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Question Paper Code: 94D02

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2022

Fourth Semester

Biomedical Engineering

19UBT402- Cell Biology

(Regulation 2019)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Describe what scientists know about the origins of eukaryotes based on the last common ancestor. CO1- U
2. Name examples of prokaryotic and eukaryotic organisms. CO1- U
3. Why Lysosomes are known as suicide bags? CO2- App
4. What is function of Golgi bodies? CO1- U
5. Define active and passive transport. CO1- U
6. Explain Na-K pump. CO1- U
7. What is meant by the term signal transduction? CO1- U
8. What is a second messenger? Why do you suppose it is called this? CO2- App
9. Explain cell cycle with definition. CO1- U
10. Define stem cell and its types CO1- U

PART – C (5 x 16= 80 Marks)

11. (a) Explain in detail about the origin and evolution of cell and eukaryotes CO1- U (16)
- Or
- (b) Discuss in detail about the evolution of multi cellular organisms CO1- U (16)

12. (a) Explain in detail about the organization of nucleus genome. Why is it called as the control center of the cell? CO1- U (16)
Or
(b) Describe in detail about cytoskeleton proteins and its types CO1- U (16)
13. (a) Describe in detail about the two types of vesicle transport with neat diagram. Which type moves substances out of the cell? CO1- U (16)
Or
(b) Define active transport. Explain in detail about the primary and secondary active transport CO1- U (16)
14. (a) Write a detailed note on cell surface receptors pathway CO1- U (16)
Or
(b) Write a detailed note on intracellular receptors pathway CO1- U (16)
- 15 (a) Explain in detail how stem cells are differentiated. Discuss about the therapeutic applications of stem cells. CO2- App (16)
Or
(b) Discuss in detail how the apoptotic pathways are targeted towards Cancer Therapeutics. CO2- App (16)