

C 21666

(Pages : 3)

Name.....

Reg. No.....

**SIXTH SEMESTER B.Sc. DEGREE (SUPPLEMENTARY/IMPROVEMENT)
EXAMINATION, MARCH/APRIL 2017**

(UG—CCSS)

Microbiology

MB 6B 17—INDUSTRIAL MICROBIOLOGY

Time : Three Hours

Maximum : 30 Weightage

Part A

Answer all questions.

Each question carries weightage ¼.

- 1 In aerobic bioreactor the purpose of sparger is to :
 - (a) Supply adequate oxygen to the growing cells.
 - (b) To provide constant temperature for growing cell.
 - (c) For mixing the contents in the fermentation media.
 - (d) To break the vortex formation in the vessel.
- 2 Which of the following substrate is not used for the microbial production of ethanol.
 - (a) Corn starch.
 - (b) Oil crops.
 - (c) Cane sugar.
 - (d) Beet sugar.
- 3 Which of the following is called baker's yeast ?
 - (a) *S. Cerevisiae*.
 - (b) *S. Ludwigi*.
 - (c) *S. Pastorianus*.
 - (d) *S. Boulardii*.
- 4 Example of a phosphate solubilising bacteria.
 - (a) Thiobacillus.
 - (b) Rhizobium.
 - (c) Azotobacter.
 - (d) Azospirillum.
- 5 Metal strips used in fermentors to prevent vortex formation and to improve aeration frequency is _____.
- 6 _____ is an enzyme used in cheese making.
- 7 _____ is a symbiotic bacteria which fix nitrogen.
- 8 The microbicidal activity of *Bacillus thuringensis* is due to the production of _____.

Turn over

Match the following :

- | | |
|---------------|----------------------------|
| 9 Blue cheese | (a) <i>Clostridium</i> . |
| 10 Soy sauce | (b) <i>Lactobacillus</i> . |
| 11 Yoghurt | (c) <i>Penicillium</i> . |
| 12 Butanol | (d) <i>Aspergillus</i> . |

(12 × ¼ = 3 weightage)

Part B

Answer **all** questions.
Each question carries 1 weightage.

- 13 Molasses.
- 14 Amylases.
- 15 PSB.
- 16 *Bacillus thuringiensis*.
- 17 SCP.
- 18 Impellers.
- 19 Growth factors.
- 20 Biogas.
- 21 Distillation.

(9 × 1 = 9 weightage)

Part C

Write briefly on any **five** of the following.
Answer not to exceed **one** page.
Each question carries 2 weightage.

- 22 Discuss the steps involved in the production of bread.
- 23 What are bioinsecticides ? Explain with examples.
- 24 Define biotransformation. Explain its significance using steroids.
- 25 Anaerobic digester.

- 26 Production of biopesticides.
- 27 Write briefly on the microbial production of vitamin B12.
- 28 Explain various cell disruption methods.

(5 × 2 = 10 weightage)

Part D

*Answer any **two** of the following.
Each question carries 4 weightage.*

- 29 Explain basic design of an industrial fermentor and its parts.
- 30 Give an account on industrial production of penicillin.
- 31 Briefly explain the steps involved in the production of cheese.

(2 × 4 = 8 weightage)