

P. Pages : 2

Time : Three Hours



AW - 3510

Max. Marks : 80

- Notes :
1. Answer **all** question from Section A and **all** question from Section B.
  2. Diagrams and chemical equations should be given wherever necessary.
  3. Illustrate your answer necessary with the help of neat sketches.

**SECTION – A**

1. a) Describe major groups of commercial important fermentation processes. 8
- b) Draw a schematic diagram of general Fermentation process. 6

**OR**

2. a) Give the composition of general fermentation medium. 8
- b) Write a note on antifoam. 6
3. a) Describe in detail manufacture of fungal single cell protein by continuous cultivation. 8
- b) What is single cell protein? Enlist microorganisms from each category. 5

**OR**

4. a) Explain in detail manufacture of active dry and wet yeast. 9
- b) Give the applications of yeasts in food industry. 4
5. a) Describe growth Kinetics of batch culture. 10
- b) Give the applications of fed batch culture. 3

**OR**

6. a) Describe the dynamic method of gassing out of  $k_L a$  measurement. 7
- b) Discuss the fermentation fluid theology. 6

**SECTION – B**

7. a) Describe the various designs of agitator in a fermenter design. 7
- b) Discuss filter sterilization of incoming is exhaust air from fermenter. 7

**OR**

8. a) Describe in detail manufacture of lactic acid by fermentation. [www.FirstRanker.com](http://www.FirstRanker.com) [www.FirstRanker.com](http://www.FirstRanker.com) 10
- b) Give the industrial applications of lactic acid in Food industry. 3
9. a) Draw a schematic diagram of solid state fermenter with various controls. 7
- b) Give the advantages & disadvantages of solid state fermentation. 6

OR

10. a) Describe in detail manufacture of red wine. 8
- b) Discuss malolactic fermentation. 5
11. a) Describe the method of enzyme immobilization by polymer entrapment. 8
- b) Give the applications of enzyme immobilization in food industry. 5
12. a) What is B.O.D. and C.O.D? Describe biological treatment by trickling filter. 8
- b) Write a note on Carotenoid fermentation. 5

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