

FYUGP/5th Sem/25(NEP)

2025

Four Year Under Graduate Programme (FYUGP)

5th Semester Examination (Under NEP)

(Session 2023-24)

**FOOD AND NUTRITION (Major)**

Paper Code : FNTMJ MC-11

(Food Microbiology)

Full Marks : 30

Time : Two Hours

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers*

*in their own words as far as practicable.*

1. Answer any *four* questions : 2×4=8

~~(a)~~ Define fermentation. Name one microorganism used in food fermentation.

~~(b)~~ What is food contamination? Mention one primary source of food contamination.

(c) Name the causative agent and toxin of botulism.

(d) What is a nutrient agar? Name culture technique that involves spreading microbes over the surface of agar.

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( 2 ) Teichoic acid  
present gram  
positive

(e) Define sterilization.

(f) What is a bacterial capsule? State its main function.

2. Answer any *three* questions :  $4 \times 3 = 12$

(a) Explain the role of temperature in disinfection and sterilization. 3

(b) Explain the principle and steps of pour plate techniques.

(c) Explain the structure and main functions of bacterial cell wall. 3+1

(d) Describe the bacterial growth curve with a neat diagram.

(e) Discuss intrinsic factors affecting bacterial growth.

(f) Write the principle of Gram staining. Differentiate between gram positive and gram negative bacteria. 2+2

3. Answer any *one* question :  $10 \times 1 = 10$

(a) Write a short note on Salmonellosis and Shigellosis with reference to causative organism, symptoms and prevention of its transmission. 5+5

(b) What do you understand by culture media? Explain the types of culture media with examples. Mention the role of agar in media preparation. 2+6+2

Colostorium botulism