



Dr. N.G.P. ARTS AND SCIENCE COLLEGE

(An Autonomous Institution, Affiliated to Bharathiar University, Coimbatore)
Approved by Government of Tamil Nadu & Accredited by NAAC with 'A' Grade (3rd Cycle - 3.64 CGPA)
Dr. N.G.P.-Kalapatti Road, Coimbatore-641 048, Tamil Nadu, India.
Website: www.drngpasc.ac.in | Email: info@drngpasc.ac.in | Phone: +91-422-2369100

REGULATIONS 2026-27 for Under Graduate Programme

(Outcome Based Education model with Choice Based Credit System)

B.Sc. FOOD SCIENCE AND NUTRITION

(For the students admitted during the academic year 2026-27 and onwards)

Eligibility:

A candidate who has passed in Higher Secondary Examination with any Academic stream or Vocational stream as one of the subject under Higher Secondary Board of Examination and as per the norms set by the Government of Tamil Nadu or an Examination accepted as equivalent thereto by the Academic Council, subject to such conditions as may be prescribed thereto are permitted to appear and qualify for the **Bachelor of Science in Food Science and Nutrition Degree Examination** of this College after a course of study of three academic years.

Programme Educational Objectives:

The Curriculum is designed to attain the following learning goals which students shall accomplish by the time of their graduation:

1. To enable the students to implement the basic food science in operation.
2. To provide basic knowledge and practice to enhance the quality of life through the improvement of human health and nutritional status.
3. To develop skill and techniques in food preparation with conservation of nutrients and palatability using cooking methods generally employed.
4. To help the students to contribute proper utilization of foods and prevent food ravages.
5. To understand the prevalence of malnutrition in Indian scenario and gain knowledge on effective methods to combat malnutrition



PROGRAMME OUTCOMES

On the successful completion of the programme, the following are the expected outcomes.

PO Number	PO Statement
P01	Acquire knowledge and develop aptitude in Food Science and Nutrition intended for potential career opportunities.
P02	Build self-empowerment in food Science and Nutrition and develop effective communication skills sufficient for entry in preprofessional practice.
P03	Apply skills by planning, implementing and evaluating diets to the community in the current scenario.
P04	Interpret and utilize nutrition techniques in developing novel products to improve the health status of society and promote entrepreneurship.
P05	Develop professional attributes and portfolio in Food Science and Nutrition that are adopted to serve in diverse professional and community organizations.

Guidelines for Programmes offering Part I & Part II for Six Semesters:

Part	Subjects	No. of Papers	Credit	Semester No.
I (12 Credits)	Tamil / Hindi / French/Malayalam	4	4 x 3 = 12	I & IV
II (12 Credits)	English	4	4 x 3 = 12	I & IV
III (108 Credits)	Core (Credits 2,3,4,5)	16-19	70	I to VI
	Inter Departmental Course (IDC)	4	16	I to IV
	Discipline Specific Elective (DSE)	3	3 x 4 =12	V & VI
	Skill Enhancement Course(SEC)	4	8	III ,IV,V& VI
	Industrial Training	1	2	V
IV (8 Credits)	Environmental Studies(AECC)	1	2	I
	Basic Tamil/ Advance Tamil /Human Rights & Women's Rights(AECC)	1	2	II
	Innovation & IPR/Innovation, IPR & Entrepreneurship (AECC)	1	2	VI
	Generic Elective(GE) (AEEC)	1	2	V
V (2 Credits)	NSS/NCC/YRC/RRC/Yoga/Sports/Clubs Health and Wellness	-	2	I -II
TOTAL CREDITS			142	



CURRICULUM

B.Sc. Food Science and Nutrition

A.Y

26-27

Course Code	Course Category	Course Name	L	T	P	Duration		Exam (h)	Max Marks			Credits
						Week	Total		CIA	ESE	Total	
First Semester												
Part-I												
26TLU1TA	Language-I	Tamil-I	4	1	-	5	60	3	25	75	100	3
26TLU1HA		Hindi-I										
26TLU1MA		Malayalam – I										
26TLU1FA		French-I										
Part-II												
26ELU1EA	Language-II	English-I	4	-	1	5	60	3	25	75	100	3
Part-III												
26FNU1CA	Core-I	Food Science	4	1	-	5	60	3	25	75	100	4
26FNU1CB	Core-II	Chemistry of Foods	4	1	-	5	60	3	25	75	100	4
26FNU1CP	Core practical-I	Food Science	-	-	5	5	60	3	40	60	100	2
26CEU1IA	IDC-I	Chemistry	3	-	-	3	36	3	25	75	100	3
Part-IV												
26CEU1AA	AECC-I	Environmental Studies	2	-	-	2	24	-	50	-	50	2
Part – V												
26FNU1XA	Extension Activity	NSS/NCC/YRC /RRC/Yoga/ Sports/Club	-	-	-			-	50		50	1
Total			21	3	6	30	360	-	-	-	700	22



Course Code	Course Category	Course Name	L	T	P	Duration		Exam (h)	Max Marks			Credits
						Week	Total		CIA	ESE	Total	
Second Semester												
Part-I												
26TLU2TA	Language-I	Tamil-II	4	1	-	5	60	3	25	75	100	3
26TLU2HA		Hindi-II										
26TLU2MA		Malayalam – II										
26TLU2FA		French-II										
Part- II												
26ELU2EA	Language-II	English– II	4	-	1	5	60	3	25	75	100	3
Part-III												
26FNU2CA	Core-III	Principles of Nutrition	4	-	-	4	48	3	25	75	100	4
26FNU2CB	Core-IV	Human Physiology	3	-	-	3	36	3	25	75	100	3
26FNU2CP	Core Practical-II	Physico-Chemical Analysis of Food	-	-	4	4	48	3	40	60	100	2
26CEU2IM	IDC Practical-I	Applied Chemistry	3	-	4	7	84	3	40	60	100	5
Part-IV												
26TLU2AA/ 26TLU2AB/ 26CMU2AA	AECC-II	Basic Tamil/ Advanced Tamil /Human Rights and Women's Rights	2	-	-	2	24	-	50	-	50	2
Part-V												
26FNU2XA	Extension Activity	NSS/NCC/YRC/ RRC/Yoga/Sports / Health and Wellness	-	-	-	-	-	-	50	-	50	1
Total			17	02	11	30	360				600	23

