

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0222]

**FEBRUARY 2022
(OCTOBER 2021 EXAM SESSION)**

Sub. Code: 1303

M.Sc. CLINICAL NUTRITION

FIRST YEAR

(Candidates admitted from 2012-2014 onwards - Paper III)

(Candidates admitted from 2020-2021 onwards - Paper IV)

PAPER III & IV – MEDICAL AND FOOD MICROBIOLOGY

Q.P. Code : 281303

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Role of micro organism in Fermented food -Baked preparation, vegetarian foods, dairy products.
2. List and explain in detail the factors affecting food safety.

II. Write notes on:

(10 x 6 = 60)

1. Food standardization and regulation in India.
2. Food adulterants and common adulteration.
3. Risk assessment
4. Chemical methods of food preservation
5. Food contamination
6. Nutrition and oxygen affecting the growth of microorganism
7. Concerns of genetically modified foods
8. Write a note on food borne toxic infection
9. Benefits of HACCP
10. Food borne diseases due to naturally occurring toxicants

THE TAMIL NADU Dr. M.G.R MEDICAL UNIVERSITY

[AHS 1022]

OCTOBER 2022

Sub. Code: 1303

M.Sc. CLINICAL NUTRITION

First Year

(Candidates admitted from 2012-2013 onwards – Paper – III)

(Candidates admitted from 2020-2021 onwards – Paper – IV)

PAPER III & IV - MEDICAL & FOOD MICROBIOLOGY

Q.P. Code: 281303

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions

I. Elaborate on:

(2x20=40)

1. Give a detailed account on Food borne infections.
2. Explain in detail about the risk analysis and risk management.

II. Write notes on:

(10x6=60)

1. Discuss about the Spoilage effects of Poultry and poultry products.
2. How to use chemicals to control and destruct microorganisms in foods? Explain.
3. Explain any two factors affecting growth of microorganisms in foods.
4. Describe the role of microorganisms in fermented foods.
5. Etiology, disease conditions, clinical features and prevention of Botulism.
6. Antinutritional factors in foods.
7. Explain the detection methods of adulteration for any 6 food products.
8. Roles and responsibilities of risk communication.
9. Construct a HACCP flow diagram for a liquid milk.
10. Explain the roles of the following organization in the area of standardization of foods.
a) Codex Alimentarius b) Codex India?

THE TAMIL NADU Dr. M.G.R MEDICAL UNIVERSITY

[AHS 1023]

OCTOBER 2023

Sub. Code: 1303

**M.Sc. CLINICAL NUTRITION
FIRST YEAR (From 2020-2021 onwards)
PAPER IV - MEDICAL & FOOD MICROBIOLOGY**

Q.P. Code: 281303

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions

I. Elaborate on:

(2x20=40)

1. Write in detail about the various factors affecting the growth of micro-organism.
2. Write in detail:
 - A. Food borne infections.
 - B. Food borne intoxication.

II. Write notes on:

(10x6=60)

1. Write the uses of microbes in food industry.
2. Explain pasteurization.
3. Name the food borne diseases due to naturally occurring toxicants. Explain Lathyrism.
4. Write about the chemical methods of food preservation.
5. Explain Botulism.
6. Benefits of HACCP.
7. Write about the Consumer Protection Act, (CPA) 1986.
8. Describe the brucella ring test for microbial analysis of milk.
9. Write about the concepts of food microbiology.
10. Write a note on *Vibrio parahaemolyticus* gastroenteritis.

THE TAMIL NADU Dr. M.G.R MEDICAL UNIVERSITY

[AHS 1024]

OCTOBER 2024

Sub. Code: 1303

**M.Sc. CLINICAL NUTRITION
FIRST YEAR (From 2020-2021 onwards)
PAPER IV - MEDICAL & FOOD MICROBIOLOGY**

Q.P. Code: 281303

Time: Three Hours

Maximum: 100 Marks

Answer ALL questions

I. Elaborate on:

(2x20=40)

1. Explain in detail on reporting and investigations of food borne diseases.
2. Describe the need, advantages, principles and benefits of HACCP.

II. Write notes on:

(10x6=60)

1. Explain the uses of microbes in industry.
2. Give an account on:
 - a) Concerns of genetically modified foods.
 - b) Dioxin contaminated foods.
3. Pasteurization is a vital physical method of destructing pathogens in food. Discuss.
4. Briefly explain about the spoilage of fish and other sea foods.
5. Define a naturally occurring toxicant. Explain in brief about lathyrism and epidemic dropsy.
6. What are the toxicants found in plant foods? List out and explain.
7. Which foods are commonly adulterated? Explain the toxic adulterants in oil and their ill effects.
8. Tabulate the hazard analysis of liquid milk. Draw the CCP decision tree.
9. Explain the role of following in the process of risk communication:
 - a) Government
 - b) Industry
 - c) Media
10. Briefly discuss the roles of the following organization in the area of standardization of foods:
 - a) WTO
 - b) JECFA
 - c) CAC.

THE TAMIL NADU Dr. M.G.R MEDICAL UNIVERSITY

[AHS 1025]

OCTOBER 2025

Sub. Code: 1303

**M.Sc. CLINICAL NUTRITION
FIRST YEAR (From 2020-2021 onwards)
PAPER IV - MEDICAL & FOOD MICROBIOLOGY**

Q.P. Code: 281303

Time: Three Hours

Maximum: 100 Marks

Answer ALL questions

I. Elaborate on:

(2x20=40)

1. How safe is our food? Explain the various factors influencing food safety.
2. Define HACCP. Elaborate on the guidelines for application of HACCP principles.

II. Write notes on:

(10x6=60)

1. What are GM foods? State its benefits.
2. Classify food safety. Add a note on the role of food safety in entire chain of food production.
3. What are the major reservoirs of food pathogens? Explain.
4. Explain about the spoilage of milk and milk products.
5. Write an account on the causes, clinical features and prevention of botulism.
6. Describe about the antinutritional factors in foods.
7. List out the commonly adulterated foods. Add a note on ill effects caused by adulterated foods.
8. Explain in brief the identification and characterization of hazardous chemical agents in risk assessment.
9. List out the seafood toxins. Briefly explain the types of shellfish poisoning.
10. Explain the roles of the following acts in the area of standardization of foods.
 - a) Essential commodities act 1955
 - b) Export quality act 1963
