

M.Sc.(Chem.) Semester - 4 (CBCS) Examination
April/May-2022 (NEW COURSE)
Analysis of Selected Materials(Core)

Time: 2:30 Hours

Marks: 70

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate marks.

Q.1 (a)	Answer the following question	4 Marks
(1)	Which preservative will be present in the product if product label claim contains following code: E200 and E213?	2
(2)	Give examples for class-I and class-II preservatives (4 examples each)	2
Q.1 (b)	Answer any two questions out of three	10 Marks
(1)	Introduction, applications and two examples with name and structure. a) Synthetic Preservatives b) Antioxidants	5
(2)	Discuss quantitative determination of saccharin from non alcoholic beverages.	5
(3)	Discuss estimation of benzoic acid from ketchup sample.	5
Q.2 (a)	Answer the following questions	4 Marks
(1)	Explain detection of following adulterants in milk a) sugar b) urea c) starch d) anionic detergents	4
Q.2 (b)	Answer any two questions out of three	10 Marks
(1)	Write a note on TLC test for detection of mineral oil.	5
(2)	Discuss estimation of methanol in alcoholic beverages by GC	5
(3)	Discuss the method for detection of rice bran oil as adulterants.	5
Q.3 (a)	Answer the following question	4 Marks
(1)	Extraction of Naringin from grape fruit peels.	4
Q.3 (b)	Answer any two questions out of three	10 Marks
(1)	Give brief introduction, historical account and characteristics of vitamins.	5
(2)	discuss extraction protocol for β -Carotene.	5
(3)	Give classification of flavonoids in detail.	5
Q.4 (a)	Answer the following question	4 Marks
(1)	Write a note on estimation of potassium from soil sample by flame photometry.	4
Q.4 (b)	Answer any two questions out of three	10 Marks
(1)	Write a note on estimation of phosphorus from soil sample.	5
(2)	Explain estimation of Ca and Mg by titration from water sample.	5
(3)	Answer the following a) Importance of water analysis b) National standards for portable water	5
Q.5 (a)	Answer the following question	4 Marks
(1)	Explain estimation of vaporization rate of petroleum products.	4
Q.5 (b)	Answer any two questions out of three.	10 Marks
(1)	Write a note on composition and classification of crude oil	5
(2)	Give an account of Gasoline, its grade and additives	5
(3)	Explain following in brief. a) Noack volatility test b) Kauri butanol value	5
