

SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI



THREE-YEAR UNDERGRADUATE PROGRAMME

Bachelor of Science (B.Sc.)

Subject: FOOD SCIENCE

FACULTY: SCIENCE AND TECHNOLOGY

(Courses effective from Academic Year 2026-2027 Under Uniform NEP 2020)

Scheme of Teaching-Learning-Evaluation, Credit Distribution, Workload Calculation and Examination

Credit Distribution

Three/Four-year UG Degree Programme (Level 4.5 to 5.5)

Vertical	Vertical Type	I	II		III	IV	V	VI	Total Credits	Grand Total
	(i) Three-year UG Degree Programme (Level 4.5.to 5.5)									
A	Major DSC (60–64) (Minimum 50% of Total Credits)	4	4	Major	6	8	8	8	38	48
				IKS	2				2	
		0	0	Elective	0	0	4	4	8	
B	Minor (from same faculty of DSC) (18–24)	4	4		4	4	4	4	24	24
C	Generic/Open Elective (OE) (Faculty-wise basket other than Major/Minor faculty) (10–12)	4	4		2	2	0	0	12	12
D(i)	Vocational Skill Courses (VSEC) corresponding to Major/Minor (8–10)	0	2		2	2	2	2	10	16
D(ii)	Skill Enhancement Courses (SEC)	2	2		0	0	2	0	6	
E(i)	Ability Enhancement Courses (AEC) (English + Modern Indian Language)	1+1	1+1		1+1	1+1	0	0	8	14
E(ii)	Indian Knowledge System (IKS) 2 Generic	2	0		0	0	0	0	2	
E(iii)	Value Education Courses (VEC) (Understanding India, EVS, Digital & Technological Solution) 4	2	2		0	0	0	0	4	
F(i)	Internship / Apprenticeship corresponding to Major 8 (OJT)	0	0		0	0	0	4	4	18
F(ii)	Field Projects / Community Engagement & Service (CEP) corresponding to Major 4-6	0	0		2	2	2	0	6	
F(iii)	Co-curricular Courses (CC) (health & wellness, yoga education, sports, fitness, cultural activities, NSS/ NCC & Fine/ Applied/ Visual/ Performing Arts 8	2	2		2	2	0	0	8	
	Total Credits per Semester	22	22		22	22	22	22	132	132

(ii) Four-year UG Degree programme (Level 6.0) Honors Degree in Major or Minor				
A. Honors Degree in Major or Minor				
Vertical Type		Semester VII	Semester VIII	
Major (Offered at Three-year UG Programme)	Mandatory	12-14(2*4+2*2 or 3*4+2)	12-14(2*4+2*2 or 3*4+2)	28
	Elective	4	4	8
Research Methodology (RM)		4	0	8
On the Job Training (OJT)		0	4	4
Total		22	22	44
Cumulative		(132+44) 176		
(ii) Four-year UG Degree Programme (Level 6.0)				
B. Honors with Research Degree in Major or Minor				
Major (Offered at Three-year UG Programme)		Semester VII	Semester VIII	
	Mandatory	8-10 (24+2 or 24)	8-10 (24+2 or 24)	20
	Elective	4	4	8
Research Methodology (RM)		4	0	4
Research Project (RP)		4	8	12
Total		22	22	44
Cumulative		(132+44) 176		

Sant Gadge Baba Amravati University, Amravati

Teaching and Learning Scheme for the Degree of Bachelor of Science

FACULTY: SCIENCE AND TECHNOLOGY

TLE Scheme for FIRST YEAR: SEMESTER – I (Food Science) (Level 4.5)

(As per uniform NEP Scheme)

The Vertical	Type of Course	Course Code	Course Title	Credits	Workload	Theory/Practical				Theory/Pract	
						External		Internal		(Total)	
						Max. Marks	Min. Marks	Max. Marks	Min. Marks	Max. Marks	Min. Marks
Major / Minor	Theory 1	1116200	Foundations of Food Science	2	2	30	9	20	6	50	20
	Lab/Practical 1	1116201	Fundamental techniques in Food Science	2	4	25	10	25	10	50	20
Minor / Major	Theory 1	-	-	2	2	30	9	20	6	50	20
	Lab/Practical 2	-	-	2	4	25	10	25	10	50	20
GOEC	Theory 1	1116202	Principles of Food Preservation	2	2	30	9	20	6	50	20
GOEC	Theory 2	1116203	Fundamentals of Food Processing	2	2	30	9	20	6	50	20
VSC	-	-	-	-	-	-	-	50	20	50	20
SEC	Lab/Practical 3	1116204	Skills in determination of properties of food	2	4	-	-	50	20	50	20
AEC - English	Theory		Refer University basket	1	1						
AEC –MIL	Theory		Refer University basket	1	1						
IKS-Generic	Theory		Refer University basket	2	2						
VEC	Theory		Refer University basket	2	2						
CC	Outdoor		Separate SOP will be released	2	4						
TOTAL				22	30						

