ST. JOSEPH'S COLLEGE (AUTONOMOUS), BANGALORE
END SEMESTER EXAMINATION – October 2018
M.Sc MICROBIOLOGY
MB – 7214: Cellular Microbiology
This question paper has 2 pages and 4 parts
Supplementary candidates only.
Attach the question paper with the answer booklet

Time: 3hrs **Max Marks: 100**

I. Answer any Five of the following **5 x 3 = 15**

1. Give six functions of the cell membrane.
2. What is actin treadmilling?
3. Where do you find the Z ring? What is its function?
4. What are the three types of intercellular signals?
5. Give three therapeutic uses of toxins.
6. What are M cells? Where are they found?
7. Give 3 examples of materials that make up the extracellular space.

II.Answer any Five of the following **5x 6 = 30**

8. Write a detailed note on glycosylation of proteins in the golgi bodies.
9. Represent extrinsic pathway of apoptosis in a flowchart from.
10. Explain with the help of diagrams movement of flagella or cilia.
11. Write a short note on how pathogens survive within phagolysosomes.
12. How do eukaryotic cells interact with their external environment?
13. Explain the maturation of biofilms.
14. Give classification of toxins.

III. Answer any Three of the following **3 x 15 = 45**

15. What are tumor suppressor genes? Explain how RB gene acts as a tumor suppressor and what causes tumor development?
16. Describe in detail the control over cell cycle progression by Cyclins and cdks in detail.
17. Explain quorum sensing in Myxobacteria.
18. Calcium is an important intracellular messenger. Justify.
19. Write notes on– A. Vesicular transport. B. Muscle movement.

IV. Answerthe following **1 x 10 = 10**

20. A research laboratory was trying to elucidate a certain biochemical pathway, and a signaling protein therein was found to have a PTB domain. Which type of signaling pathway is it according to you? Describe the pathway.