

Exam Date & Time: 31-Dec-2018 (09:30 AM - 12:30 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal Academy of Higher Education, Manipal MPharm Theory End-Semester Examinations.  
MPharm Semester I – End Semester Examination, December 2018

PCH-MPA104T:Food Analysis

Date:31/12/2018

Food Analysis [PCH-MPA104T]

**Marks: 75**

**Duration: 180 mins.**

### SECTION - A

**Answer all the questions.**

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

- 1) a) Write the principle and procedure involved in the microbiological assay of Vitamin B12 (6) (10)  
b) Discuss the methods used for the detection of any two natural colours in food. (4)
- 2) a) Write any two solvent extraction methods including general sample preparation used for determination of total lipid content of a food. (6)  
b) What are the different types of adulteration in edible oil and fats? Discuss the sodium azide test for synthetically made mustard oil and Halphen's test for detection of cotton seed oil (4) (10)
- 3) a) What is Agmark? Discuss its salient features and importance. (5)  
b) Write the principle, reactions and procedure involved in the assay of vitamin-C in food samples by 2,6-Dichloroindophenol Titrimetric Method (5) (10)
- 4) a) Explain the enzymatic methods of carbohydrate analysis (5)  
b) Explain the procedure involved in the analysis of spirits (5) (10)
- 5) What are pesticide residues? Explain in detail the methods of determination of pesticide residues in food grains, fruits and vegetables (10)

### SECTION - B

**Answer all the questions.**

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

- 6) Write a note on FDA Food Safety Modernization Act (5)
- 7) How will you determine the total solids and over-run in ice cream? Explain the procedure (5)
- 8) How will you estimate the percentage of protein by Kjeldahl method? Explain in detail (5)

- 9) Explain the phenol-sulfuric acid method of analysis of total carbohydrate content (5)
- 10) Explain the analytical methods involved in the analysis of vinegar (5)

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