Course Code	Course Category	Course Name	L	T	P	Duration		Exam (h)	Max Marks			Credits
						Week	Total		CIA	ESE	Total	
Third Semester												
Part-I												
26TLU3TA	Language-I	Tamil-III	3	1	-	4	48	3	25	75	100	3
26TLU3HA		Hindi-III										
26TLU3MA		Malayalam – III										
26TLU3FA		French-III										
Part- II												
26ELU3EA	Language-II	English–III	3	1	-	4	48	3	25	75	100	3
Part-III												
26FNU3CA	Core – V	Nutrition Through Life Span	4	-	-	4	48	3	25	75	100	4
26FNU3CB	Core -VI	Dietetics - I	3	-	1	4	48	3	25	75	100	3
26FNU3CC	Core Practical - III	Nutrition Through Life Span	-	-	4	4	48	3	25	75	100	2
26FNU3CP	Core Practical-IV	Dietetics - I	-	-	3	3	36	3	40	60	100	2
26BCU3IA	IDC-II	Biochemistry	3	-	-	3	36	3	25	75	100	3
26FNU3SP	SEC- I	Basics of Research Techniques – Computer Applications	-	-	4	4	48	3	40	60	100	2
Total			19	2	09	30	360				800	22

Course Code	Course Category	Course Name	L	T	P	Duration		Exam (h)	Max Marks			Credits
						Week	Total		CIA	ESE	Total	
Fourth Semester												
Part-I												
26TLU4TA	Language-I	Tamil-IV	3	1	-	4	48	3	25	75	100	3
26TLU4HA		Hindi-IV										
26TLU4MA		Malayalam – IV										
26TLU4FA		French-IV										
Part- II												
26ELU4EA	Language-II	English–IV	3	1	-	4	48	3	25	75	100	3
Part-III												
26FNU4CA	Core-VII	Dietetics – II	4	-	-	4	48	3	25	75	100	4
26FNU4CB	Core - VIII	Sports Nutrition	2	-	-	2	24	3	25	75	100	2
26FNU4CP	Core Practical-V	Dietetics - II	-	-	4	4	48	3	40	60	100	2
26FNU4CM	IDC Practical-II	Bakery and Confectionery	3	-	4	7	84	3	40	60	100	5
26FNU4SP	SEC-II	Perspective Psychology	-	-	4	4	48	3	40	60	100	2
Total			16	2	12	30	360				800	21

Course Code	Course Category	Course Name	L	T	P	Duration		Exam (h)	Max Marks			Credits
						Week	Total		CIA	ESE	Total	
Fifth Semester												
Part-III												
26FNU5CA	Core-IX	Food Processing	4	-	-	4	48	3	25	75	100	4
26FNU5CB	Core-X	Food Preservation	4	-	-	4	48	3	25	75	100	4
26FNU5CC	Core- XI	Food Microbiology	4	-	-	4	48	3	25	75	100	4
26FNU5CD	Core - XII	Food Safety and Quality Control	4	-	-	4	48	3	25	75	100	4
26FNU5CV	Core-XIII	Project work and viva voce	-	-	-	-	-	3	40	60	100	2
26FNU5CP	Core Practical- VI	Food Preservation	-	-	4	4	48	3	40	60	100	2
26FNU5SP	SEC-III	Food Fermentation	-	-	4	4	48	3	40	60	100	2
26FNU5DA	DSE-I	Food Service Management	4	-	-	4	48	3	25	75	100	4
26FNU5DB		Health and Fitness										
26FNU5DC		Unit Operation in Food Industry										
26FNU5TA	IT	Industrial Training	-	-	-			3	40	60	100	2
Part – IV												
	GE		2	-	-	2	24	3	50	-	50	2
Total			22	-	8	30	360				950	30

CourseCode	Course Category	Course Name	L	T	P	Duration		Exam (h)	Max Marks			Credits	
						Week	Total		CIA	ESE	Total		
Sixth Semester													
Part-III													
26FNU6CA	Core-XIV	Community Nutrition	4	-	-	4	48	3	25	75	100	4	
26FNU6CV	Core - XVI	Community Project & Viva Voce	-	-	4	4	48	3	40	60	100	2	
26FNU6CM	Core Practica -VII	Food Product Development	3	-	5	4	48	3	40	60	100	5	
26FNU6SP	SEC-IV	Nutrient Analysis	-	-	4	4	48	3	40	60	100	2	
26FNU6DA	DSE-II	Food Hygiene and Sanitation	4	-	-	4	48	3	25	75	100	4	
26FNU6DB		Nutrition Care Process											
26FNU6DC		Entrepreneurship in Food Industry											
26FNU6DD	DSE-III	Food Labelling and Packaging	4	-	-	4	48	3	25	75	100	4	
26FNU6DE		Applied Diet Counselling											
26FNU6DF		Food Commodities											
Part-IV													
26CIU6AA	AECC-III	Innovation and IPR	2	-	-	2	24	-	50	-	50	2	
Total			18	-	12	30	360				750	24	
Grand Total											4600	142	



DISCIPLINE SPECIFIC ELECTIVE

Students shall select the desired course of their choice in the listed elective course during Semesters V & VI

Semester V (Elective I)

List of Elective Courses

S. No.	Course Code	Name of the Course
1	26FNU5DA	Food Service Management
2	26FNU5DB	Health and Fitness
3	26FNU5DC	Unit Operation in Food Industry

Semester VI (Elective II)

List of Elective Courses

S. No.	Course Code	Name of the Course
1	26FNU6DA	Food Hygiene and Sanitation
2	26FNU6DB	Nutrition Care Process
3	26FNU6DC	Entrepreneurship in Food Industry

Semester VI (Elective III)

List of Elective Courses

S. No.	Course Code	Name of the Course
1	26FNU6DD	Food Labelling and Packaging
2	26FNU6DE	Applied Diet Counselling
3	26FNU6DF	Food Commodities

GENERIC ELECTIVE COURSE (GE)

The following are the course offered under Generic Elective Course

Semester V

S. No.	Course Code	Course Name
1	26FNU5GA	Nutrition In Everyday Life

EXTRA CREDIT COURSES

The following are the courses offered under self-study to earn extra credits:

Semester III

S. No.	Course Code	Course Name
1	26FNUSSA	Food Fortification
2	26FNUSSB	Nutrition Education

D. Mh

BoS Chairman/HoD
Department of Food Science & Nutrition
Dr. N. G. P. Arts and Science College
Coimbatore -- 641 043

 Dr.N.G.P. Arts and Science College		
APPROVED		
BoS-215 ⁺ 06.04.26	AC -	GB -

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UG - REGULATION (R6)

(2026-27 and onwards)

(OUTCOME BASED EDUCATION WITH CBCS)

1. NOMENCLATURE

1.1 Faculty: Refers to a group of programmes concerned with a major division of knowledge Eg. Faculty of Computer Science consists of disciplines like Departments of Computer Science, Information Technology, Computer Technology, Computer Applications, Data Analytics, Cognitive Systems, Artificial Intelligence and Machine Learning and Cyber Security

1.2 Programme: Refers to the Bachelor of Science / Commerce / Arts stream that a student has chosen for study.

1.3 Batch: Refers to the starting and completion year of a programme of study. Eg. Batch of 2026-27 refers to students belonging to a 3 year Degree programme admitted in 2026 and completing in 2029.

