

**Avinashilingam Institute for Home Science and Higher Education for Women  
Coimbatore-641 043**

**Bachelor's Degree Examination –November 2017**

**I Semester**

**Class : I UG**

**Time: 3 hours**

**Major: Biochemistry and Biotechnology**

**Max. Marks: 100**

**15BBTC01 / 11BBTC01 Introduction to Biotechnology and Cell Biology**

**Part-A**

**10 x 1=10**

**Choose the correct answer**

1. Which one of the following is an exception to cell theory?  
a. Bacteria                      b. Viruses                      c. Protists                      d. Protozoans
2. Cell was discovered by  
a. Leeuwenhoek                      b. Robert Hooke  
c. Robert Swanson                      d. Robert Brown
3. Ribosome are synthesized in part of cell called  
a. Golgi complex                      b. mitochondria  
c. nucleolus                      d. nucleus
4. Mitochondrial DNA (mtDNA) is considered as one of the best marker tool for population biologists and evolutionary biologists. The reason for this is:  
a. Mitochondrial DNA undergo spontaneous mutation  
b. Mitochondrial DNA can be easy isolated  
c. Mitochondrial genes are specific to mtDNA  
d. Absence of genetic recombination in mtDNA
5. Which of the following correctly matches an organelle with its function?  
a. central vacuole . . . storage                      b. ribosome . . . manufacture of lipids  
c. lysosome . . . movement                      d. nucleus . . . cellular respiration
6. What are the two faces of the Golgi body?  
a. Funny face and goofy face                      b. Coated face and non-coated face  
c. Saving face and loosing face                      d. Cis face and Trans face
7. The microfilaments composed of  
a. Tubulin protein                      b. Gelatin protein  
c. Keratin protein                      d. Actin protein
8. An example of a known oncogenic virus is:  
a. Epstein-Barr virus                      b. HIV-2  
c. Herpes zoster                      d. Vesicular stomatitis virus
9. Doctrine of specific nerve energies was proposed by:  
a. Henry head                      b. Charles Sherrington  
c. Muller                      d. Penfield
10. Many tumour cells exhibit abnormal  
a. Chromosomes                      b. RNA  
c. Golgi bodies                      d. All the above

**PART – B**  
**Answer the following (5 X 6 = 30)**  
**Answer should not exceed 400 words or two pages**

11. (a). Write short note on cell theory .  
(or)  
(b). Describe the biochemical composition of cell.
12. (a). Explain the functions of lysosomes.  
(or)  
(b). Illustrate about cytosol.
13. (a). Give an account on paracrine.  
(or)  
(b). Discuss the cell synchrony.
14. (a). Explain the intermediary filaments.  
(or)  
(b). Describe the nerve cells.
15. (a). Write a role of telomerase.  
(or)  
(b). Elucidate the blastula formation.

**PART – C**  
**Answer the following (5 X 12 = 60)**  
**Answer should not exceed 800 words or four pages**

16. (a). Describe the recent industrial development of biotechnology .  
(or)  
(b). Write a detail note on eukaryotic cells.
17. (a). Explain the structure and functions of endoplasmic reticulum.  
(or)  
(b). Discuss the structure and functions of ribosomes.
18. (a). Write an essay on mitosis.  
(or)  
(b). Describe the cell-cell interaction.
19. (a). Elaborately discuss smooth muscle .  
(or)  
(b). Write a detail note on synapses.
20. (a). Explain the seed germination.  
(or)  
(b). Describe the necrosis.

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