KANYASHREE UNIVERSITY

M.Sc. 2nd Semester Examination-2024
Subject: Food & Nutrition
Course-CC 7
Food Microbiology and Food Toxicology

Full Marks-40   **Time-2.00 Hours**

GROUP - A
(Answer **any four** of the following)   **(5×4=20)**

1. What is generation time in bacterial growth? How is it calculated? How do environmental factors affect the bacterial growth?   [1+1+3]

2. What are the fundamental differences between simple staining and differential staining techniques in bacterial staining? Describe the principle behind Gram staining.   [2+3]

3. Write the difference between sterilization and disinfection. What are the primary methods of sterilization used in healthcare settings, and how do they differ in terms of effectiveness and application?   [2+3]

4. Describe briefly the IMViC Test of water.   [5]

5. Explain in detail about spoilage of Cereals, Meat and Canned food and their causative microorganisms.   [5]

6. Define HACCP and write in brief its significance in food industry.   [1+4]

7. What is single-cell protein (SCP), and how is it produced?   [2+3]

GROUP – B
(Answer **any two** of the following)   **(10× 2=20)**

1. What is a pure culture? How the pure culture is obtained? Write the difference between cell wall of Gram-positive and Gram-negative bacteria. What is teichoic acid?   [1+3+4+2]

2. Write the name of some traditional fermented foods from different regions of India. How do microbes contribute to the fermentation process in foods like yogurt, cheese, and sauerkraut?

                    [4+6]

3. What are coliform bacteria? Why are they used as indicators of water quality? Compare and contrast total coliforms with fecal coliforms and *E. coli* in terms of their origin, behavior in the environment, and implications for water quality assessment.   [2+2+6]

4. What environmental factors contribute to egg spoilage? How can you ensure the nutritional value of canned food remains intact over time? What are some methods to prevent fish from spoiling? What are the occupational health risks associated with exposure to heavy metals?

                    [2+2+3+3]

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