1.4 Course: Refers to component of a programme. A course may be designed to involve lectures / tutorials / laboratory work / seminar / project work/ practical training / report writing / Viva- voce, etc., or a combination of these, to meet effectively the teaching learning needs.

- a) **Core Course:** A course, which should compulsorily be studied by a candidate as a core requirement
- b) **Inter Disciplinary Course (IDC):** A course chosen generally from a related discipline/subject with an intention to seek exposure in the discipline relating to the core domain of the student
- c) **Discipline Specific Elective (DSE) Course:** Elective courses offered under main discipline/ subject of study.
- d) **Skill Enhancement Courses (SEC):** Value-based and/or skill-based courses which are aimed at providing hands-on-training, competencies, skills, etc.
- e) **Ability Enhancement Compulsory Courses (AECC):** Mandatory courses that lead to Knowledge enhancement. Environmental Science, Human Rights and Women's Rights, Basic Tamil/ Advanced Tamil, Innovation and IPR, Innovation, IPR and Entrepreneurship.

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- f) **Ability Enhancement Elective Course (AEEC)/Generic Elective (GE):**An elective course chosen generally from an unrelated discipline/subject, with an intention to seek exposure is Generic Elective.
- g) **Embedded Course:** To enhance practical competency, EC aims to provide both practical and theoretical knowledge and is conducted as a practical Examination.
- h) **Self Study Course:** SS courses will be offered by the department. The course is an optional course offered in the III Semester with the approval of the syllabus by the BoS. It is not mandatory for programme completion, and only one attempt is permitted. The examination will be conducted for 50 marks with no CIA and no re-examination.
- i) **DOMAIN-SPECIFIC SKILL COMPONENTS**

Every student shall mandatorily complete **any two Domain-Specific Skill Components** during Semesters I to V as a requirement for the successful completion of the programme

These components may include courses such as:

- NPTEL courses
- NCVRT-certified programmes
- Industry-relevant skill courses offered through Sector Skill Councils
- Programmes under the Board of Apprenticeship
- Student Skill Development Courses (SSDC) offered/specified by the respective departments

Each course shall comprise a minimum of **30 to 35 hours of structured learning**.

1.5 Project Work:

Course involving application of knowledge in problem solving/analyzing / exploring a real life situation/difficult problem. The Project work will be given in lieu of a Core paper.

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1.6 Internship/Industrial Training

Students must undertake industrial/institutional training for a minimum period of 30 days during the IV Semesters summer vacation. The students will submit the report for evaluation during V semester.

1.7 Extra Credits:

Extra credits shall be awarded for achievements in identified curricular/co-curricular/Extracurricular activities executed outside the regular class hours. Extra credits are not mandatory for completing the programme.

2. STRUCTURE OF PROGRAMME

2.1 PART- I: LANGUAGE- I

Tamil or any one of the languages namely Malayalam, Hindi and French will be offered under Part – I in the first four semesters.

2.2 PART- II: LANGUAGE- II

English will be offered during the first four semesters.

2.3 PART- III:

- Core Course
- Inter Departmental Course (IDC)
- Discipline Specific Elective (DSE)
- Skill Enhancement Course (SEC)
- Industrial Training (IT)
- Embedded Course (EC)

2.4 PART- IV:

2.4.1 Ability Enhancement Compulsory Course (AECC)

The Ability Enhancement Compulsory Courses such as i) Environmental Studies, ii) Human Rights and Womens' Rights, iii) Innovation and IPR/ Innovation, IPR and Entrepreneurship are offered during I,II and VI Semester.

Basic Tamil

a) Those who have not studied Tamil up to XII Std and taken a non-Tamil language under Part-I shall take one Basic Tamil course in the second semester.

(OR)

Advanced Tamil

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b) Those who have studied Tamil up to XII Std and taken a non-Tamil language under Part-I shall take one Advanced Tamil course in the second semester.

Note: Students who come under the above a+b categories are exempted from Human Rights and Women's Rights in the second semester.

2.4.2 Ability Enhancement Elective Course (AEEC)/Generic Elective (GE): An elective course chosen generally from an unrelated discipline/subject, with an intention to seek exposure is Generic Elective offered in V semester. (Theory/Practical/Non-Lab Practical)

2.5 PART- V: EXTENSION ACTIVITIES

The following extracurricular activities like NSS/YRC/NCC/RRC/ Yoga/ Sports / Clubs/ Heath and wellness are offered under extension activities during semester I & II. Students will be evaluated based on their active participation in any one of the above activities. 80% Attendance is compulsory for extension activity.

3. CREDIT ALLOTMENT

The following is the credit allotment:

- Lecture Hours (Theory) : 1 credit per lecture hour per week
- Laboratory Hours : 1 credit for 2 Practical hours per week
- Project Work : 1 credit for 2 hours of project work per week

4. DURATION OF THE PROGRAMME

The B.A. /B.Com./B. Sc. Programme must be completed within 3 years (6 semesters) and a maximum of 6 years (12 semesters) from the date of acceptance to the programme. If not, the candidate must enroll in the course determined to be an equivalent by BoS in the most recent curriculum recommended for the Programme.

5. REQUIREMENTS FOR COMPLETION OF A SEMESTER

Every student shall ordinarily be allowed to keep terms for the given semester in a program of his/ her enrolment, only if he/ she fulfills at least eighty percent (80%) of the attendance taken as an average of the total number of lectures, practicals, tutorials, etc. wherein short and/or long excursions/field visits/study tours organized by the college and supervised by the faculty as envisaged in the syllabus shall be credited to his/her attendance. Every student shall have a minimum of 80% as an overall attendance.

