

SEAT No. \_\_\_\_\_

No. of Printed Pages : 2

[77]

**Sardar Patel University**  
**External Theory Examination**

**Biotechnology of Fermentation and Biotransformation-I (PS08CIGIB2)**

**Thursday, 12<sup>th</sup> April 2018**

**02:00 pm to 05:00 pm**

**Total Marks: 70**

- Q.I Multiple choice questions: (08)
- 1 Silk produced by \_\_\_\_\_ commonly known as European garden spider is much stronger than several engineering materials.  
(a) *E. coli* (c) *Saccharomyces cerevisiae*  
(b) *Pichea pastoris* (d) *Araneus diadematus*
  - 2 The following microorganism is not used as SCP.  
(a) Bacteria (c) Fungi  
(b) Protozoa (d) Algae
  - 3 The alcohol content in wine is \_\_\_\_\_.  
(a) 3-5% (c) 4-12%  
(b) 5-9% (d) 11-14%
  - 4 Which of the following is an inducer for biosynthesis of ergot alkaloids?  
(a) Glycerine (c) Tryptophan  
(b) Mavalonic acid (d) Paspalic acid
  - 5 Which of these additives is used to enhance elasticity of wheat dough for bread making?  
(a) Potassium bromate (c) Sodium propionate  
(b) Cysteine (d) Potassium acetate
  - 6 Which of the following is not a Vitamine B<sub>12</sub> producer?  
(a) *Propionibacterium shermanii* (c) *Pseudomonas denitrificans*  
(b) *Propionibacterium freudemreichii* (d) *Lactobacillus casei*
  - 7 \_\_\_\_\_ is the common name for 6,7-dimethyl-9-(d-1'-ribityl)-isoalloxazine.  
(a) Cyanocobalmin (c) Riboflavin  
(b) Ascorbic acid (d) Citric acid
  - 8 Which control measure is specially used to remove bacterial spores from milk?  
(a) Refrigeration (c) Bactofugation  
(b) Clarification (d) Addition of carbon dioxide

C.P.T.O.)

**Q.II**      **Answer the following (Any seven)**      **(14)**

1. What is Bioplastic? Give its applications
2. How can you produce starter culture for mushroom cultivation?
3. Write the applications of Dextran.
4. Enlist safety issues in the use of SCP as food or feed.
5. What is pitching during Beer production?
6. Narrate structure of Riboflavin.
7. Write advantages of biodiesel production from algae.
8. Define: Prebiotic and Probiotic.
9. Enlist the sources of microorganisms in the milk.

**Q.III** (a) Describe the life cycle of Mushroom. Write the applications of mushroom cultivation.      **(06)**

(b) What is Biosteel? Explain its production.      **(06)**

**OR**

(b) Discuss in brief the Aceton-Butanol fermentation.      **(06)**

**Q.IV** (a) Explain in detail the wine production.      **(06)**

(b) Give a detailed account on MEOR.      **(06)**

**OR**

(b) How can you produce SCO by using microalgae and Dinoflagellates?      **(06)**

**Q.V** (a) Explain the production of Ergot alkaloids.      **(06)**

(b) Explain the fermentative Biofuel- Ethanol production in detail.      **(06)**

**OR**

(b) Explain in detail the recovery of Vitamin B<sub>12</sub>.      **(06)**

**Q.VI** (a) Discuss in detail the starter cultures and their characteristics.      **(06)**

(b) Discuss different preventive measures to control microorganisms in milk.      **(06)**

**OR**

(b) Enlist basic steps of cheese making process. Explain coagulation in detail.      **(06)**

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