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|  | <b>Practical Plan</b> |  |
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| Name of the college: Govt college of Arts Science and Commerce, Sanquelim.                                                                                                                                                                                                                            |                                          |                               |
|                                                                                                                                                                                                                                                                                                       |                                          |                               |
| Name of Faculty: Varsha K sail                                                                                                                                                                                                                                                                        | Subject: CHEMISTRY OF FOOD AND NUTRIENTS |                               |
|                                                                                                                                                                                                                                                                                                       |                                          |                               |
| Paper code:CHC-321                                                                                                                                                                                                                                                                                    | Program: TY BSc                          | Division: Batch I             |
|                                                                                                                                                                                                                                                                                                       |                                          |                               |
| Academic year: 2025- 2026                                                                                                                                                                                                                                                                             | Semester: V                              | Total Practicals/Labs: 30 hrs |
|                                                                                                                                                                                                                                                                                                       |                                          |                               |
| Credits:02                                                                                                                                                                                                                                                                                            |                                          |                               |
|                                                                                                                                                                                                                                                                                                       |                                          |                               |
| Course Objectives. o<br>introduce students to basic chemistry involved in analysis of different components of food. 2. To develop skill to analyze nutrients and minerals in different types of food. 3. To distinguish between the pure and adulterated food. 4. To analyse the adulterants in food. |                                          |                               |
|                                                                                                                                                                                                                                                                                                       |                                          |                               |
| Expected Course Outcome: .<br>o introduce students to basic chemistry involved in analysis of different components of food. 2. To develop skill to analyze                                                                                                                                            |                                          |                               |

**nutrients and minerals in different types of food. 3. To distinguish between the pure and adulterated food. 4. To analyse the adulterants in food.**

**Student Learning Outcome: .  
o introduce students to basic chemistry involved in analysis of different components of food. 2. To develop skill to analyze nutrients and minerals in different types of food. 3. To distinguish between the pure and adulterated food. 4. To analyse the adulterants in food.**

| Month | Practicals/Labs Scheduled Date |          | No. of Practical/Labs planned       | List of Experiments                      | Reference books                                                            |
|-------|--------------------------------|----------|-------------------------------------|------------------------------------------|----------------------------------------------------------------------------|
| June  | 23/06/25                       | 28/06/25 | 1 practical session of 2 hours each | 1. Estimation of acid value of fat/ oil. | 1. G.H. Jeffery, J. Bassett, J. Mendham, R. C. Denney, Vogel's Textbook of |
| july  | 30/07/25                       | 5/7/25   | 1 practical session of 2 hours each | . Estimation of acid value of fat/ oil.  |                                                                            |

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|--------|---------|---------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        | 7/7/25  | 12/7/25 | 1 practical session of 2 hours each | 11. Separation of amino acids by Thin Layer Chromatography.                                                                                    | <p>Quantitative Chemical Analysis, 5<sup>th</sup> Edn. ELBS</p> <p>1. S. Suzanne Nielsen, Food Analysis Manual, 2nd Edition Publisher Springer, UK 2015.</p> <p>(FSSAI) Manual of methods of analysis of foods honey &amp; other bee hive products New Delhi, India</p> <p>Manual of methods of analysis of foods food safety and standards authority of India ministry of health and family welfare government of India new Delhi 2015</p> <p>7. Food Adulteration Testing Manual (14th Revised Edition) –Consumer Guidance Society of India (CGSI) Mumbai-2019</p> |
|        | 14/7/25 | 19/7/25 | 2 practical session of 4 hours each | 12. Detection of adulterants in food items. a) Turmeric powder b) Black pepper c) Sugar /dextrose from Honey                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|        | 21/7/25 | 26/7/25 | 2 practical session of 4 hours each | 12. Detection of adulterants in food items. a) Turmeric powder b) Black pepper c) Sugar /dextrose from Honey                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|        | 28/7/25 | 2/8/25  | 2 practical session of 4 hours each | 2. Estimation of iodine value of fat.                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| August | 4/8/25  | 9/8/25  | 2 practical session of 4 hours each | 3. Estimation of saponification value of fats.                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|        | 11/8/25 | 16/8/25 | 2 practical session of 4 hours each | 4. Quantitative estimation of sugars by titrimetric method                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|        | 18/8/25 | 23/8/25 | 2 practical session of 4 hours each | 5. Determination of calcium and magnesium in leafy vegetables by EDTA titration. 6. Determination of iron in leafy vegetables by redox method. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|        | 25/8/25 | 30/8/25 | 2 practical session of 4 hours each | 5. Determination of calcium and magnesium in leafy vegetables by EDTA titration. 6. Determination of iron in leafy vegetables by redox method. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

|      |          |          |                                     |                                                                             |  |
|------|----------|----------|-------------------------------------|-----------------------------------------------------------------------------|--|
| Sept | 1/9/25   | 6/9/25   | 2 practical session of 4 hours each | 7. Estimation of amount of salt in butter by Mohr titration..               |  |
|      | 8/9/25   | 13/9/25  | 2 practical session of 4 hours each | 8. Estimation of Vitamin C in citrus fruits by acid base titrimetric method |  |
|      | 11-09-23 | 16-09-23 | 2 practical session of 4 hours each | 9. Estimation of iodine in iodized common salt using iodometry              |  |
|      | 25-09-23 | 30-09-23 | 2 practical session of 4 hours each | 10. Quantitative estimation of proteins by Folin-Lowry method.              |  |
| Oct  | 02-10-23 | 07-10-23 | 2 practical session of 4 hours each |                                                                             |  |
|      | 09-10-23 | 14-10-23 | 2 practical session of 4 hours each |                                                                             |  |