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6. EXAMINATIONS

The end semester examinations shall normally be conducted after completing 90 working days for each semester. The maximum marks for each theory and practical course shall be 100 with the following breakup:

a) Mark distribution for Theory Courses

Continuous Internal Assessment (CIA)	: 25 Marks
End Semester Exams (ESE)	: 75 Marks
Total	: 100 Marks

i) Distribution of Internal Marks

S.No.	Particulars	Distribution of Marks
1	CIA I (3 Units)	10
2	Model (All 5 Units)	10
3	Skill Enhancement *	5
Total		25

***Components for "Skill Enhancement" include the following:**

Class Participation, Case Studies Presentation/term paper, Field Study, Field Survey, Group Discussion, Term Paper, Presentation of Papers in Conferences, Industry Visit, Book Review, Journal Review, e-content Creation, Model Preparation, Seminar and assignment.

Components for Skill Enhancement

Any one of the following should be selected by the course coordinator

S.No.	Skill Enhancement	Description
1	Class Participation	- Engagement in class - Listening Skills - Behaviour
2	Case Study Presentation/ Term Paper	- Identification of the problem - Case Analysis - Effective Solution using creativity/imagination
3	Field Study	- Selection of Topic - Demonstration of Topic - Analysis & Conclusion

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4	Field Survey	• Chosen Problem • Design and quality of survey • Analysis of survey
5	Group Discussion	• Communication skills • Subject knowledge • Attitude and way of presentation • Confidence • Listening Skill
6	Presentation of Papers in Conferences	• Sponsored • International/National • Presentation • Report Submission
7	Industry Visit	• Chosen Domain • Quality of the work • Analysis of the Report • Presentation
8	Book Review	• Content • Interpretation and Inferences of the text • Supporting Details • Presentation
9	Journal Review	• Analytical Thinking • Interpretation and Inferences • Exploring the perception if chosen genre • Presentation
10	e-content Creation	• Logo/ Tagline • Purpose • Content (Writing, designing and posting in Social Media) • Presentation
11	Model Preparation	• Theme/ Topic • Depth of background Knowledge • Creativity • Presentation
12	Seminar	• Knowledge and Content • Organization • Understanding • Presentation

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13	Assignment	• Content and Style • Spelling and Grammar • References
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ii) Distribution of External Marks (ESE)

Total	:	75
Written Exam	:	75

Marks Distribution for Practical course

Total	:	100
Internal	:	40
External	:	60

i) Distribution of Internals Marks

S.No.	Particulars	Distribution of Marks
1	Experiments/Exercises	15
2	Test 1	10
3	Test 2	10
4	Observation Notebook	05
Total		40

ii) Distribution of Externals Marks

S.No.	Particulars	External Marks
1	Practical	40
2	Record	10
3	Viva- voce	10
Total		60

Practical examination shall be evaluated jointly by Internal and External Examiners

Mark Distribution for Project/ Internship/ Industrial Training

Internal	:	40
External	:	60
Total	:	100

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i) Distribution of Internal Marks

S.No.	Particulars	Internal Marks
1	Review I	20
2	Review II	20
Total		40

ii) Distribution of External Marks

S.No	Particulars	External Marks
1	Project Work /Internship /Industrial training Presentation	40
2	Viva -voce	20
Total		60

Evaluation of Project Work/Internship/ Industrial training shall be done jointly by Internal and External Examiners.

7. CREDIT TRANSFER

a. Upon successful completion of **1 NPTEL Course (4 Credit Course)** recommended by the department, during Semester I to IV, a student shall be eligible to get exemption of one **4 credit course** during the V or VI semester. The proposed NPTEL course should cover content/syllabus of exempted core paper in V or VI semester.

S. No.	Course Code	Course Name	Proposed NPTEL Course	Credit
1			Option - 1 Paper title	4
			Option - 2 Paper title	
			Option - 3 Paper title	

b. Upon successful completion of **2 NPTEL Courses (2 Credit each)** recommended by the department, during Semester I to IV, a student shall be eligible to get exemption of **one 4 credit course** during the V or VI semester.

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Mandatory

The exempted core paper in the V or VI semester should be submitted by the students for approval before the end of 4th semester

Credit transfer will be decided by equivalence committee

S. No.	Course Code	Course Name	Proposed NPTEL Course	Credit
1			Option - 1 Paper title	2
			Option - 2 Paper title	
			Option - 3 Paper title	
2			Option - 1 Paper title	2
			Option - 2 Paper title	
			Option - 3 Paper title	

NPTEL Courses to be carried out during semester I - IV.

S.No.	Student Name	Class	Proposed NPTEL Course		Proposed Course for Exemption
			Course I	Option 1- Paper Title Option 2- Paper Title Option 3- Paper Title	Any one Core Paper in V or VI semester
			Course II	Option 1- Paper Title Option 2- Paper Title Option 3- Paper Title	
Class Advisor HoD Dean					

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8. EXTRA CREDITS: 16

Earning extra credit is not essential for programme completion. Student is entitled to earn extra credit for achievement in Curricular /Co-Curricular/ Extracurricular activities carried out other than the regular class hours.

A student is permitted to earn a maximum of 10 extra Credit during the programme period.

A maximum of 1 credit under each category is permissible.

S.No	Category	Credit
1	Proficiency in foreign language	1
2	Proficiency in Hindi	1
3	Self-study Course	1
4	Typewriting/Short hand	1
5	CA/ICSI/CMA (Foundation)	1
6	CA/ICSI/CMA(Inter)	1
7	Publications	1
8	Conference Presentations (Oral/Poster)	1
9	Lab on Project	1
10	Innovation / Incubation / Patent / Sponsored Projects / Consultancy	1
11	Representation in State / National level celebrations	1
12	Awards/Recognitions	1
13	Fellowships	1
14	Workshops/Training	1
15	Online courses	1
16	Sports and Games	1

Credit shall be awarded for achievements of the student during the period of study only.

GUIDELINES

Proficiency in foreign language

A pass in any foreign language in the examination conducted by an authorized agency.

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Proficiency in Hindi

A pass in the Hindi examination conducted by Dakshin Bharat Hindi Prachar Sabha.

Examination passed during the programme period only will be considered for extra credit.

Self study Course

A pass in the self study courses offered by the department.

