

# Question Paper

Exam Date & Time: 29-Nov-2017 (02:00 PM - 05:00 PM)



**MANIPAL ACADEMY OF HIGHER EDUCATION**

**MANIPAL COLLEGE OF PHARMACEUTICAL SCIENCES  
END SEMESTER THEORY EXAMINATIONS - NOVEMBER 2017**

**PROGRAM: MPHARM SEMESTER 1**

**DATE: 29/11/2017**

**TIME: 2:00PM - 5:00PM**

**Microbial and Cellular Biology [PBT-MPB102T]**

**Marks: 50**

**Duration: 180 mins.**

**Answer all the questions.**

**Answer the following (5 marks x 8 = 40 marks)**

- 1) Classify bacteria based on the cell wall characteristics and elaborate on the chemical structure of any one type. (5)
- 2) Explain the lytic cycle of bacteriophage with suitable diagram. (5)
- 3) Explain the concept of lac operon. (5)
- 4) Write a note on base excision repair and nucleotide excision repair mechanisms. (5)
- 5) Give a brief outline on the different phases of normal mammalian cell cycle. (5)
- 6) Describe the cell cycle control system with emphasis on checkpoints. (5)
- 7) Compare the different types of cell cultures. (5)
- 8) Write a note on the modes and significance of adherence in bacterial colonization. (5)

**Answer the following with specific answers (2 marks x 5 = 10 marks)**

- 9) Sketch the normal bacterial growth curve and mention its phases. (2)
  - A)
  - B) Briefly explain the three steps in the elongation phase of translation process. (2)

- C) Enlist four differences between necrosis and apoptosis. (2)
- D) Give an outline of disaggregation of animal tissue for cell culturing. (2)
- E) What is HAART therapy? Mention any two inhibitors in this category. (2)

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