

# Rajiv Gandhi University of Health Sciences, Karnataka

## II Year B.Pharm Degree Examination – DEC-2014

**Time: Three Hours****Max. Marks: 70 Marks**

### PHARMACEUTICAL MICROBIOLOGY & BIOTECHNOLOGY (Revised Scheme 3)

**Q.P. CODE: 2607**

Your answers should be specific to the questions asked  
Draw neat labeled diagrams wherever necessary

**LONG ESSAYS (Answer any Two)****2 x 10 = 20 Marks**

1. What are plasmids? Explain the basic steps and the role of restriction enzymes, ligases and vectors in recombinant DNA technology.
2. Explain the principles of microbiological assay of vitamins and antibiotics. Describe the turbidimetric method of assay of vitamins.
3. What is D-value in sterilization? Discuss the equipment, validation and applications of filtration sterilization. Mention its advantages and limitations.

**SHORT ESSAYS (Answer any Six)****6 x 5 = 30 Marks**

4. What are flagella? Show diagrammatically the arrangement of flagella on bacterial cells.
5. Draw a sketch of the bacterial growth curve. Explain briefly the different phases.
6. What are the various methods of isolation of pure culture?
7. Explain the mechanism of action and applications of chlorine compounds and quaternary ammonium compounds.
8. What is mutation? How is it brought about? Discuss frameshift mutations.
9. Explain the principle of Elisa test.
10. Discuss the production of monoclonal antibodies.
11. How is Penicillin manufactured?

**SHORT ANSWERS****10 x 2 = 20 Marks**

12. What are the contributions of Louis Pasteur to the science of Microbiology?
13. Distinguish between lithotrophs and organotrophs.
14. Differentiate between gram (+) ve and gram (-) ve bacteria.
15. What are bacteriophages?
16. What are sterilization monitors? Explain their uses.
17. What is meant by chemically defined media?
18. What materials are sterilized by dry heat method?
19. What is the importance of Chick-Martin test?
20. What are cosmids?
21. Shick's test.

\*\*\*\*\*