

Exam Date & Time: 19-Dec-2022 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal Academy of Higher Education, Manipal MPharm Theory End-Semester Examinations.

Food Analysis [PCH-MPA104T - S3]

Marks: 75

Duration: 180 mins.

SECTION - A

Answer all the questions.

Answer the following (10 marks x 5 = 50 marks)

- 1)
 - a) Explain two methods of analysis of proteins and amino acids? Write the significance of protein analysis. 7 marks (10)
 - b) What is caramelization? Give its importance 3 marks

- 2)
 - a) What are the reagents needed in Deniges test? Explain the procedure involved in the determination of methanol content. 5 marks
 - b) Explain the principle and procedure involved in the analysis of a given sample of milk powder? 5 marks (10)

- 3)
 - a) Discuss continuous and discontinuous solvent extraction methods used for determination of total lipid content of a food sample 5 marks
 - b) Define peroxide value? Add a note on principle and procedure involved in the determination of peroxide value 3 marks (10)
 - c) Discuss the method of identification of any two natural colours used in food products 2 Marks

- 4)
 - a) What is Agmark? Discuss the salient features and importance of Agmark 3 marks
 - b) Explain the qualitative test used for detection of any two antioxidants in food products 2 marks
 - c) Define acid value and saponification value. Give its significance and explain the method used for determination of acid value and saponification value of oils/fats 5 marks (10)

- 5)
 - a) Write the principle and procedure involved in the estimation of benzoates in beverages 3 marks
 - b) Explain the ferric chloride test and modified Mohler's test used for identification of benzoic acid in food. 3 marks (10)
 - c) Write the principle and brief procedure involved in the bioassay of Vitamin-B2 4 marks

SECTION - B

Answer all the questions.

Answer the following (5 marks x 5 = 25 marks)

- 6) Explain the principle and procedure involved in the analysis of a sample of butter (5)

- 7) Explain in detail the method of analysis of pesticides in the given sample of food (5)

grains.

- 8) Explain the method of determination of D-glucose and Lactose/ D- galactose method of carbohydrate analysis (5)
- 9) What are pesticides? Explain the pesticide cycle with a neat diagram. (5)
- 10) Explain Molybdate test and Holde's test for detection of adulteration in edible oils (2.5)
 - a)
 - b) What is FDA FSMA? Write a note on rules and related programmes (2.5)

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