The candidate should register the self study course offered by the department only in the III semester.

Typewriting/Short hand

A Pass in short hand /typewriting examination conducted by Tamil Nadu Department of Technical Education (TNDTE) and the credit will be awarded.

CA/ICSI/CMA (Foundation)

Qualifying foundation in CA/ICSI/CMA/etc.

CA/ICSI/CMA (Inter)

Qualifying Inter in CA/ICSI/CMA/etc.

Publications

Research Publications in Journals, Books, and Book Chapters with ISSN/ISBN in Peer-Reviewed Publications

Conference Presentations (Oral/Poster)

Oral/Poster presentation in Conference and Wining Awards

Lab on Project (LoP)

To promote the undergraduate research among all the students, the LoP is introduced beyond their regular class hours. LoP is introduced as group project consisting of not more than five members. It consist of four stages namely Literature collection, Identification of Research area, Execution of research and Reporting /

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Publication of research reports/ product developments. These four stages spread over from III to IV semester.

(Evaluation will be conducted internally, and credits will be awarded based on performance)

Mark Distribution for Lab on Project

Total : 100

Distribution of Marks

S.No.	Particulars	Internal Marks
1	Review I	50
2	Review II	50
Total		100

Innovation / Incubation / Patent / Sponsored Projects / Consultancy

Development of model/ Products /Prototype /Process/App/Registration of Patents/ Copyrights/Trademarks/Sponsored Projects /Consultancy. Additional credit will be awarded if a patent application is published

Representation in State/ National level celebrations

State / National level celebrations such as Independence day, Republic day Parade, National Integration camp.

Awards/Recognitions

Only Regional, State, or National Level Awards/Recognitions related to Academic Activities will be taken into consideration.

Fellowships

State / National fellowships

Workshops/Training

Participation at renowned institutes or industries for a minimum period of one week.

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Online courses

NPTEL and NEN (National Education Network) certificate courses completed by students from Semester I to Semester IV may be submitted for purpose of obtaining Extra credit provided the students does not request waiver for a course in the curriculum. The Course shall comprise a minimum of 30 hours of learning and examination shall be conducted by the respective board.

Sports and Games

Students can earn extra credit based on their achievements in sports in University/ State / National/ International levels.

9. GUIDELINES FOR ASSESMENT

100 % CIA Courses:

- AECC
- AECC

S.No	Type of Course
1	Environmental Studies (AECC)
2	Human Rights and Women's Rights, Basic Tamil / Advanced Tamil (AECC)
3	Innovation & IPR/ Innovation, IPR and Entrepreneurship (AECC)
4	Generic Elective (AECC)

Modalities for Implementing Internal Assessment Marks:

- Student pertaining to 2026 Batch (2026-29) UG programme onwards for the above mentioned courses shall secure a minimum of 40% out of the maximum marks in the continuous internal assessment (CIA) i.e., 20 marks out of 50 marks.
- Students who have not acquired the minimum marks shall be allowed to reappear to improve their marks in the exam components only within the time duration of the programme, in the forthcoming semesters.

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Distribution of Internal Marks for AECC & AECC

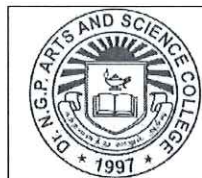
S.No.	Particulars	Distribution of Marks
1	CIA I (3 Units)	20
2	Model (All 5 Units)	20
3	Assignment	05
4	Skill Enhancement*	05
Total		50

Distribution of Internal Marks for Generic Elective (AEEC) (Practical)

S.No.	Particulars	Distribution of Marks
1	CIA -I	15
2	CIA-II	15
3	Practical Record	10
4	Viva -Voce	10
Total		50

Question paper pattern AECC & AECC

Test	MARKS	DESCRIPTION	TOTAL	Remarks
CIA Test I 1.5 Hour First 3 Units	50 x 1 = 50 Marks	MCQ	50 Marks	Marks secured will be Converted to 20 marks
CIA test II/ Model test 1.5 Hour All five Units	50 x 1 = 50 Marks	MCQ	50 Marks	Marks secured will be Converted to 20 marks



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REGULATION
6

AY:2026-27

Question paper pattern		Total Marks - 50	
<u>Basic Tamil</u>		<u>Advanced Tamil</u>	
Section -A		Section -A	
Choose the correct answer	10x2=20	Choose the correct answer	10x1=10
Section -B		Section -B	
True or false	10x2=20	Fill in the blanks	10x2=20
Section -C		Section -C	
Answer in one page	1x10=10	Write an essay in two pages	2x10=20

Question paper pattern for all other courses falling under Part I to Part III

CIA I : [2 Hours- 3 Units] - 50 Marks

SECTION	MARKS	DESCRIPTION	TOTAL	Remarks
Section - A	6 x1= 06 Marks	MCQ	50 Marks	Marks secured will be converted to 10 mark
Section - B	4x 5= 20 Marks	Answer ALL Questions (Either or Type)		
Section - C	3x 8 = 24 Marks	ALL Questions Carry Equal Marks		

CIA II /Model: [3 Hours- 5 Units] -75 Marks

SECTION	MARKS	DESCRIPTION	TOTAL	Remarks
Section - A	10 x 1 = 10 Marks	MCQ	75 Marks	Marks secured will be converted To 10 mark
Section - B	5 x 5 = 25 Marks	Answer ALL Questions (Either or Type Questions)		
Section - C	5 x 8 = 40 Marks	Each Questions Carry Equal Mark		

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End Semester Examination: [3 Hours-5 Units] - 75 Marks

SECTION	MARKS	DESCRIPTION	TOTAL
Section - A	10 x 1 = 10 Marks	MCQ	75 Marks
Section - B	5 x 5 = 25 Marks	Answer ALL Questions (Either or Type Questions) Each Questions Carry Equal Mark	
Section - C	5 x 8 = 40 Marks		

* Self-Study Course Question Paper Pattern: 10 open-choice questions will be given, and students must answer any 5 questions. There will be no CIA.

SECTION	MARKS	Type	TOTAL
-	5x 10 = 50 Marks	Description	50 Marks

10. DOMAIN-SPECIFIC SKILL COMPONENTS

Every student shall mandatorily complete any two **Domain-Specific Skill Components** during Semesters I to V as a requirement for the successful completion of the programme.

