AS–1417

B.Sc. Part—II (Semester—III) Examination

FOOD SCIENCE

(Food Microbiology)

Time : Three Hours] [Maximum Marks : 80

Note :— (1) **All** questions are compulsory.
(2) Q. No. **2** to **7** carry equal marks.

1. (A) Fill in the blanks :
   (i) _____ is Gram negative bacteria. (Escherishia coli/Staphylococcus aureus)
   (ii) _____ consist of one type of Micro-organisms. (Mixed culture/Pure culture)
   (iii) Binary Fission is _____ type of reproduction. (Asexual/Sexual)
   (iv) Lactobacillus is related with _____. (Human GI Tract/Milk) 2

   (B) Choose the correct alternative :
   (i) Unicellular Fungi :
   (a) Penicillium (b) Aspergillus
   (c) Yeast (d) Rhizopus
   (ii) Gram positive bacteria :
   (a) *S. aureus* (b) *E. coli*
   (c) *Salmonela* (d) None of these
   (iii) Thermoduric Bacteria :
   (a) *E. Coli* (b) *Salmonella*
   (c) *Pseudomonas* (d) *Lactobacillus*
   (iv) Solidifying agent in culture media :
   (a) Beef Extract (b) Agar-agar
   (c) Peptone (d) Salt 2

   (C) Answer in **one** sentence :
   (i) Define fermentation.
   (ii) What is synchronous culture ?
   (iii) What is Differential Media ?
   (iv) Define virus. 4

2. (A) Draw the typical Bacterial Cell. 4
   (B) Explain relation of Microorganism with food. 4
   (C) Distinguish between Prokaryotes and Eukaryotes. 4

OR

   (D) Describe in brief Taxonomy. 4
   (E) Give the account of n-types of microorganisms. 4
   (F) Write a note on importance of food microbiology. 4

3. Describe in detail Growth curve with diagram. 12

OR

   Describe in detail basic nutritional requirement of Micro-Organisms. 12

4. Give the classification of bacteria on the basis of Temperature, pH and Oxygen requirement. 12

OR

   Explain the role of different groups of micro-organisms important in food. 12

5. (A) Differentiate between Algae and Actinomycetes. 4
   (B) Give the classification of Yeast and Mould. 4
   (C) Discuss the importance of Mould in Food. 4

OR

   (D) Draw well labelled diagram of Yeast Cell. 4
   (E) Write a note on Protozoa. 4
   (F) Differentiate between Yeast and Mould. 4

6. (A) How to prepare culture media in Laboratory ? 4
   (B) Define staining. Describe monochromatic staining. 4
   (C) Describe in detail streak plate technique. 4

OR

   (D) Describe in brief methods for isolation of pure culture. 4
   (E) Explain Gram staining. 4
   (F) Describe suitable method of enumeration of Micro-organisms. 4

7. (A) Enlist the ideal characteristics of ideal fermentor. 4
   (B) Describe microbial contamination of food. 4
   (C) Describe any one method for food preservation. 4

OR

   (D) Draw well labelled diagram of Fermentor. 4
   (E) Describe common food borne pathogen. 4
   (F) Describe in detail initial contamination of milk. 4