function of receptors for growth factors and cytokines. 8

(b) Write short notes on the following : 3+3=6

(i) Facilitated diffusion

(ii) MAPK signaling

5. *(a)* What do you mean by extracellular matrix? Write about its important constituents. 2+5=7

(b) Write a note on cell lineage. 7

OR

6. Write notes on the following : 4+5+5=14

(a) Microfilaments

(b) Cell adhesion molecules

(c) Types of cell division during development

7. *(a)* What are growth factors? What role do they play during carcinogenesis? 2+5=7

(b) Write a note on oncogenes citing suitable examples. 7

OR

8. What is cancer? Write in detail about the etiology of cancer. 4+10=14

9. Write a short note on the development of plant cell wall. Explain the role of plasmodesmata in virus transfer. 7+7=14

OR

10. Write a note on programmed cell death in plants. 14

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