

M. Sc. II Year

Semester- III

**EXAMINATION-2022**  
**PAPER NAME: CELLULAR MICROBIOLOGY**  
**PAPER CODE: MMB E303**

**Time: 3 hour**

**Max. Marks: 70**  
**Min. Pass: 40%**

**Note:** Question Paper is divided into two sections: **A and B.** Attempt both the sections as per given instructions.

**SECTION-A (SHORT ANSWER TYPE QUESTIONS)**

**Instructions:** Answer any five questions in about 150 words (5 X 6 = 30 Marks) each. Each question carries six marks.

Question-1: Write a short note on idiopathic disease with suitable examples.

Question-2: Describe briefly the role of pheromone in cell signaling.

Question-3: Describe the organization & structural stability of microtubules.

Question-4: Write short note on pathogenicity islands.

Question-5: Briefly describe the difference between prokaryotic and eukaryotic cells.

Question-6: Give a brief account on exocytosis and endocytosis.

Question-7: Give a brief account on bacterial adherence mechanism.

Question-8: Write short note on genomic expression.

Question-9: Write a short note on apoptosis.

Question-10: Give a brief account on RTX toxins.

**SECTION-B (LONG ANSWER TYPE QUESTIONS)**

**Instructions:** Answer any FOUR questions in detail. (4 X 10 = 40 Marks)  
Each question carries 10 marks.

Question-1: Give a details account on different stages of cell cycle with diagram.

Question-2: Describe the different type of Symbiotic Relationships including mutualism, commensalism and parasitism.

Question-3: Write a details account on outcome of activation of signaling pathways.

Question-4: Give a detail account on quorum sensing.

Question-5: Define cell signaling? Give a detail account on cell to cell signaling with reference to endocrine and cytokines.

Question-6: Give a details account on bacterial invasion of host cells, its mechanism and consequence of invasion, survival and growth after invasion.

Question-7: Give a detail account on classification of bacterial toxin on the basis of activities.

Question-8: Write a detail account on application of cellular microbiology to the generation of novel therapeutics.