These components may include courses such as:

- NPTEL courses
- NCVRT-certified programmes
- Industry-relevant skill courses offered through Sector Skill Councils
- Programmes under the Board of Apprenticeship
- Student Skill Development Courses (SSDC) offered/specified by the respective departments

Each course shall comprise a minimum of **30 to 35 hours of structured learning**.

Assessment and examination for these components shall be conducted as per the norms prescribed by the respective offering bodies / institution, and the successful completion shall be duly certified. The certificates obtained shall be duly verified by the institution.

Note: NPTEL Course opted for credit transfer and extra credit will not be considered for DSSC.

Semester – I CORE I: FOOD SCIENCE							
Semester	Course Code	Course Name	Category	L	T	P	Credits
I	26FNU1CA	FOOD SCIENCE	CORE	48	12	-	4

Preamble	This course has been designed for students to learn and understand • principles and various methods of cooking foods • composition of various foodstuffs • apply food science knowledge to describe functions of ingredients in food.
Prerequisite	Basic knowledge on food science

Course Outcomes (Cos)		
CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	Apply sustainable food practices like energy and nutrient conservation methods in food preparation.	K3
CO2	Analyze preparation techniques that minimize nutrient losses in pulses, fruits, and vegetables.	K4
CO3	Evaluate beverage preparation methods and outline medicinal uses of spices and condiments.	K5
CO4	Create applications of milk processing technologies and effects of egg cooking for product development.	K5
CO5	Formulate innovative products by differentiating protein nature in meat, poultry, fish and leveraging cooking changes.	K5

Mapping with Program Outcomes:					
Cos / POs	PO1	PO2	PO3	PO4	PO5
CO1	S	S	S	S	S
CO2	S	S	S	S	S
CO3	S	S	S	S	S
CO4	S	S	S	S	S
CO5	S	S	S	S	S

Syllabus

Unit	Content	Hrs	Resources
I	Food Groups & Cereal Introduction to Food Science: Food groups- 4 (ICMR) and 5, Functional food groups, food pyramid and my plate. Improving Nutritional Quality:-Definition-fermentation, germination(process), malting, Supplementation, Fortification and Enrichment Methods of cooking: Objectives of cooking. Cooking methods - Dry heat and moist heat methods, solar cooking and ohmic cooking. Conservation of nutrients-Guidelines to minimize nutrient losses during preparation Cereals: Structure and composition of rice and wheat, parboiled rice, role of cereals in cookery. Millet: classification of millets.	12	Text Book
II	Pulses, Fruits and Vegetables Pulses and legumes: composition, anti-nutritional factors present in food and the processing methods used to reduce them. Factors that affecting cooking quality of pulses and role of pulse in cookery. Fruits: Classification and composition, ripening of fruits, enzymatic browning and its prevention methods. Vegetables: Classification, selection and preparation for cooking, changes and loss of nutrients during cooking, fungi and algae as foods, Introduction of microgreen and over view of its nutritional benefits	12	Text Book
III	Sugar, Beverages, Fats and Spices Sugars - Properties, Stages of sugar cookery, and Crystallization and factors affecting crystallization and Role of sugar in cookery. Beverages - Classification, milk based beverages-methods of preparing tea and coffee, fruit based, malted beverages and Aerated beverages. Fats and Oils: Types of oils, Effect of heating, role in cookery, and fat substitutes Spices and Condiments: Functions and medicinal values of Cumin, Pepper, Fenugreek, Cinnamon, Cloves, Cardamom, Onion, Turmeric, Ginger and Garlic spices	12	Text Book
IV	Milk and Egg Milk - Composition, types of milk, milk substitute, physical properties of milk, pasteurization and homogenization of milk, changes in milk during heat processing, Problem encountered during milk cooking, preparation of fermented	12	Text Book

	(cheese) and non-fermented (milk powder), role of milk and milk products Egg - Structure, composition, selection, Effect of cooking on eggs. role of egg in cookery, factors affecting foam formation and coagulation of egg proteins		
V	Non Vegetarian Foods & Subjective Evaluation Meat -Structure and composition, selection of meat, Functional properties of meat , post mortem changes in meat, aging, tenderness and curing and their effects on cooking . Poultry: Classification and composition, selection. Fish - Structure, composition, selection of fish, spoilage of fish and their effect on cooking.	12	Text Book
	Total	60	

	Note: Activity Group discussion, album models, Flash card, cross word and puzzle Milk Product development, microgreen cultivation and product formulation (Examined Internal only)
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Text book	1.	Srilakshmi B, 2025, "Food Science", 9th Edition, New Age International, New Delhi.
	2.	ShakunthalaManay and Shadakharswamy M., 2008, "Food Facts and Principles ", Third Edition, New Age International Publishers, New Delhi.
Reference Books	1.	Mudambi .R. Sumathiand Rajagopal M.V, 2008, "Food Science", New Age International Publishers, New Delhi.
	2.	Sunetra Roday, I. N. 2015, "Food Science and Nutrition" Oxford Publishers, New Delhi.
	3.	Manay & Shadaksharaswamy, S.N & M, 2008, "Food facts and Principles", NewAge International Private Ltd. New Delhi.
	4.	Thangam E. Philip, 1998, "Modern Cookery", Volume II, Orient Longman, II Edition, Hyderabad.

Journal and Magazines	Journal International Journal of Food Science/ journal of food science technology
E-Resources and Website	Food Science: What It Is and Why It Matters - Coursera
Learning Method	Chalk and Talk/Assignment/Seminar/ Group Discussion/Case Study

Focus of the Course	Skill Development/ Employability/ Entrepreneurial Development/ Innovations
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Semester – I CORE II: CHEMISTRY OF FOODS							
Semester	Course Code	Course Name	Category	L	T	P	Credits
I	26FNU1CB	CHEMISTRY OF FOODS	CORE	48	12	-	4

Preamble	This course has been designed for students to learn and understand • Physicochemical properties of food, nutrients and non-nutrient components. • Explore the functional changes during cooking and processing. • Understand the effect of pigments, enzymes, spices, and flavouring agents on food products.
Prerequisite	Basic knowledge of general chemistry and basic nutrition concepts.

Course Outcomes (Cos)		
CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	Understand the composition and physical properties of food and water and their role in food spoilage.	K2
CO2	Apply the classification and functional properties of carbohydrates in various food applications.	K3
CO3	Analyse the protein chemistry and colloidal systems to determine their impact on food texture and processing.	K4
CO4	Evaluate the properties and chemical changes of fats and oils during cooking and storage.	K5
CO5	Elaborate the effects of pigments, browning reactions, and flavor components on food quality and acceptability.	K5

Mapping with Program Outcomes:					
Cos / POs	PO1	PO2	PO3	PO4	PO5
CO1	S	S	M	S	M
CO2	S	S	M	S	M
CO3	S	S	M	S	M
CO4	S	S	M	S	M
CO5	S	S	M	S	M

26FNU1CB	CHEMISTRY OF FOODS
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Syllabus

Unit	Content	Hrs	Resources
I	Introduction to Chemistry of foods and Water Introduction and scope of chemistry of foods. Food composition: nutrients and non-nutrients components. Factors affecting food composition: acid, alkali, enzymes, heat, moisture. pH in foods – acids, bases and ionisation of water. Water: Physical properties, hydrogen bonding, types (free, bound, capillary), water activity and role of water in food spoilage. Activity on Spoilage of Packed Chappati in a Lunch Box	12	Text Book
II	Chemistry of Carbohydrates Starch chemistry – Components of Starch, Gelatinization, gel formation, factors affecting gel formation, syneresis, dextrinization and hydrolysis of starch. Other polysaccharides – cellulose, hemicellulose, plant gums. Pectic substances – types, properties, processing effects Activity on Gummy Jelly vs Perfect Jelly and observe its characteristics	12	Text Book
III	Colloidal Systems and Chemistry of Proteins Definitions of colloids, sol, gel, emulsion and foam. Classification and properties of colloids – lyophilic and lyophobic. Factors affecting gel and emulsion formation. Chemistry of Proteins: Functional properties – amphoteric nature, isoelectric point, solubility. Denaturation – by heat, acid and alkali. Activity on Boiled Milk Forms a Skin	12	Text Book
IV	Chemistry of Fats and Oils Physical properties – Melting point, smoking point, plasticity. Chemical changes – Rancidity (types), hydrogenation, polymerization, fat deterioration, decomposition of triglycerides during heating. Fat replacers – Introduction and types. Factors affecting fat absorption in cooking. Activity on Repeated Frying Oil in Street Food Vendor	12	Text Book
V	Food Pigments, Browning Reactions & Flavour Components Browning reactions – enzymatic and non-enzymatic (Maillard, caramelization). Pigments in foods – Plant Pigments-Fat soluble pigments (chlorophyll and carotenoids). Water soluble pigments (anthocyanins, anthoxanthins, glycosides, flavonoids and tannins). Animal pigments (hemoglobin and myoglobin). Effect of cooking conditions and pH (media) on pigment stability and colour. Natural and synthetic colors – GRAS, usage limits. Flavour compounds – Spices, condiments, synthetic flavoring agents	12	Text Book

	Activity on Discoloration of Cut Apples in Fruit Salad		
	Total	60	

	Note: Activity related to the above topics to be discussed (Examined Internal only)
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Text book	1.	Swaminathan. M, 2024, "Food Science, Chemistry and Experimental Foods", 2 nd Edn., Bangalore Printing and Publishing Co., Bangalore, India.
	2.	Srilakshmi.B, 2021, "Food Science", 8 th Edn., New Age International Publishers, New Delhi, India
Reference Books	1.	Fennema.O. R, 2017, "Fennema's Food Chemistry", 5 th Edn., CRC Press, Boca Raton, USA.
	2.	Shakuntala Manay. N and Shadaksharaswamy.M, 2022, "Food Facts and Principles", 8 th Edn., New Age International Publishers, New Delhi, India
	3.	Belitz.H.D, Grosch.W and Schieberle, P. 2009, "Food Chemistry", 4 th Edn., Springer, Berlin, Germany.
	4.	Potter, N. N. and Hotchkiss, J. H. 2012, "Food Science", 5 th Edn., Springer, New York, USA.

Journal and Magazines	Journal of Food Science and Technology (JFST) – Springer
E-Resources and Website	www.fssai.gov.in – Food Safety and Standards Authority of India https://www.sciencedirect.com – For scholarly food chemistry articles

Learning Method	Chalk and Talk/Assignment/Seminar/ Group Discussion/Case Study
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Focus of the Course	Skill Development/ Employability/Innovations
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Semester – I CORE PRACTICAL I: FOOD SCIENCE							
Semester	Course Code	Course Name	Category	L	T	P	Credits
I	26FNU1CP	FOOD SCIENCE	CORE	-	-	60	2

Preamble	This course has been designed for students to learn and understand • Introduces foundational principles of food science and preparation techniques. • Provides hands-on experience in basic cooking methods and food handling. • Develops scientific reasoning behind cooking and food processing changes. • Encourages observation and analysis through experimental cookery • Reinforces theoretical knowledge through practical food preparation and evaluation.
Prerequisite	Basic knowledge of food groups, kitchen safety, measurements, and nutrition is essential

Course Outcomes (Cos)		
CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	Identify food groups and describe the nutritive value and edible portions of common food items.	K2
CO2	Demonstrate basic skills in measuring, preparing, and cooking foods using moist and dry heat methods.	K3
CO3	Conduct simple experiments to observe physical and chemical changes in food during cooking and processing.	K4
CO4	Prepare commonly consumed foods using cereals, pulses, vegetables, fruits, milk, and animal-based foods.	K5
CO5	Apply principles of experimental cookery in understanding food behavior such as coagulation, fermentation, etc.	K5

Mapping with Program Outcomes:					
Cos / POs	PO1	PO2	PO3	PO4	PO5
CO1	S	M	M	M	M
CO2	M	S	M	S	M
CO3	M	M	S	M	S
CO4	S	S	M	S	M
CO5	M	M	S	M	S

S.No.	Contents
1	Food group - Identification of ingredients and grouping of foods, Measuring ingredients and Determination of edible portion of food. Cereals - Group Experiment on Methods of cooking fine and coarse cereals. Structural Examination of starch.
2	Prepare recipes using the following processes- Gelatinization, gluten formation and gel formation. Common preparation with cereals.
3	Pulses - Group Experiment on Cooking of soaked, unsoaked pulses, germination and fermentation of pulses. Common preparation with pulses.
4	Vegetables & Fruits - Group Experiment on Experimental cookery using vegetables pigments of different colors and textures. Prevention of darkening in fruits and vegetables.
5	Vegetables & Fruits - prepare a snack, salads, soups and curries.
6	Milk - Prepare a product based on processing techniques, such as coagulation, fermentation, evaporation and drying.
7	Prepare any one recipe using milk processing techniques.
8	Prepare recipes where egg acts as - thickening agent, binding agent, emulsifying agent and enriching agent. Green ring formation in boiled egg.
9	Prepare one specialized beverage, focusing on a specific functional benefit - Healthy, Detoxifying, Refreshing, Nourishing, Stimulating and Appetizing.
10	Sugar - Stages of sugar cookery. Preparation on sweets using different stages of sugar cookery.
11	Prepare any one recipe for Fleshy Foods - Fish, meat and poultry Using Ageing, Tenderizing, and Curing Techniques
12	Sensory Evaluation of Food.

