

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

[LL 954]

NOVEMBER 2017

Sub. Code: 2954

**M.PHARM. DEGREE EXAMINATION
(PCI New regulations 2016)
SEMESTER-I
PHARMACEUTICAL ANALYSIS – MPA
PAPER IV – FOOD ANALYSIS**

Q.P. Code : 262954

Time : Three hours

Maximum : 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Explain in detail about the types and selection of ideal preservatives used in food. Write the detection of any two preservative.
2. How pest and insects which affect the food? Explain the determination of pesticide residuals present in the grains.

II. Write notes on:

(7 x 5 = 35)

1. Write notes on dietary fibres.
2. Write notes on general method of analysis of protein.
3. Determination of adulterants in oils and fat.
4. Write notes on microbial assay of thiamine.
5. Write notes on analysis of wine.
6. Write notes on analysis of cheese.
7. Write notes on BIS.

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[LM 954]

MAY 2018

Sub. Code: 2954

**M.PHARM. DEGREE EXAMINATION
(PCI New regulations 2016)
SEMESTER-I
PHARMACEUTICAL ANALYSIS – MPA
PAPER IV – FOOD ANALYSIS**

Q.P. Code : 262954

Time : Three hours

Maximum : 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Explain the different types and characters of food colorants. Explain the method of detection of natural, permitted and non permitted dyes in food.
2. Give an account of general analytical methods for milk. Describe the constituents, adulterants and contaminants of milk.

II. Write notes on:

(7 x 5 = 35)

1. Explain the classification and properties of food carbohydrate.
2. Write notes on hydrogenation of vegetable oils.
3. Write notes on artificial sweeteners.
4. Describe analysis of Vitamins.
5. Write notes on organophosphorus and organochloride pesticides.
6. Write notes on FDA.
7. Write notes on beer.

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[LN 954]

NOVEMBER 2018

Sub. Code: 2954

**M.PHARM. DEGREE EXAMINATION
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SEMESTER-I
PHARMACEUTICAL ANALYSIS – MPA
PAPER IV – FOOD ANALYSIS**

Q.P. Code : 262954

Time : Three hours

Maximum : 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Explain in detail about the types and selection of ideal antioxidants used in food. Write the detection of any two antioxidants.
2. Describe the classification and method of analysis of Vitamins. Write notes on principles of microbial assay of Vitamin B.

II. Write notes on:

(7 x 5 = 35)

1. Write notes on digestion and metabolism of carbohydrate.
2. Write notes on chemistry and properties of protein.
3. Explain the determination of rancidification of food.
4. Write notes on flavours.
5. Write notes on analysis of spirits.
6. Write notes on analysis of margarine.
7. Write notes on agmark.

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

[LO 954]

MAY 2019

Sub. Code: 2954

M.PHARM. DEGREE EXAMINATION
(PCI New regulations 2016)
SEMESTER-I
BRANCH III – PHARMACEUTICAL ANALYSIS – MPA
PAPER IV – FOOD ANALYSIS

Q.P. Code : 262954

Time : Three hours

Maximum : 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. a) Define the term Proteins. Discuss the classification and structure of Proteins.
b) Write the general methods of analysis of Proteins and Amino Acids.
2. a) Illustrate the types and methods of detection of Synthetic and Natural Dyes used in food industry.
b) Explain in detail about Pesticide Cycle and types of Pesticides used in Agriculture.

II. Write notes on:

(7 x 5 = 35)

1. Discuss the types of Artificial Sweeteners used in food products.
2. Define Fermentation. Explain the determination of alcohol content in Beer.
3. Write short notes on Margarine.
4. What is the difference between FSSAI and AGMARK?
5. Write a detailed note on digestion and absorption mechanism of Carbohydrates.
6. Explain the various methods for determining fat content of Milk.
7. Write the various types of Preservatives used in carbonated drinks.

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[LP 954]

NOVEMBER 2019

Sub. Code: 2954

M.PHARM. DEGREE EXAMINATION
(PCI New regulations 2016)
SEMESTER-I
BRANCH III – PHARMACEUTICAL ANALYSIS – MPA
PAPER IV – FOOD ANALYSIS

Q.P. Code : 262954

Time : Three hours

Maximum : 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. a) Discuss the different types of Thickening Agents and Antioxidants used in food products.
b) Describe the health benefits and risk of Butter and Cheese.
2. a) Explain the methods of determination of Pesticide residues in Fruits and Milk.
b) Define Vitamins. Write the classification and methods of analysis of Vitamins.

