

[This question paper contains 2 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 5162

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Unique Paper Code : 2534001205

Name of the Paper : Microbial Products in Therapeutics

Name of the Course : Microbiology

Semester : VIII

Duration : 2 Hours

Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt five questions in all.
3. All questions carry equal marks. Attempt all parts of a question together.

Ques. 1. a. Differentiate between the following (any two): 3x2=6

- i. Batch and Fed-batch fermentation
- ii. Flocculation and filtration
- iii. Primary screening and secondary screening

b. Give an example of producer organism and uses of serratiopeptidase and tissue plasminogen activator. 3+3=6

Ques. 2.a. What are the features and benefits of probiotics? Explain with a suitable example.

4+3=7

b. What is solid state fermentation? How is it different from submerged fermentation?

3+2=5

Ques. 3. a. Write a short note on any three of the following microbial therapeutics as biopharmaceuticals:

3x3=9

- i. Collagenase
- ii. Insulin
- iii. Cyanocobalamin
- iv. Amylase

b. Define bactotherapy and give its use.

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Ques. 4. a. Describe any two microbial transformations used in the production of steroid-based pharmaceuticals. 3+3=6

b. Draw a well labelled diagram of a continuously stirred tank reactor. 6

Ques. 5. a. What is the mode of action, uses and producer microorganisms of the following antibiotics (any three) : 4x3=12

- i. Tetracycline
- ii. Griseofulvin
- iii. Cephalosporin
- iv. Neomycin

Ques. 6. a. Discuss the microbial products- bacteriocins and lysozyme as enzybiotics. Give examples of the microorganisms producing them. 3+3=6

b. What are the different mechanisms of antimicrobial resistance exhibited by microorganism? 4

c. Give any two examples of anticancer agents produced by microorganisms. 2