TLE Scheme for FIRST YEAR: SEMESTER – II (Level 4.5)

The Vertical	Type of the Course	Course Code	Course Title	Credits	Workload	Theory/Practical				Theory/Pract	
						External		Internal		(Total)	
						Max. Marks	Min. Marks	Max. Marks	Min. Marks	Max. Marks	Min. Marks
Major / Minor	Theory 2	116205	Study of Basic Foodstuffs	2	2	30	9	20	6	50	20
	Lab/Practical 4	116206	Practical Approach to the Basic Foodstuffs	2	4	30	9	20	6	50	20
Major / Minor	Theory 2		-	2	2	25	10	25	10	50	20
	Lab/Practical 5		-	2	4	30	9	20	6	50	20
GOEC	Theory 3	116207	Technology of Fruits and Vegetables Processing	2	2	25	10	25	10	50	20
GOEC	Theory 4	116208	Technology of Milk and Milk Products	2	2	30	9	20	6	50	20
VSC	Lab/Practical 6	116209	Techniques in Food Science Laboratory	2	4	-	-	50	20	50	20
SEC	Lab/Practical 7	116210	Basic Skills in Food Processing	2	4	-	-	50	20	50	20
AEC - English			Refer University basket	1	1	-	-	50	20	50	20
AEC –MIL			Refer University basket	1	1	-	-	50	20	50	20
VEC			Refer University basket	2	2						
CC			Separate SOP will be released	2	4						
TOTAL				22	32						

*** Important:**

- VSC Should be Complementary to Major/Minor
- SEC has to be selected from the Basket Provided by University, from the same Faculty/Discipline of the Major/Minor

TLE Scheme for SECOND YEAR: SEMESTER – III (Level 5.0)

The Vertical	Type of the Course	Course Code	Course Title	Credits	Workload	Theory/Practical				Theory/Pract (Total)	
						External		Internal			
						Max. Marks	Min. Marks	Max. Marks	Min. Marks	Max. Marks	Min. Marks
Major	Major-T 3	116211	Food Chemistry I	2	2	30	9	20	6	50	20
Major	Major-T 4	116212	Food Chemistry II	2	2	30	9	20	6	50	20
Major	Major-P 8	116213	Practical approach to food chemistry	2	2	30	9	20	6	50	20
Major	IKS-T	116214	IKS in Food Science	2	2	30	9	20	6	50	20
Minor	Minor-T	116215	Fundamentals of food chemistry	2	2	30	9	20	6	50	20
Minor	Minor-P 9	116216	Laboratory techniques in food chemistry	2	4	25	10	25	10	50	20
GOEC	GOEC-T 5	116217	Overview to food and nutrition	2	2	30	9	20	6	50	20
VSC	VSC-P 10	116218	Techniques in food chemistry	2	4	-	-	50	20	50	20
FP/CES	FP/CES	116219	FP/CES in Food Science I	2	4	-	-	50	20	50	20
CC	CC		Separate SOP shall be consulted from University website	2	4	-	-	50	20	50	20

Important: *VSC Should be Complementary to Major

** SEC has to be selected from the Basket Provided by University, from the same Faculty/Discipline of the Major/Minor

TLE Scheme for SECOND YEAR: SEMESTER – IV (Level 5.0)

The Vertical	Type of the Course	Course Code	Course Title	Credits	Workload	Theory/Practical				Theory/Pract (Total)	
						External		Internal		Max. Marks	Min. Marks
						Max. Marks	Min. Marks	Max. Marks	Min. Marks		
Major	Major-T 5	116220	Food biochemistry	2	2	30	9	20	6	50	20
Major	Major-T 6	116221	Food microbiology	2	2	30	9	20	6	50	20
Major	Major-T* 7	116229	Food Quality and Preservation	2	2	30	9	20	6	50	20
Major	Major-P 11	116222	Practical approach to food biology	2	4	25	10	25	10	50	20
Minor	Minor-T 4	116223	Basic biochemistry and microbiology of food	2	2	30	9	20	6	50	20
Minor	Minor-P 12	116224	Simple techniques in food biology	2	4	25	10	25	10	50	20
GOEC	GOEC-T 6	116225	Food quality and sensory evaluation	2	2	30	9	20	6	50	20
VSC	VSC-P 13	116226	Laboratory techniques in food biology	2	4	-	-	50	20	50	20
SEC	SEC-P# 14	116227	Skills in Food Science	2	4	-	-	50	20	50	20
FP/CES	FP/CES	116228	FP/CES in Food Science II	2	4	-	-	50	20	50	20
CC	CC		Separate SOP shall be consulted from University website	2	4	-	-	50	20	50	20