II. Write notes on:

(7 x 5 = 35)

1. Write the common Adulterants used food products.
2. How will you analyse of Organophosphorus Pesticide in Vegetables?
3. Write short notes on Crude fibre and Dietary fibre.
4. How will you determine the adulteration in Fats and Oils?
5. Discuss about the purpose of BIS.
6. Define Flavours. Write any two methods of determination of food Flavours.
7. Illustrate the classification and identification test for Lipids.

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

[LQ 0121]

JANUARY 2021

Sub. Code: 2954

(APRIL 2020 EXAM SESSION)

M.PHARMACY DEGREE EXAMINATION

SEMESTER-I (PCI New regulations 2016)

PHARMACEUTICAL ANALYSIS – MPA

PAPER IV – FOOD ANALYSIS

Q.P. Code : 262954

Time : Three hours

Answer ALL Questions

Maximum : 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Outline the common tests involved for determination of Adulteration in food items.
2. a) Define Flavors. Give the list of Flavors used in Ice Cream.
b) Explain the different types and methods of determination of preservatives in food products.

II. Write notes on:

(7 x 5 = 35)

1. Describe the classification and various methods of analysis of Vitamins.
2. Why hydrogenation used in Edible Vegetable Oil?
3. State the list of various Natural Colours used in food products
4. Write short notes on FDA.
5. Define Vinegar. Discuss the types of Vinegar and its use.
6. Discuss the composition of Milk.
7. What are the various Toxic Ingredients added in food products?

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[MPHARM 0921]

**SEPTEMBER 2021
(OCTOBER 2020 EXAM SESSION)**

Sub. Code: 2954

**M.PHARMACY DEGREE EXAMINATION
SEMESTER-I (PCI New regulations 2016)
PHARMACEUTICAL ANALYSIS - MPA
PAPER IV – FOOD ANALYSIS
*Q.P. Code : 262954***

Time : Three hours

Answer ALL Questions

Maximum : 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. List any four food additives with examples. Write the procedure for the determination of listed food additives.
2. Elaborate on various analytical methods used for the estimation of protein.

II. Write notes on:

(7 x 5 = 35)

1. Summarize the bioassay method for the estimation of any one vitamin B series.
2. What are fermentation products? Describe the methods used for the analysis of any one fermentation product.
3. Discuss the procedure and principle of any two methods involved in the estimation of fat.
4. Illustrate the analytical methods for milk powder and cheese estimation.
5. Explain about the pesticide cycle.
6. Explain about the applications of modern analytical instruments in carbohydrate analysis.
7. Write note on peroxide and iodine value.

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

[MPHARM 0122]

**JANUARY 2022
(APRIL 2021 EXAM SESSION)**

Sub. Code: 2954

**M.PHARMACY DEGREE EXAMINATION
SEMESTER-I (PCI New regulations 2016)
PHARMACEUTICAL ANALYSIS - MPA
PAPER IV – FOOD ANALYSIS
*Q.P. Code : 262954***

Time : Three hours

Answer ALL Questions

Maximum : 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. a) What do you mean by crude fibre and dietary fibre? How they are estimated.
b) Explain the procedure for the determination of wine and vinegar.
2. Explain any two methods each for the estimation of followings:
 - a) Antioxidants
 - b) Preservatives

II. Write notes on:

(7 x 5 = 35)

1. Summarize the functions of USFDA.
2. Explain the method of analysis of any two natural pigments used in food substances.
3. Summarize the analytical methods used for the estimation of vitamin-A.
4. Explicate any two analytical methods for the determination of food colorants.
5. Paraphrase about phenol sulphuric method for carbohydrate analysis.
6. Write notes on AGMARK.
7. Write note on general methods involved in the analysis of protein

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

[MPHARM 0422]

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

Sub. Code: 2954

**M.PHARMACY DEGREE EXAMINATION
SEMESTER-I (PCI New regulations 2016)
PHARMACEUTICAL ANALYSIS - MPA
PAPER IV – FOOD ANALYSIS
*Q.P. Code : 262954***

Time : Three hours

Answer ALL Questions

Maximum : 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Illustrate the various analytical methods involved in the measurement of spoilage of fats and fatty food.
2. Explain in detail about the estimation of carbohydrates in food products.

