

GOVERNMENT GENERAL DEGREE COLLEGE, MANGALKOTE

Department of Chemistry

(Academic Session: 2022-2023)

Add-On Course:

Food Additives and Preservatives



Dr. Pradipta Kumar Basu
OFFICER IN CHARGE, W.B.E.S.
Government General Degree College, Mangalkote
Dt. Purba Bardhaman, West Bengal- 713132

Course Description:

This course delves into the science behind food additives and preservatives, exploring their roles in food safety, shelf life extension, and enhancing food properties. Students will gain knowledge about different types of additives, their regulations and potential health implications. Interactive sessions and practical exercises will equip them with the ability to critically evaluate food labels and make informed dietary choices.

Objectives of the course:

1. Understand the scientific basis of food spoilage and preservation methods.
2. Identify various types of food additives and preservatives (antioxidants, coloring agents, sweeteners, etc.).
3. Analyze the regulations governing the use of food additives and their safety considerations.
4. Develop critical thinking skills to evaluate the role of food additives in the modern food industry.
5. Gain practical skills in identifying additives on food labels and understanding their potential effects.

Career prospects:

This course is beneficial for students pursuing careers in:

- Food Science and Technology
- Food Safety and Quality Control
- Food Processing and Manufacturing
- Nutrition and Dietetics
- Public Health

Requirements:

➤ Students:

- Compulsory for students of B.Sc. Zoology (H).
- Presence of biology and chemistry subjects at (10+2) level.

➤ Teachers:

- Faculty members of the Department of Chemistry, GGDC, Mangalkote.
- External faculty members, research scholars and scientists may be invited to conduct some classes depending on their willingness and availability.

➤ Course Fee: Nil



- **Intake Capacity: 25**
- **Class/Lecture duration: 1 hour**
- **Practical: 2 hours**
- **Total Contact hours: 30 hours**

Course contents			
Theory			
Units	Topic	Class/Lectures	Duration (hours)
1.	Introduction to Food Additives and Preservatives <ul style="list-style-type: none"> Definition and classification of food additives and preservatives Functions of additives (e.g., antioxidants, sweeteners, emulsifiers, etc.) Functions of preservatives (e.g., antimicrobials, antioxidants, etc.) 	8	8
2.	Common Food Additives and Preservatives <ul style="list-style-type: none"> Different additive categories and their applications (e.g., artificial sweeteners, colours, flavourings...) Common preservatives, various preservation Techniques and their applications 	8	8
3.	Consumer Awareness and Responsible Use: <ul style="list-style-type: none"> Regulatory bodies and guidelines (e.g., FSSAI) Reading food labels and understanding additives Informed decision making for healthy food choices 	4	4
Practical			
1.	<ul style="list-style-type: none"> Detection of common adulterants in milk. Detection of common adulterant in ghee Detection of common adulterant in sugar Detection of common adulterant in honey. Detection of common adulterant in chilli powder 	5	10
Total duration of the course			30



Assessment and Evaluation pattern:

1. Multiple Choice Questions – 15 marks
2. Viva-Voce/Oral Presentation/Practical – 15 marks

Full Marks: 30

Percentage of marks obtained	Grade
90-100	Excellent-A
70-89	Good-B
50-69	Fair-C
40-49	Not Eligible for Certificate - D

*** CERTIFICATE WILL BE PROVIDED BY THE COLLEGE AFTER COMPLETION OF COURSE.**

Expected outcomes of the course:

By the end of the course, students will be able to:

1. Explain the scientific principles of food spoilage and preservation.
2. Categorize different types of food additives and preservatives based on their functions.
3. Interpret food labels and identify the presence of additives.
4. Evaluate the safety aspects and regulations surrounding food additives.
5. Make informed decisions regarding food choices from a consumer perspective.

Pedagogical Approach:

- Interactive lectures
- Laboratory demonstrations
- Assignments and quizzes for knowledge assessment

Resources:

- FOOD PROCESSING AND PRESERVATION by Sivasankar.
- Food Processing and Preservation by G Subbulakshmi, Shobha A Udipi, Padmini S Ghurge.
- The Chemistry of Food Additives and Preservatives by Titus A. M. Msagati.
- Encyclopaedia of the Chemistry of Food Additives and Preservatives by Tana Hintz
- Food Chemistry: The Role of Additives, Preservatives and Adulteration by Mousumi Sen





Department of Chemistry

GOVERNMENT GENERAL DEGREE COLLEGE MANGALKOTE

(Affiliated to The University of Burdwan)

Certificate of Completion

This certificate is awarded to Mr./Missbearing Roll No.....of Semester.....of the session 2022-2023 of the Department of...**Chemistry**....,G.G.D.C.Mangalkote, for successfully completing Add-on Course entitled “**FOOD ADDITIVES AND PRESERVATIVES**” during his/her.....Semester study.

The candidate has fulfilled all requirements and specifications set by the institute.

Grade:

Dr.Pradipta Kumar Basu
(Head, Department of Chemistry.)
G.G.D.C.Mangalkote

Dr.Debraj Biswal
(IQAC Coordinator)
G.G.D.C. Mangalkote

Dr.Pradipta Kumar Basu
(Officer In Charge)
G.G.D.C. Mangalkote

Grade for the certificate, 90-100% 'A', 70-89% 'B', 50-69% 'C' and 40-49% 'D'

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Date of issue: