



[Time: 3 Hours]

[Max. Marks: 100]

PHARMACEUTICAL BIOTECHNOLOGY - I

(RS 2 & RS 3)

Q.P. CODE: 9312

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

LONG ESSAY (Answer any FOUR)

4 X 25 = 100 Marks

1. a) Define taxonomy, species, strain and binomial system. Discuss numerical taxonomy
b) Differentiate anabolism from catabolism. Explain glycolysis, with respect to carbohydrate metabolism
2. a) Enlist any four important characteristics of viruses and discuss the replication process of animal viruses containing RNA
b) Describe the nutritional requirements of bacteria with specific examples and explain the mechanisms of substrate entry into the cell
3. a) Define Mutation and enlist various mutagens with specific examples. Discuss various strain improvement techniques
b) Differentiate primary screening from secondary screening. Discuss the detection methods and briefly outline the assay methods of fermentation products
4. a) Discuss the production of citric acid by fermentation and mention its uses
b) Explain the salient features of mixed fermentation and discuss animal cell culture techniques
5. a) Discuss the production of penicillin by fermentation process
b) What are the advantages of microbial transformations over other methods? Discuss microbial transformations of alkaloids and terpenes
6. Write short notes on:
 - a) Growth of microorganisms and general considerations
 - b) Aerobic respiration and anaerobic respiration
 - c) Ergot alkaloids
 - d) Role of plasmids in antibiotic resistance
 - e) Patents

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