

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BVoc DEGREE EXAMINATION DECEMBER 2022
(Fifth Semester)

Branch – FOOD PROCESSING TECHNOLOGY

FOOD FERMENTATION TECHNOLOGY

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 x 1 = 10)

- 1 Which low temperature bacteria is involved in the production of rye bread?
(i) Lactobacillus bulgaricus (ii) Lactobacillus plantum
(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
- 3 Find the nitrogen source from the following
(i) Cane juice (ii) Yeast extract
(iii) Glucose (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?
(i) Lactate (ii) Oxygen
(iii) Carbon dioxide (iv) Ethanol
- 7 What is the percentage of acetic acid in commercially available vinegar?
(i) 2% (ii) 4%
(iii) 10% (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
(iii) Erythromycin (iv) penicillin
- 10 State the first amino acid to be produced by microorganisms.
(i) L-lysine (ii) L-glutamic acid
(iii) Methionine (iv) Threonine

Cont...

SECTION - B (35 Marks)

Answer **ALL** Questions
ALL Questions Carry **EQUAL** Marks

(5 x 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 x 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