

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

[AHS 0222]

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

Sub. Code: 1305

M.Sc. CLINICAL NUTRITION

FIRST YEAR

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

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

PAPER V & VI – PRINCIPLES OF FOOD SCIENCE

Q.P. Code : 281305

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Methods of foods preservation.
2. a) Classification of carbohydrates and end products on hydrolysis
b) Explain Maillard reaction

II. Write notes on:

(10 x 6 = 60)

1. Explain the Hedonic Scale rating tests in sensory evaluation of foods.
2. Write short note on gelatinization of starch
3. Explain- Functional Properties of Whey Protein Concentrates
4. Explain caramelisation of sugars
5. What are the factors affecting the acceptability of foods?
6. Explain the structure of egg or Classification of Colloidal System
7. Criteria for selection of fresh fish
8. Elaborate on artificial Sweeteners
9. Use of Salt, Sugar and Chemicals as Preservatives
10. Factors affecting Deep Fat Frying

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

[AHS 1022]

OCTOBER 2022

Sub. Code: 1305

M.Sc. CLINICAL NUTRITION

FIRST YEAR

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

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

PAPER V & VI - PRINCIPLES OF FOOD SCIENCE

Q.P. Code: 281305

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions

I. Elaborate on:

(2 × 20 = 40)

1. a) How is rigor mortis developed in slaughtered animal?
b) Write short note on tenderizing and ageing of meat.
c) What are the changes occur during cooking of meat?
2. a) Packaging -Concepts, Significance and Functions.
b) Nutrition Labelling and Nutrition Claims.
c) Packaging Laws and Regulation.

II. Write Notes On:

(10 × 6 = 60)

1. Explain Browning reaction and Maillard reaction.
2. Explain the Hedonic Scale rating in sensory evaluation of food.
3. Write about the classification and functions of beverages.
4. Write short note on crystallization and caramelization of sugar.
5. Write about the nutritive value of milk and what are different types of milk and milk products available in market.
6. Explain in detail about the additives added in food and their role.
7. Explain the following terms:
a) Canning b) Freezing c) smoking
8. Write short note on smoking point of fats and what are changes occur in fat on heating?
9. Explain the role of egg as binding and emulsifying agent.
10. Explain the effects of germination on pulses.

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

[AHS 0523]

MAY 2023

Sub. Code: 1305

M.Sc. CLINICAL NUTRITION

FIRST YEAR

(Candidates admitted from 2020-2021 onwards)

PAPER VI - PRINCIPLES OF FOOD SCIENCE

Q.P. Code: 281305

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions

I. Elaborate on:

(2x20 = 40)

1. a) Different stages of sugar cookery.
b) How does the crystallization of sugar take place? and explain the factors affecting crystallization.
2. a) Define Rancidity. Explain different types of rancidity.
b) What are the changes occur during rancidity? and how do you prevent rancidity of fats?

II. Write Notes On:

(10x6 = 60)

1. Explain the sensory evaluation of foods.
2. Explain the role of any ten spices in Indian cookery.
3. Write about fermentation and germination and its advantages.
4. Explain the modern methods of food preservations.
5. How is gluten formed? and Explain the factors affecting gluten formation?
6. Write short notes on bread making.
7. Discuss the anti nutritional factors of pulses.
8. What is pasteurization? Explain the different methods of pasteurization.
9. Write the nutritive value of egg and explain the role of egg in cookery.
10. Explain about the different packaging methods which is suitable for different foods and write the importance of nutrition labelling and bar coding.

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

[AHS 1023]

OCTOBER 2023

Sub. Code: 1305

**M.Sc. CLINICAL NUTRITION
FIRST YEAR (From 2020-2021 onwards)
PAPER VI - PRINCIPLES OF FOOD SCIENCE**

Q.P. Code: 281305

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions

I. Elaborate on:

(2 × 20 = 40)

1. Write in detail about various flavor compounds and pigments present in fruits and vegetables and explain the effects of cooking on vegetables.
2. Discuss about fats and oils under the followings:
a) Rancidity and its type b) Emulsion and its types c) Factors affecting fat absorption.

II. Write Notes On:

(10 × 6 = 60)

1. How is gluten formed? What is the role of cereals in cookery?
2. What are the factors affecting cooking quality of pulses?
3. How cheese is manufactured? Bring out the nutritional importance of cheese.
4. Explain the role of egg in cookery.
5. How is rigor mortis developed in slaughtered animals?
6. Write the medicinal value of any six spices and condiments.
7. Write a short note on different types of soups.
8. Bring out the importance of sensory evaluation in food industry.
9. Write in detail about caramelization of sugar.
10. What are the laws related to food packaging?

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

[AHS 1024]

OCTOBER 2024

Sub. Code: 1305

**M.Sc. CLINICAL NUTRITION
FIRST YEAR (From 2020-2021 onwards)
PAPER VI - PRINCIPLES OF FOOD SCIENCE**

Q.P. Code: 281305

Time: Three Hours

Maximum: 100 Marks

Answer ALL questions

I. Elaborate on:

(2x20=40)

1. Discuss the food packaging under the followings:
a) Concepts and significance, b) Different packaging methods
c) Nutrition labeling and Bar coding.
2. Explain in detail about different food additives and its uses.

II. Write Notes On:

(10x6=60)

1. Distinguish between gelatinization and gelation.
2. What are the different types of milk products available in the market?
3. What are the factors which affect egg white foam formation?
4. Explain the changes occur during cooking of meat.
5. Write short note on enzymatic and non-enzymatic reaction.
6. Write the difference between hydrogenation and winterization of fat.
7. Classify different sensory tests and explain with suitable examples.
8. Write about various appetizing beverages and its uses.
9. What is meant by tenderizing and curing of meat?
10. Explain the role of sugar in confectionery.

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

[AHS 1025]

OCTOBER 2025

Sub. Code:1305

**M.Sc. CLINICAL NUTRITION
FIRST YEAR (From 2020-2021 onwards)
PAPER VI - PRINCIPLES OF FOOD SCIENCE**

Q.P. Code: 281305

Time: Three Hours

Maximum: 100 Marks

Answer ALL questions

I. Elaborate on:

(2x20=40)

1. Classification of fish, composition, selection and cooking methods of fish.
2. a) Role of ingredients in bread making.
b) Quick breads.

II. Write Notes On:

(10x6=60)

1. Texture evaluation of foods – any three methods.
2. Enzymatic browning reaction.
3. Germination and its advantages.
4. Changes during cooking of vegetables.
5. Coagulation of eggs protein and factors affecting it.
6. Stages of sugar cookery.
7. Uses of herbs in cookery.
8. Drying methods of food preservation.
9. Food additives.
10. Classification of soup and its preparation.
