

SE. Sem - IV (Biotech)  
Fermentation Technology

29/5/19

QP Code : NP-19776

(2 Hours)

27

[ Total Marks : 60

- N.B. : (1) Questions No. 1 is compulsory.  
(2) Attempt any 3 questions out of the remaining 5 questions.  
(3) Draw suitable diagrams.

1. Explain the following (any four) :-

- (a) Enrichment Technique
- (b) Air sterilization methods
- (c) Application of Baker's Yeast
- (d) Biopesticides
- (e) Carbon catabolite prepression.
- (f) Relationship between doubling time and specific growth rate.

20

2. (a) Differentiate between the following :-

- (i) Batch and continuous fermentation.
- (ii) Upstream and downstream processing.
- (iii) Absolute and fibrous type of air filters.

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(b) Describe the process of oxygen transfer methodology from the air bubble to the cluster of cells in the fermentation broths.

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3. (a) With a suitable diagram explain the various parts of a fermenter.

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(b) Explain production of acetic acid by trickling generator method. How this acetic acid differs from that obtained by Orleans method,

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4. (a) How feedback inhibition resistant mutants obtained by gradient plate method? Discuss the merits of the method.

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(b) What are the different criteria considered for the medium to be used for an industrial fermentation process.

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5. (a) Define inoculum development? Explain the important points to be considered in developing an inoculum.

5

(b) Explain the production of ethanol on the basis of -

15

- (i) Microorganisms used
- (ii) Type of raw materials
- (iii) Recovery

6. (a) What are the general requirements of a fermentation process. Describe any three raw materials which can be used on an industrial scale to produce products.

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(b) Explain how beer is made through fermentation.

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