

M.Sc.(Chem.) Semester - 4 (CBCS) Examination**April/May-2023 (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 questions. (04)

1. Which preservative will be present in the product if product label claim contains following code: E210, E211, E12 and E213?
2. What are food additives and what cannot be considered as food additives?

Q.1(B) Answer the following question. (Any Two) (10)

1. Discuss quantitative estimation of benzoic acid by titrimetric method.
2. Discuss quantitative determination of saccharin from non alcoholic beverages.
3. What are Antioxidants? Give structure and identification test for BHA.

Q.2(A) Answer the following questions. (04)

Discuss TLC test for detection of mineral oil.

Q.2(B) Answer the following question. (Any Two) (10)

1. Discuss sample preparation and determination of fat in cheese.
2. Discuss estimation of methanol in alcoholic beverages by GC.
3. Discuss the method for detection of sesame oil as adulterants.

Q.3(A) Answer the following questions. (04)

Write qualitative phyto-chemical test for following:

1. Steroids
2. Flavonoids
3. Tannins
4. Alkaloids

Q.3(B) Answer the following question. (Any Two) (10)

1. Write extraction procedure and conformation tests for Hesperidin.
2. Give introduction, classification, general properties and identification test for saponin.
3. Write extraction of citric acid and naringin from grapes juice.

Q.4(A) Answer the following questions. (04)

Explain about biological oxygen demand (BOD) of water.

Q.4(B) Answer the following question. (Any Two) (10)

1. Write a note on estimation of boron from soil sample.
2. Discuss method for determination of COD (chemical Oxygen Demand)
3. Discuss estimation of Na and K from water sample by flame photometry.

Q.5(A) Answer the following questions. (04)

Give brief introduction, composition and classification of petroleum.

Q.5(B) Answer the following question. (Any Two) (10)

1. What is density? how will you determine the density of given naphtha sample?
2. Explain determination of aniline point with diagram.
3. Explain following in brief. (I) Noack volatility test (II) Kauri butanol value
