

Semester Lecture Plan

Name of the college: Government College of Arts, Science & Commerce, Sanquelim-Goa		
Name of Faculty: Dr. Dattaprasad D Narulkar	Subject: Chemistry	
Paper code: CHC-321 (Chemistry of Food and Nutrients)	Program/Course: T.Y. B.Sc. (minor vocational -2)	Division: -
Academic year: 2026 - 2027	Semester: V	Total Lectures: 15 (Theory)
Course Objectives: 1. To acquaint students with the chemical constituents of food, their interactions during processing, and evaluation of varied characteristics of food. 2. To familiarise students with the classification of foods and nutrients, and their metabolism in the human body. 3. To understand adulterants in food and their characteristics. 4. To familiarize with the laws and regulations on food adulteration.		
Course Learning Outcome: CO1: Recall core terms and concepts of food adulteration, nutrients, and food safety rules. CO2: Explain the health effects of adulteration, classification, structure and the functional roles of nutrients in the body.		

CO3: Use principles of food chemistry to detect adulterants and address nutrient deficiencies.
CO4: Assess the nutritional effect of food, food quality and safety by analysing composition against standards

Month	Lectures From	Lectures To	No. of lectures allotted	Topic, Subtopic to be covered	Exercise/Assignment	ICT Tools	Reference books
June	22/06/2025	27/06/2025	01	Adulteration: definition, types-intentional, incidental, metallic and packaging hazard.		Smart board/PPT	Ref 1-4
June-July	29/06/2025	04/07/2025	01	Causes and methods of food adulteration. General impact on human health		Smart board/PPT	Ref 1-4
July	06/07/2025	11/07/2025	01	Detection and prevention of food adulteration		Smart board/PPT	Ref 1-4
July	13/07/2025	18/07/2025	01	Nature of adulterants, methods of detection of food adulterants and toxic constituents in foods		Smart board/PPT	Ref 1-4
July	20/07/2025	25/07/2025	01	common food adulterants & their detection		Smart board/PPT	Ref 1-4
July-August	27/07/2025	01/08/2025	01	Food additives: Definition, classification, role of additives in processed foods	Nutritional values and additives in 7 different food items	Smart board/PPT	Ref 1-4

August	03/08/2025	08/08/2025	01	Safe levels of additive uses and the institutions involved in the process.		Smart board/PPT	Ref 1-4
August	10/08/2025	15/08/2025	01	Vitamins, Minerals & Trace Elements Classification, sources and functions		Smart board/PPT	Ref 1-4
August	17/08/2025	22/08/2025	01	water-soluble and fat-soluble vitamins		Smart board/PPT	Ref 1-4
August	24/08/2025	29/09/2025	01	biochemical and physiological role		Smart board/PPT	Ref 1-4
August-September	31/09/2025	05/09/2025	01	bio-availability & requirements, sources		Smart board/PPT	Ref 1-4
September	07/09/2025	12/09/2025	01	deficiency & excess of Vitamins		Smart board/PPT	Ref 5-6
September	14/09/2025	19/09/2025		Ganesh Chaturthi break		Smart board/PPT	Ref 5-6
September	21/09/2025	26/09/2025	01	deficiency & excess of minerals (calcium, sodium, potassium)		Smart board/PPT	Ref 5-6
September-October	28/09/2025	03/10/2025	01	deficiency & excess of minerals (phosphorus, iron, fluoride, zinc)		Smart board/PPT	Ref 5-6
October	05/10/2025	10/10/2025	01	deficiency & excess of minerals (selenium, iodine, chromium)		Smart board/PPT	Ref 5-6
October	12/10/2025	14/10/2025	01	Revision		Smart board/PPT	-

Reference Books:

1. J. D. Lee, *Concise Inorganic Chemistry*, 5th Edn. Wiley India. 2003.
2. P. W. Atkins, T. L. Overton, J. P. Rourke, M. T. Weller & F. A. Armstrong, *Shriver & Atkins' Inorganic Chemistry*, 5th Edn.; Oxford University Press. 2010.
3. F. A. Cotton, G. Wilkinson and P. L. Gaus, *Basic Inorganic Chemistry*. 3rd Edn. Wiley India. 2007.
4. B. R. Puri, L. R. Sharma and K. C. Kalia, *Principles of Inorganic Chemistry*, 33rd Edn, Vishal Publishing Co. 2020.
5. Morrison, R.T. & Boyd, R.N. *Organic Chemistry*, Pearson, 2010.
6. Jerry March, *Advanced Organic Chemistry*; 4rd Edition, John Wiley, 2007.

*** Assessment Rubrics**

Component	Max Marks
ISA 1	7.5
ISA 2	7.5
ISA 3	7.5
Practical	25
Semester End Exam	80

Total 100

* The best two ISAs will be considered