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**D.K.M.COLLEGE FOR WOMEN (AUTONOMOUS), VELLORE-1**

**SEMESTER EXAMINATIONS**

**NOVEMBER - 2017**

**15CPBT3B**

**BIOPROCESSING TECHNOLOGY**

**Time : 3 Hrs**

**Max.Marks : 75**

**SECTION-A (5x 6 =30)**

**Answer ALL the questions.**

1. (a) How do we translate natural limitations into design considerations for algal growth?  
(Or)
  - (b) (i) How vortex formation is prevented during fermentation. (2)
  - (ii) State whether each of the following characteristics relates best to either a packed bed reactor or a stirred tank reactor. (Assume both are working in continuous mode) (2)
    - (a) Conditions can be easily optimized.
    - (b) Unconverted substrate may be washed out of the reactor due to channel formation.
  - (iii) What is the role of impeller and agitator in a bioreactor? (2)
2. (a) Differentiate between
  - (i) Simple media and complex media (3)
  - (ii) Absolute filters and Depth filters. (3)(Or)
  - (b) "For obtaining stationary phase culture, batch cultivation is preferred than continuous cultivation" Substantiate your response.
3. (a) Explain any one method employed for separating insoluble components in a fermentation process.  
(Or)
  - (b) Write short notes on the following
    - (i) Affinity chromatography.
    - (ii) Aqueous – aqueous extraction.
4. (a) What kind of fermenter and fermentation condition is employed for the production of ethanol? Why?  
(Or)
  - (b) With the flow chart, comment on the manufacture of L-Glutamic acid.
5. (a) Summarize the production of single cell protein with an example.  
(Or)
  - (b) Give a detailed flow chart for the production of cheese.

**SECTION-B (3x15 =45)**

**Answer any THREE of the following questions.**

6. (i) Explain in detail about the following
  - (a) Air –Lift and
  - (b) Fluidized bed Bioreactor (10)
- (ii) On what basis is the selection of the reactor made? (5)
7. What is culture media? Discuss about the medium requirements for fermentation process.
8. Write notes on:
  - (i) Any two industrially followed cell disruption methods (7)
  - (ii) Salting- out of the proteins (8)
9. Give a detailed account on improvement of industrially important microorganism for the over production of primary and secondary metabolites?
10. Discuss in detail about the fermentation process for the wine production

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