II. Write notes on:

(7 x 5 = 35)

1. Write note on microbial assay of Vit-B series.
2. Write note on analysis of protein by biuret method
3. Explain about the analysis of synthetic dye used in food products.
4. Elaborate about the analysis of thickening agents.
5. Explain about the method of analysis of artificial sweetener and flavor enhancer.
6. Write about adulterants and contaminants of milk. Explain about the analysis of contaminants.
7. What are Pigments? Explain their availability in Natural Sources and Properties.

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

[M.PHARM 0922]

**SEPTEMBER 2022
(APRIL 2022 EXAM SESSION)**

Sub. Code: 2954

**M.PHARMACY DEGREE EXAMINATION
SEMESTER - I (PCI New regulations 2016)
PHARMACEUTICAL ANALYSIS - MPA
PAPER IV – FOOD ANALYSIS**

Q.P. Code : 262954

Time : Three hours

Answer ALL Questions

Maximum : 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. (a) Write the general methods of analysis of proteins and amino acids.
(b) Write the various methods are used to determining the spoilage of fats and fatty foods.
2. (a) Write the general methods of analysis of milk and milk constituents.
(b) Classify preservatives. Write the various methods used to analyse the preservative content in food products.

II. Write notes on

(7 X 5 = 35)

1. What are all the effects produced by pest and insects on various food products?
2. Write the general methods of analysis of cheese.
3. Write a note on Application of dyes in food industries.
4. Write a note on analysis of organophosphorous compounds in pesticide analysis.
5. Write a brief account on general methods of analysis of lipids.
6. Write the method of analysis during metabolism of proteins.
7. Write the methods are used for the determination of pesticide residues in grains.

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

[M.PHARM 0423]

**APRIL 2023
(OCTOBER 2022 EXAM SESSION)**

Sub. Code: 2954

**M.PHARMACY DEGREE EXAMINATION
SEMESTER - I (PCI New regulations 2016)
PHARMACEUTICAL ANALYSIS - MPA
PAPER IV – FOOD ANALYSIS**

Q.P. Code: 262954

Time : Three hours

Answer ALL Questions

Maximum : 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. (a) Explain the methods applied for refining of Fats.
(b) Explain the changes during the metabolism of Food Carbohydrates.
2. (a) Explain the various methods are used to determine the pesticide residues in milk and milk products.
(b) Explain about the natural pigments as a food additive. Write their properties and methods of analysis.

II. Write notes on

(7 X 5 = 35)

1. Write the analysis of margarine.
2. How will you determine the organo chlorine compounds in pesticides?
3. Write the official sweeteners are used in food products. How they determined?
4. Write the methods for determining adulterants and contaminants in milk.
5. Write the microbial assay of vitamin B₁₂.
6. Write the structure and physiochemical properties of proteins.
7. Write the methods of analysis of beer.

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

[M.PHARM 0823]

**AUGUST 2023
(APRIL 2023 EXAM SESSION)**

Sub. Code: 2954

**M.PHARMACY DEGREE EXAMINATION
SEMESTER - I (PCI New Regulations 2016)
PHARMACEUTICAL ANALYSIS - MPA
PAPER IV – FOOD ANALYSIS**

Q.P. Code: 262954

Time : Three hours

Answer ALL Questions

Maximum : 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. (a) What do you mean by Pesticide Cycle? Explain the estimation of Pesticide Residues in Fruits.
(b) Define the term Proteins. Explain the different methods of analysis of Proteins.
2. (a) Write a detailed note on general analytical methods for Ice Cream and Margarine.
(b) Define and classify Carbohydrates. Discuss in detail about general methods of analysis of food Carbohydrates.

II. Write notes on

(7 X 5 = 35)

1. What are the different methods of analysis of Vitamins?
2. Elaborate on Agmark.
3. Write a brief note on analysis of Beer.
4. Discuss in detail about Dietary Fibre.
5. What is Hydrogenation? Write briefly about Hydrogenation of Vegetable Oils.
6. Explain about the different types of Thickening Agents used in food.
7. What is Fermentation? Write the methods of analysis of Spirits.

