647510 **MSC4AnaC401x** **Seat No :_____**

M.Sc.(Chem.) Semester - 4 (*CBCS*) Examination
March/April - 2026 (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) Define food additives and give the examples of Class-I and Class-II food additives.

(2) Explain preservatives with example.

Q.1(B) **Answer any two questions out of three** **(10)**

(1) Discuss quantitative estimation of chemical preservatives by Spectroscopy.

(2) Give an account of Non-nutritive sweeteners and its identification test.

(3) What are Antioxidants? Give structure and identification test for BHA.

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

(1) Discuss the method for detection of rice bran oil as adulterants.

Q.2(B) **Answer any two questions out of three** **(10)**

(1) Discuss the Rose-Gottlieb method for analysis of Fat

(2) Explain detection of cotton seeds oil as adulterants.

(3) Give brief introduction of Starch and discuss method for detection of starch and cellulose in milk and milk products.

Q.3(A) **Answer the following question** **(04)**

(1) Write any four common phytochemical tests with its standard observation.

Q.3(B) **Answer any two questions out of three** **(10)**

(1) Write extraction procedure and conformation tests for Hesperidin.

(2) Introduce various vitamins and provitamins with example.

(3) Give introduction, common characteristics and classification of carotenoids with example.

Q.4(A) **Answer the following question** **(04)**

(1) List out major parameters for water analysis and soil analysis.

Q.4(B) **Answer any two questions out of three** **(10)**

(1) Explain estimation of alkalinity and acidity of given water sample.

(2) What id Dissolved Oxygen (DO)? Discuss Winkler's method for Dissolved Oxygen.

(3) Discuss process to determine organic carbon from given soli sample?

Q.5(A) **Answer the following question** **(04)**

(1) What is Octane number?

(2) Give various components of crude oil.

Q.5(B) **Answer any two questions out of three.** **(10)**

(1) Introduce aniline point and mixed aniline point, give its importance in fuel testing.

(2) Explain the test methods used to determine flash and fire points.

(3) Describe the importance and working of Viscosity index improvers.

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