

Reg. No.

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B.E. / B.TECH. DEGREE EXAMINATIONS, DEC 2019

Third Semester

BT16303 – CELL BIOLOGY*(Biotechnology)***(Regulation 2016)****Time: Three Hours****Maximum : 100 Marks**Answer **ALL** questions**PART A - (10 X 2 = 20 Marks)**

	CO	RBT
1. Write short notes on prokaryotes.	1	R
2. State the function of mitochondria in a cell.	1	R
3. What is the significance of meiosis?	1	U
4. What is a gap junction?	1	U
5. Define endocytosis.	1	U
6. Write a short notes on passive diffusion.	2	AP
7. What is a G protein receptor?	2	AP
8. Define a secondary messenger.	2	AP
9. What is homogenization?	3	AN
10. Mention the importance of Hoechst staining.	3	AN

PART B - (5 X16 = 80 Marks)

11. (a) (i) Draw a diagram of a cell and label the components.	(8)	1	R
(ii) Describe the function of golgi apparatus and lysosomes.	(8)	1	U
(OR)			
(b) (i) Describe the structure of the cell membrane.	(8)	1	U
(ii) Explain microtubules.	(8)	1	U
12. (a) (i) Explain the mechanisms of mitosis.	(12)	2	AP
(ii) State the importance of mitosis.	(4)	2	AP
(OR)			
(b) (i) Describe ECM and its components.	(12)	2	AP

- (ii) Explain the importance of ECM in tissue repair. (4) 2 AP
13. (a) (i) Write a detailed note on passive transport. (8) 2 AP
(ii) Describe sodium pump and its importance in a cell. (8) 2 AP
- (OR)**
- (b) (i) Write a detailed note on active transport. (8) 2 AP
(ii) Describe calcium pump and its importance in a cell. (8) 2 AP
14. (a) (i) Explain cell signaling mechanisms following a hormonal action. (12) 2 AP
(ii) Explain the importance of cell signalling. (4) 2 AP
- (OR)**
- (b) (i) Describe cAMP pathway for cell signalling. (12) 2 AP
(ii) Describe a technique to measure the viability of cells with an example. (4) 2 AP
15. (a) (i) Describe cell fractionation techniques. (8) 3 AN
(ii) Explain the principle and applications of MTT assay. (8) 3 AN
- (OR)**
- (b) (i) Explain flow cytometry and its applications. (8) 3 AN
(ii) Describe TEM and its importance. (8) 3 AN