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

[M.PHARM 1223]

**DECEMBER 2023
(OCTOBER 2023 EXAM SESSION)**

Sub. Code: 2954

**M.PHARMACY DEGREE EXAMINATION
SEMESTER - I (PCI New Regulations 2016)
PHARMACEUTICAL ANALYSIS - MPA
PAPER IV – FOOD ANALYSIS**

Q.P. Code: 262954

Time: Three hours

Answer ALL Questions

Maximum: 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. (a) Write the general methods of analysis of food carbohydrates.
(b) Explain the various adulterants are present in fats and oils. How will you determine them?
2. (a) Write the various methods are used to determine the natural, permitted and non permitted dyes.
(b) Write a note on BIS and AGMARK.

II. Write notes on

(7 X 5 = 35)

1. Write a note on analysis of butter.
2. Write the chemistry and classification of amino acids.
3. Write a note on hydrogenation of vegetable oil.
4. Write the methods of analysis of wine.
5. Write the methods of analysis of flavors and flavor enhancers.
6. Elaborate on Digestion and absorption of food Carbohydrate.
7. Mention the antioxidants and preservatives are added in to the ice cream. How will they analysed?

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

[M.PHARM 0524]

**MAY 2024
(APRIL 2024 EXAM SESSION)**

Sub. Code: 2954

**M.PHARMACY DEGREE EXAMINATION
SEMESTER - I (PCI New Regulations 2016)
PHARMACEUTICAL ANALYSIS - MPA
PAPER IV – FOOD ANALYSIS**

Q.P. Code: 262954

Time: Three hours

Answer ALL Questions

Maximum: 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. a) Define crude fibre and dietary fibre. Explain the techniques involved in the estimation of crude fibre and dietary fibre.
b) Explain the methods for the determination of adulteration in fats and oils.
2. Explain about food additives. Detail about the analysis of antioxidants and stabilizers.

II. Write notes on

(7 X 5 = 35)

1. Write note on Bureau of Indian Standards.
2. Explain about determination of alcohol in fermentation products.
3. Elaborate on method of detection involved in permitted dye.
4. Write note on microbial assay of Vit-B series.
5. Give the method of analysis of organophosphorous and organo chlorine pesticides.
6. Give the method of analysis of any two food additives.
7. Write note on AGMARK.

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

[M.PHARM 0425]

APRIL 2025

Sub. Code: 2954

**M.PHARMACY DEGREE EXAMINATION
SEMESTER - I (PCI New Regulations 2016)
PHARMACEUTICAL ANALYSIS - MPA
PAPER IV – FOOD ANALYSIS**

Q.P. Code: 262954

Time: Three hours

Answer ALL Questions

Maximum: 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Classify vitamins with examples. Elaborate on the estimation of any four vitamins.
2. Explain in detail about the estimation of proteins and amino acids in food products.

II. Write notes on

(7 X 5 = 35)

1. Write note on analysis of pesticides.
2. Write note on analysis of spirit and wine.
3. Explain about the analysis of natural dye used in food products.
4. Elaborate about the analysis of dietary and crude fibre.
5. Explain about the method of analysis of artificial sweetener and flavor enhancer.
6. Write about adulterants and contaminants of milk. Explain about the analysis of contaminants.
7. Write note on FDA.

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

[M.PHARM 1025]

OCTOBER 2025

Sub. Code: 2954

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PAPER IV – FOOD ANALYSIS**

Q.P. Code: 262954

Time: Three hours

Answer ALL Questions

Maximum: 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. a) Explain the various methods used for determination of spoilage of fats.
b) Define vitamins. Write the classification and method of analysis of vitamins.
2. a) Write the method of estimation of preservatives in carbonated drinks.
b) Explain the methods for estimation of fat content and stabilisers in ice cream.

II. Write notes on

(7 X 5 = 35)

1. Define lipids. Write the classification of lipids.
2. Write the different flavours used in food products.
3. Write the quality control test for artificial sweeteners.
4. Explain the determination of pesticide residue in grains.
5. Explain the determination of alcohol content in wine.
6. Discuss dietary fibre, crude fibre with its applications.
7. Write short notes on US-FDA.
