

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2023
(Second Semester)

Branch - FOODS AND NUTRITION

MAJOR ELECTIVE COURSE – I: FOOD BIOTECHNOLOGY/ DISCIPLINE
SPECIFIC ELECTIVE- I: BIOTECHNOLOGY

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 1 = 5)

- 1 In human DNA, which nucleotide base is methylated at the 5' position?
(i) Adenosine (ii) Thymine
(iii) cytosine (iv) Guanine
- 2 What type of carotene is mainly present in golden rice?
(i) Beta carotene (ii) Alpha carotene
(iii) Zeta carotene (iv) Gamma carotene
- 3 Bacteria responsible for fermentation of dairy milk are
(i) Clostridium (ii) Rhizopus
(iii) Aceto bacter (iv) Lactobacillus
- 4 Which class of plasmids assists in the production of bacteriocins?
(i) F plasmid (ii) Col plasmid
(iii) P plasmid (iv) R plasmid
- 5 Batch cultures are type of suspension culture where
(i) medium is continuously replaced
(ii) medium is loaded only at the beginning
(iii) no depletion of medium occurs
(iv) cellular wastes are continuously removed

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

- 6 a. Show the properties of the protein expression vector.
OR
b. Illustrate the structure of DNA and sketch out its function.
- 7 a. Sketch out on GMO with few examples.
OR
b. Recommend some quality checking steps from the collection of raw materials.
- 8 a. Classify the types of organic acid produced by bacteria.
OR
b. Explain the product produced by yeast and write any one preparation method.
- 9 a. Discuss the different production of enzymes in biotechnology.
OR
b. Compare the microbial and enzymatic flavor.
- 10 a. Analyze the steps involved in plant breeding.
OR
b. State the procedure involved in plant tissue culture.

Cont...

SECTION -C (30 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

- 11 a. Elucidate the method to transfer recombinant DNA into the host cell
OR
b. Discuss on DNA sequencing by sangers method.
- 12 a. Explain the Ethical issue associated with Food Biotechnology.
OR
b. Classify the different types of bioreactors of plant and animal cell.
- 13 a. Justify how yeast fermentation technique helps in alcohol industry.
OR
b. Illustrate the role of Bacteria responsible for fermentation of dairy milk.
- 14 a. Differentiate the Prebiotics and probiotics and explain its effect on gut health.
OR
b. Enumerate the mushroom culture and cultivating technique.
- 15 a. Interpret how the modern application of nutrigenomics in food biotechnology.
OR
b. Determine the role of engineering in organic farming.

Z-Z-Z

END