Experiments Under DBT

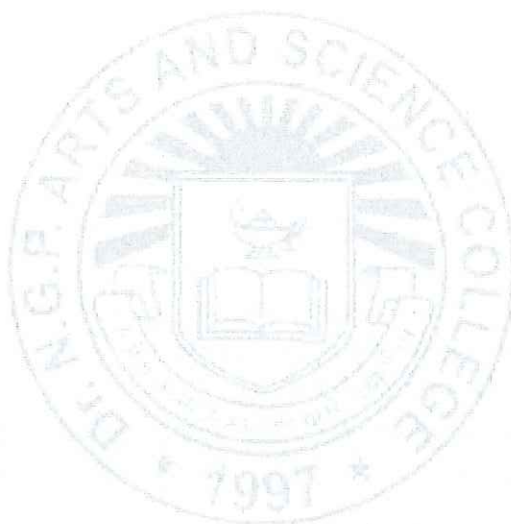
- 1 Microgreen cultivation lab: From Seeding to Harvest
- 2 Fenugreek microgreen powder - Enriched instant dhokla mix

Text Books	1.	Ranganna. S, 2001, "Handbook of analysis and quality control for fruit and vegetable products", 2 nd Edn., Tata McGraw-Hill Publishing Company Ltd., New Delhi, India.
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	2.	Mudambi. S. R and Rajagopal.M. V,2006, "Fundamentals of foods, nutrition and diet therapy", 5 th Edn., New Age International (P) Ltd. Publishers, New Delhi, India
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Learning Method	Demonstration/ Hands on Practical Sessions/Observation and Recording/Collaborative Learning
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Focus of the Course	Skill Development/ Employability/ Entrepreneurial Development/ Innovations
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Semester - I IDC I: CHEMISTRY							
Semester	Course Code	Course Name	Category	L	T	P	Credits
I	26CEU1IA	CHEMISTRY	IDC	36	-	-	3

Preamble	This course has been designed for students to learn and understand • The concept of expressing concentration of solutions • The concepts of catalysts and their applications • About the bonding in organic compounds.
Prerequisite	Knowledge on basic chemistry

Course Outcomes (Cos)		
CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	Understand the concept of concentration of the solutions.	K2
CO2	Infer the acid and basic properties of solutions.	K3
CO3	Interpret the concept of the bonding in molecules.	K3
CO4	Evaluate the concepts of the stereo chemistry.	K5
CO5	Explain the types of catalysis.	K4

Mapping with Program Outcomes:					
Cos / POs	PO1	PO2	PO3	PO4	PO5
CO1	S	M	M	S	S
CO2	M	S	S	M	S
CO3	S	M	S	S	S
CO4	S	S	M	S	S
CO5	M	S	S	M	S

26CEU1IA	CHEMISTRY
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Syllabus

Unit	Content	Hrs	Resources
I	Solutions Normality- Molarity - Molality - Mole fraction - Mole concept. Primary and secondary standards - Preparation of standard solutions. Principle of Volumetric analysis (with simple problems) - Indicators - Theory of indicators - Ostwald and quinonoid theory.	7	Text Book
II	Acids and Bases Acid-base concepts - Arrhenius, Bronsted-Lowry, and Lewis's theories (basic understanding) - Strong, weak acids and bases in biological systems. pH and pOH - Definition - Biological importance and simple calculations - Buffer solutions- definition - Types and importance in biological systems (blood, cells).	7	Text Book
III	Chemical Bonding in biological and food systems Types of bonding - Ionic Bond: formation, nature, and importance in salts and biological fluids. Covalent bond: formation and significance in biomolecules like carbohydrates, proteins and lipids. Coordinate (dative) bond: basic concept and role in biological complexes (e.g., metal-enzyme interactions). Hydrogen bonding - DNA stability - Van der Waals force.	8	Text Book
IV	Stereo Chemistry Isomerism - Structural isomerism - Symmetry of elements (Plane, Centre and Axis of symmetry) - Optical isomerism of lactic acid and tartaric acid - Enantiomers - Diastereomers - Separation of racemic mixture - Geometrical isomerism (maleic and fumaric acid).	7	Text Book
V	Catalysis Homogenous - Heterogeneous - Enzyme catalysis - Industrial catalyst - hydrogenation of oils - Applications in food industry and pollution control.	7	Text Book
	Total	36	

Text book	1.	Puri. B.R, Sharma. L.R and Pathania. M.S, 2017, "Principles of Physical Chemistry", 47 th Edition, John Wiley and Sons & USA.
	2.	Madhan. R.D, 2016, "Modern Inorganic Chemistry", Tenth edition, Mc Graw Hill Company & USA.
Reference Books	1.	Lee. J.D, 2002, "A New Concise Inorganic Chemistry", 5 th Edition, ELBS &UK.
	2.	Jain. M.K and Sharma. S.C, 2012, "Modern Organic Chemistry", Vishal publishing Co & New Delhi.
	3.	Puri. B.R, Sharma. L.R and Kalia. K.C, 2016, "Principles of Inorganic Chemistry", Vishal Publishing & Co & New Delhi.
	4.	Glasstone. S and Lewis. D, 2014, "Elements of Physical Chemistry", Second Edition, Macmillan Ltd, London.

Journal and Magazines	https://onlinelibrary.wiley.com/journal/10974601
E-Resources and Website	https://www.uou.ac.in/lecturenotes/science/MSCH-17/CHEMISTRY%20LN%201%20STERIOCHEMISTRY.pdf

Learning Method	Chalk and Talk/ Assignment/Seminar/ Group Discussion/Case Study
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Focus of the Course	Skill Development/ Employability/ Entrepreneurial Development/ Innovations
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