P. S. SCIENCE & H. D. PATEL ARTS COLLEGE, KADI

Internal Examination

B. Sc. Semester - V **[Mark : 40**

23-9-2016] **Biotechnology - 501** **[2 Hours**

Bioprocess and Biochemical Engineering

Q-1. Answer All questions. Each question carries 1 mark. **10**

(1) Micro organisms are growing and dividing at the maximal rate in _____ phase of bacterial growth curve.

(a) Lag phase (b) Log phase

(c) Stationary phase (d) Death phase

(2) Isolation of Enzyme producers are example of _____ screening.

(3) Give the name of two chemical mutagenic agents.

(4) In continuous culture, steady state condition is given by _____.

(a) $\mu = D$ (b) $\mu > D$ (c) $\mu < D$ (d) None of these

(5) Secondary metabolites are usually produced when organism is under strees such as _____

(a) Nutrition limitation (b) Starvation

(c) Build up of toxic waste (d) All of these condition

(6) Enlist the methods for determination of $K_L a$.

(7) The organism modified in such a way that, it does not recognize the presence of inhibiting or repressing levels of the normal control metabolites.

(a) Auxotrophic (b) Resistant

(c) Revertant (d) wild

(8) An open system in which the growth rate is maintained by the removal and addition of media at such a rate to maintain a constant cell density is called a

(a) Manostat (b) Chemostat (c) Turbidostat (d) Culturostat

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(9) Alcohol can be purified from the fermentation broth by ____.

(a) Distillation (b) Precipitation

(c) Solvent extraction (d) Filtration

(10) _____ are used for the Inoculum preparation of Fungi.

(a) Roll Bottle (b) Roux Bottle

(c) Solid Substrate (d) All of these

Q-2. Attempt any four questions. Each question carries 5 marks. 20

(1) Describe method for preservation of industrially important microorganisms.

(2) Describe sterilization of media.

(3) Describe types of fermentation media and enlist raw materials used for the formulation of fermentation medium.

(4) Define Auxotrophic mutant. Enlist the techniques for the isolation of auxotrophic mutatnt and explain any two.

(5) Draw a labeled diagram of fermenter & write function of each part of fermenter.

(6) Explain the Inoculum development process for Fungi.

Q-3. Attempt any one questions. Each question carries 10 marks. 10

(1) Describe starin improvement using recombinant DNA technology.

(2) Enlist types of fementers and Bioreactors and explain any for Fermenters.
