



MANIPAL

ACADEMY of HIGHER EDUCATION

(Deemed to be University under Section 3 of the UGC Act, 1956)

MPharm – Pharmaceutical Analysis Specialization

MPharm Semester I – End Semester Makeup Examination January 2023

PCH-MPA104T. Food Analysis

Date: 23-01-23

Duration: 9:00 AM to 12:00 noon

Max. Marks: 75

Instructions: Answer ALL questions.

Long Essays

5 X 10 marks = 50 marks

1. Explain the various methods of analysis of carbohydrates. Write the significance of carbohydrate analysis. 10 marks

2. a) Discuss any two solvent extraction methods including general sample preparation used for determination of total lipid content of a food 5 Marks
b) What is peroxide value? Write the principle and procedure involved in the determination of peroxide value 5 marks

3. a) Classify the methods used for assay of vitamins. Write the principle and procedure involved in the microbiological assay of Vitamin B12 5 Marks
b) What is BIS? Discuss on the various activities of BIS 5 Marks

4. a) What are the reasons for adding colour additives in food products? Explain the determination of food colours in beverages by HPLC 5 Marks
b) Write one qualitative test and a quantitative method for determination of any one anti-oxidant used in food products. 4 Marks
c) Write one qualitative test used for identification of benzoic acid in food. 1 mark

5. Explain in detail the various methods of analysis of ice cream and milk powder. 10 marks

Short Essays

5X 5 marks = 25 marks

6. 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

7. What are carbohydrates? Classify them. Enlist the changes taking place during processing of carbohydrates

8. What are pesticides? Explain pesticide cycle.

9. What are organophosphorus and organochlorine pesticides? How will you analyse them in a sample?

10. How will you identify the adulterants in milk? Explain