

[A-96]

No. of Printed Pages 2

SARDAR PATEL UNIVERSITY
M.Sc (INTEGRATED) BIOTECHNOLOGY- VIII SEMESTER
FINAL EXAMINATION, April-2015
IG-IBT 8th SEMESTER
PS08CIGIB2: BIOTECHNOLOGY OF FERMENTATION AND BIOTRANSFORMATION-I

Date 23rd April'2015

Time: 2.30 to 5.30 pm

Total Marks: 70

Q.1 Answer the following Multiple Choice Questions. All are compulsory. 1x8=08

- (i) The PHB synthesis occurs when
- | | |
|------------------|---------------------|
| a. N is limiting | c. S is limiting |
| b. P is limiting | d. all of the above |
- (ii) Exopolysaccharide biosynthesis occurs when
- | | |
|------------------|------------------|
| a. N is limiting | c. S is limiting |
| b. P is limiting | d. C is limiting |
- (iii) The ICI process for SCP production was based on
- | | |
|---------------|-------------|
| a. n-paraffin | c. Gas oil |
| b. Methane | d. Methanol |
- (v) The compressed wine yeasts have a moisture content of
- | | |
|---------|---------|
| a. 8.5% | c. 6.5% |
| b. 7.5% | d. 9.5% |
- (iv) The clavine alkaloids have following as the basic structure
- | | |
|-------------|--------------|
| a. Ergosine | c. Ergotime |
| b. Ergoline | d. Ergostine |
- (vi) Addition ofin cheese preparation is required for rennet coagulation
- | | |
|--------------------|---------------------------|
| a. CaCl_2 | c. H_2O_2 |
| b. NO_3 | d. KCL |
- (vii) Colour of milk is white because it is _____
- | | |
|----------|------------|
| a. White | c. colloid |
| b. Milk | d. turbid |
- (viii) Milk is homogenized at _____
- | | |
|--------------------|----------------------|
| c. 6.2MPa and 40°C | c. 6.9 MPa and 40 °C |
| d. 6.2MPa and 55°C | d. 6.9MPa and 55°C |

Q.2 Answer the following questions. (ANY SEVEN) 2x7=14

- (i) How is the manipulation of ethanol fermentation process lead to glycerol synthesis?
- (ii) What is slopping back?

- (iii) What is Dragline silk?
- (iv) What is malolactic fermentation?
- (v) What is MEOR?
- (vi) Mention advantages and safety issues in the use of SCP as food or feed.
- (vii) Define biofuel and biodiesel.
- (viii) Write the sources of vitamin B₁₂
- (ix) Write general characteristics of starter culture.
- Q.3 A** Discuss the preparation of substrate for mushroom cultivation. Give diagrammatic presentation of its life cycle. **06**
- B** Discuss the process for acetone-butanol fermentation. Mention the chemical reactions involved in it. **06**
- OR**
- B** Name the microorganism and explain the process flow for Xanthan gum production and recovery. **06**
- Q.4 A** Explain the steps in wort preparation for Beer fermentation. **06**
- B** Discuss various substrates used for the production of bacterial SCP. **06**
- OR**
- B** How can you produce single cell oil by using microalgae and Dinoflagellates. **06**
- Q.5 A** Give a detailed account on the production of ergot alkaloids. **06**
- B** Discuss various substrates used for ethanol production. **06**
- OR**
- B** Write a note on biosynthesis of Vitamin B₁₂. **06**
- Q.6 A** Explain general characteristics and pathology of eukaryotic microorganisms associated with milk. **06**
- B** Write a note on Yoghurt preparation **06**
- .OR** **06**
- B** Differentiate between probiotics and prebiotics. Explain their health benefits.