

M. Sc. 4th Semester Examination, 2025

CLINICAL NUTRITION AND DIETETICS

(Food Microbiology & Food Preservation)

PAPER — CND-401

Full Marks : 50

Time : 2 hours

Answer all questions

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

GROUP— A

Answer any four questions :

2 × 4

- 1. What are meant by LTH and HTST ?**
- 2. Bacillus cereus is a food-borne bacteria briefly explain.**

(Turn Over)

(2)

3. Why are yeast considered as economic microbes ?
4. What is ergotism ?
5. What is Ochratoxins ?
6. Name the virus responsible for "stomach flu" and "respiratory flu".

GROUP—B

Answer any **four** questions : 4 × 4

7. Food-borne infections are transmitted by person-to-person, but this is not true for food-borne intoxication— Explain.
8. Write a brief note on Aflatoxins.
9. Canning is termed as "12D processing". Explain.

(3)

10. What is meant by cold sterilization ? Why is gamma-irradiation used in food processing ?
2 + 2
11. "Prebiotics may be a dietary fibre, but dietary fibre is not always a prebiotic". Explain the statement by highlighting the nutritional aspects. Cite one common human probiotic.
3 + 1
12. Differentiate between bacterial endospore and fungal spore.

GROUP - C

Answer any two questions : 8 × 2

13. Discuss the significance of SRSVs in food-borne infections. What do you mean by culture rotation in dairy industry ?
5 + 3
14. Why is food composition considered as critical factor for microbial food spoilage ? How does the water activity affect the self-life of foods and microbial growth ? What is meant by 'danger zone' of food spoilage ?
3 + 4 + 1

15. What are the benefits of natural preservatives over chemical preservatives? Discuss the utility of microbial-product based preservatives in the 21st century. 3 + 5
16. Name one RNA virus that replicates via DNA intermediates. Describe the replication process of HIV. Why no vaccine has been developed for HIV. 1 + 5 + 2

[Internal Assessment – 10 Marks]