

M.Sc.(Chem.) Semester - 4 (CBCS) Examination
March/April - 2025 (As Per Syllabus Year June-2019)
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 (04)**
(1) What are food additives? Give its classification.
(2) Give conformity test for benzoic acid.
- Q.1 (B) Answer any two questions out of three (10)**
(1) Discuss quantitative determination of Saccharin from food sample.
(2) Discuss spectrophotometric estimation of Sorbic acid as additive.
(3) Answer the following in brief:
(i) Explain antioxidants with examples.
(ii) What are Non-nutritive sweeteners? give its examples.
- Q.2 (A) Answer the following questions (04)**
(1) Discuss the determination of fruit content and total acidity.
- Q.2 (B) Answer any two questions out of three (10)**
(1) Explain estimation of milk fat.
(2) Discuss sample preparation of milk and estimation of urea.
(3) Discuss the method for detection of rice bran oil as adulterants.
- Q.3 (A) Answer the following question (04)**
(1) List out any four phytochemical tests with identification protocol.
- Q.3 (B) Answer any two questions out of three (10)**
(1) Give introduction, classification, general properties and identification test for saponin.
(2) Discuss occurrence and extraction of Resveratrol.
(3) Give brief introduction of carotenoids and extraction of β -carotene.
- Q.4 (A) Answer the following question (04)**
(1) Introduce types of water pollutants and list out major test in water analysis
- Q.4 (B) Answer any two questions out of three (10)**
(1) Give the process to determine biological oxygen demand of waste water.
(2) Write a note on estimation of available phosphorus in soil.
(3) Discuss method to estimate Electrical Conductivity (EC) of soil sample.
- Q.5 (A) Answer the following question (04)**
(1) Describe the role of additives in fuels.
(2) Give the composition of crude oil.
- Q.5 (B) Answer any two questions out of three. (10)**
(1) Explain different types of cracking methods used in refining.
(2) Discuss the role of petrochemical industries in modern economy.
(3) Discuss the importance and determination of aniline point with diagram.
