TOTAL PAGES:

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18FPB30

# PSG COLLEGE OF ARTS & SCIENCE (AUTONOMOUS)

# **BVoc DEGREE EXAMINATION DECEMBER 2022**

(Fifth Semester)

## Branch - FOOD PROCESSING TECHNOLOGY

## FOOD FERMENTATION TECHNOLOGY

Answer ALL questions ALL questions carry EQUAL marks  (i) Lactobacillus bulgaricus (ii) Lactobacillus plantrum (iii) Streptococcus thermophiles (iv) Enterobacter colacae  2 Choose the fermentation which is carried by bacteria (i) lactic acid fermentation (ii) alcoholic fermentation (iii) pyruvic fermentation (iv) acrylic fermentation (iii) pyruvic fermentation (iv) acrylic fermentation (iii) pyruvic fermentation (iv) acrylic fermentation (iii) Questic fermentation (iv) acrylic fermentation  3 Find the nitrogen source from the following (i) Cane juice (ii) Yeast extract (iv) Barley  4 Identify the medium that contain maximum concentration of unused nutrients (i) Continuous culture (ii) Batch culture (iii) Fed batch culture (iv) Tubular fermentor  5 Where microbes are to be grown in specially designed vessel loaded with nutrient (i) Bioreactor (ii) Bio-plant (iii) Down-stream (iv) Distillator  6 Which of these is not a product of fermentation? (ii) Lactate (ii) Oxygen (iii) Carbon dioxide (iv) Ethanol  7 What is the percentage of acctic acid in commercially available vinegar? (i) 2% (ii) 4% (iv) 12%  8 Mention the meat substitute used worldwide in vegetarian cuisine (i) Miso (ii) Tempeh (iii) Soya sauce (iv) Paneer  9 Which of the following is not an antibiotic? (i) Citric acid (ii) Cephalosporin (iv) penicillin  10 State the first amino acid to be produced by microorganisms. (i) L-lysine (ii) L-glutamic acid	Time: Three Hours	Maximum: 75 Marks
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(i) L-lysine (ii) L-glutamic acid		nicroorganisms.
(iii) Methionine (iv) Threonine	(iii) Methionine	(iv) Threonine

### SECTION - B (35 Marks)

## Answer ALL Questions

ALL Questions Carry EQUAL Marks

 $(5 \times 7 = 35)$ 

11 a Discuss the benefits of fermentation and microorganisms involved in food fermentation.

OR

- b Show the chemical changes in food during fermentation.
- 12 a Analyze the importance of pH, temperature and oxygen in fermentation process.

OR

- b Compare and contrast batch fermentation and continuous fermentation .
- 13 a Classify fermentors and explain them.

OR

- b How do you select a reactor? State the criteria for selecting a reactor.
- 14 a Sketch out the process of steps in bread production.

OR

- b Describe the tests used to assess the quality of fermented foods.
- 15 a Narrate the steps in production of glutamic acid by fermentation process.

OR

b Illustrate the production of amylase and pectinase with a flow chart.

### SECTION - C (30 Marks)

Answer any THREE Questions
ALL Questions Carry EQUAL Marks

 $(3 \times 10 = 30)$ 

- 16 Enumerate the types of fermentation.
- 17 Identify the selection of microbial culture, media formulation and optimization.
- 18 Highlight the steps in downstream processing.
- 19 Elucidate the preparation of any 2 fermented milk products with a neat flow diagram.
- 20 Determine the steps in production of organic acids.

Z-Z-Z

**END**