

**D.K.M. COLLEGE FOR WOMEN (AUTONOMOUS), VELLORE – 1****SEMESTER EXAMINATIONS****APRIL – 2019****15CMB6C****INDUSTRIAL AND PHARMACEUTICAL MICROBIOLOGY**

---

**Time: 3 Hrs****Max. Marks: 75****SECTION – A (10 X 2 =20)****Answer ALL the questions.**

1. Define Fermentation.
2. Name any two industrially important microorganisms.
3. What is Microbial transformation?
4. What are Steroids?
5. What are Recombinant vaccines?
6. Define Vaccine.
7. What are the Biological indicators used as Sterilization monitors?
8. Define Sterility test.
9. What is Pyrogen Test?
10. Define Quality control.

**SECTION – B (5 X 5 =25)****Answer any FIVE of the following questions.**

11. Write a note on media formulation and sterilization for industrial fermentation.
12. Explain the steps of inoculum development for fermentation process.
13. Write the steps in production of Glutamic acid.
14. Explain the various steps involved in microbial production of Penicillin.
15. Write short note on hygiene and protective clothing.
16. Explain the steps in production of vaccines.
17. Give an account Rideal Walker method of Disinfectant evaluation.
18. What are the quality control techniques used in pharmaceutical industries?

**SECTION – C (3 X 10 =30)****Answer ALL the questions.**

19. a) Explain the various techniques involved in improving industrial strains.  
(Or)  
b) Explain the steps involved in the production of Vitamin B12.
20. a) Write a detailed account on Ecology of microorganisms affecting Pharmaceutical industries.  
(Or)  
b) Explain the steps in Microbial production of Citric acid in detail.
21. a) Define Disinfectant. Explain the role of various disinfectants used in Pharmaceutical industries.  
(Or)  
b) What is preservation? Write an essay on preservation of Pharmaceutical products with suitable example.