REV-01
MSB/08/16

2025/11

SET A

M.Sc. BOTANY
THIRD SEMESTER
MICROBIOLOGY
MSB-304(E)

[USE OMR FOR OBJECTIVE PART]

Duration: 1.30 hrs. **Full Marks: 35**

Objective

Time: 15 min. **Marks: 10**

1X10=10

Choose the correct answer from the following:

1. Batch sterilization cycle time consists of
   a. Two phases
   b. Three phases
   c. Four phases
   d. Five phases.

2. A fed-batch process is a
   a. Closed system
   b. Continous system
   c. Intermittently fed system
   d. Biphasic system.

3. A double spiral heat exchange is a
   a. Direct heat exchange
   b. Indirect heat exchange.
   c. A temperature control device.
   d. Thermostat.

4. Pasteurization is a
   a. Low temperature treatment
   b. Steaming treatment
   c. High temperature treatment
   d. Low and high temperature treatment.

5. Protected fermentation uses
   a. Sterilized media
   b. Pasteurized media
   c. Pasteurized media with low pH.
   d. Unsterilized media.

6. Yeast cells are good source of
   a. Vitamin A and B.
   b. Vitamin A and D.
   c. Vitamin B and D.
   d. All of these.

7. Soy-meal, peptone,and tryptone are used as the source of
   a. Carbon source
   b. Carbon and Nitrogen source
   c. Nitrogen source
   d. Mineral source.

8. Zymase is obtained from
   a. *Saccharomyces ludwigi*
   b. *Saccharomyces cerevisiae.*
   c. *Saccharomyces boulardii.*
   d. *Saccharomyces octospora.*

9. Which of the following is used as Bioplastic
   a. Polyotyrene
   b. Polypropylene
   c. Polyhydroxybuterate
   d. Dextran.

10. Unicelled microbs grown as source of proteins are called
   a. Microbial protein.
   b. Single cell protein.
   c. Unicelled protein.
   d. None of these.

-- --- --

Descriptive

Time : 1 hrs. 15 min. Marks : 25

[Answer question no.1 & any two (2) from the rest]

1. What is fermentation ? Write in brief about Solid state fermentation. 1+4=5

2. What is batch culture? Discuss the microbial growth in batch culture. 1+9=10

3. What is Fermentor? How will you design and construct a fermentor? 1+9=10

4. What is antibiotic ? Describe the production of penicillin in industry. 1+9=10

5. What is the difference between red wine and beer? How wine is produced commercially. 5+5=10

= = *** = =