AU–98

B.Sc. Part—II Semester—III Examination

FOOD SCIENCE

(Food Microbiology)

Time : Three Hours] [Maximum Marks : 80

Note :—(1) **ALL** questions are compulsory.

(2) Question No. 2 to 7 carry equal marks.

1. (A) Fill in the blanks :— 2

(i) Scientific study of Fungi is _____. (mycology/phycology)

(ii) Conversion of sugars into alcohol by means of Fungi is known as _____ fermentation. (aerobic/anaerobic)

(iii) Classification in a hierarchical system of organisms is _____. (Taxonomy/Anatomy)

(iv) The highly resistant particles produced by a bacterium to survive in harsh conditions are _____. (Spores/Mycelium)

(B) Choose the correct alternative :— 2

(i) _____ are the bacteria which can live at temperature much lower than normal :

(a) Thermophiles (b) Psychrophiles

(c) Halophiles (d) None of above

(ii) _____ is not used for staining of microorganism.

(a) Crystal Violet (b) Iodine

(c) Saffranine (d) Glucose

(iii) The branch of science studying the relations of bacteria, molds, fungus etc. with food is known as :

(a) Industrial Microbiology (b) Medical Microbiology

(c) Enzymology (d) Food Microbiology

(iv) Streak plate method is used for :

(a) Growth curve (b) Pure culture isolation

(c) Pure Culture Preservation (d) Spore staining

(C) Answer in **ONE** sentence :— 4

(i) Define the medium used for growth of micro-organisms.

(ii) What is meant by microbial contamination ?

(iii) Define Gram positive bacteria.

(iv) What is Staining ?

2. (A) Explain the characteristics used for the bacterial classification. 4

(B) Define food microbiology. Explain three domain system for microbial classification. 4

(C) Give an account of structure of cell. 4

OR

(P) Differentiate between prokaryotic and eukaryotic cell. 4

(Q) Explain any four important organs of cell. 4

(R) What is taxonomy ? What are the components ? 4

3. (A) Explain the factors affecting microbial growth. 4

(B) What is synchronized growth ? Explain its importance. 4

(C) Give an account of cell age and explain balance growth. 4

OR

(P) Draw growth curve and explain the phases. 4

(Q) Explain batch and continuous culture, compare. 4

(R) Give an account of binary fission. 4

4. Define bacteria, classify them on the basis of size, shape, colony character, and Gram reaction. 12

OR

Explain the role of bacteria in food processing. Explain any four types of bacteria on the basis of their characteristics and use. 12

5. (A) What are Yeasts ? Give an account of its classification. 4

(B) Explain the structure of moulds. 4

(C) What are the uses of Yeast in Food processing ? 4

OR

(P) Give an account of nutrition of Fungi. 4

(Q) Explain the importance of Fungi in Food processing. 4

(R) Discuss the classification of fungi. 4

6. (A) What is Media ? Explain the composition. 4

(B) Explain simple staining in brief. 4

(C) Explain the terms pure culture, isolation with examples. 4

OR

(P) Give an account of MPN Method. 4

(Q) Explain the direct cell count method. 4

(R) Give an account of maintenance and preservation of media. 4

7. What are the causes of contamination ? How can it be prevented ? What is the normal microflora found in basic food stuffs ? 12

OR

What is Fermentation ? Discuss the advantages and uses. 12

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