*** To be implemented w.e.f. academic session 2026-27# - Only applicable up to academic session 2025-26**

Important: VSC Should be Complementary to Major and SEC has to be selected from the Basket Provided by University, from the same Faculty/Discipline of the Major/Minor

TLE Scheme for THIRD YEAR: SEMESTER – V (Level 5.5)

The Vertical	Type of the Course	Course Code	Course Title	Credits	Workload	Theory/Practical Marks				Theory/Pract (Total) Marks	
						External		Internal			
						Max.	Min.	Max.	Min.	Max.	Min.
Major	Major-T 8	116230	Principles of Food Processing	2	2	30	9	20	6	50	20
Major	Major-T 9	116231	Technology of Plant Based Foods	2	2	30	9	20	6	50	20
Major	Major-T 10	116232	Hygiene, Sanitation and Food Safety	2	2	30	9	20	6	50	20
Major	Major-P 15	116233	Laboratory Techniques in Food Processing	2	4	25	10	25	10	50	20
Major	Major-Elective T1	116234	Beverages Technology	2	2	30	9	20	6	50	20
Major	Major-Elective P 16	116235	Laboratory Techniques in Beverages	2	4	25	10	25	10	50	20
OR											
Major	Major-Elective T2	116236	Technology of Honey and Millets	2	2	30	9	20	6	50	20
Major	Major-Elective P 17	116237	Practical Technology of Honey and Millets	2	4	25	10	25	10	50	20
Minor	Minor-T 5	116238	Quality Control and Preservation	2	2	30	9	20	6	50	20
Minor	Minor-P 18	116239	Laboratory Techniques in Spoilage and Preservation	2	4	25	10	25	10	50	20
VSC	VSC-P 19	116240	Skills in Food Product Development	2	4	-	-	50	20	50	20
SEC	SEC-P 20	116241	Skill Enhancement in Food Quality	2	4	-	-	50	20	50	20
FP/CEP	FP/CEP	107242	FP/CES in Food Science III	2	4	-	-	50	20	50	20
Non Credit	Non Credit		Foundation of Artificial Intelligence	NC	2			30+20	9+6	50	20

Important:

- **VSC Should be Complementary to Major**
- **SEC must be selected from the Basket Provided by University, from the same Faculty/Discipline of the Major/Minor**
- As per Sant Gadge Baba Amravati University, Amravati Extra-Ordinary Notification No. No. 241/2025 Dated 24/12/2025 “Foundation of Artificial Intelligence” is the Mandatory **Non-Credit Course** compulsory course for all the UG students in fifth semester of all undergraduate programs of all faculties in Sant Gadge Baba Amravati University, Amravati to earn their degree
- NC is Non-Credit Course
- Students must select **Any One** of the Major-Elective Courses (T1 to T2) with respective Practical Course in Semester V and **same shall be continued** for Semester VI

TLE Scheme for THIRD YEAR: SEMESTER – VI (Level 5.5)

The Vertical	Type of the Course	Course Code	Course Title	Credits	Workload	Theory/Practical Marks				Theory/Pract (Total) Marks	
						External		Internal			
						Max.	Min.	Max.	Min.	Max.	Min.
Major	Major-T 11	116245	Milk, Confectionaries, and Animal Products	2	2	30	9	20	6	50	20
Major	Major-T 12	116246	Food Packaging Food Laws	2	2	30	9	20	6	50	20
Major	Major-T 13	116247	Food Entrepreneurship and Opportunities	2	2	30	9	20	6	50	20
Major	Major-P 21	116248	Practical Approach to Dairy, Confectionary and Packaging	2	4	25	10	25	10	50	20
Major	Major-Elective T 3	116249	Fermentation Technology and Functional Foods	2	2	30	9	20	6	50	20
Major	Major-Elective P 22	116250	Laboratory Techniques in Fermentation	2	4	25	10	25	10	50	20
OR											
Major	Major-Elective T 4	116251	Analytical Methods in Food Science	2	2	30	9	20	6	50	20
Major	Major-Elective P 23	116252	Analytical Methods in Food Science Lab	2	4	25	10	25	10	50	20
Minor	Minor-T 6	116253	Food Processing Hygiene and Quality	2	2	30	9	20	6	50	20
Minor	Minor-P 24	116254	Food Processing and Hygiene Laboratory	2	2	30	9	20	6	50	20
VSC	VSC-P	116255	Skills in Milk Products, Confectioneries, and Packaging	2	4	-	-	50	20	50	20
OJT	OJT	116256	Food Science Internship/ Apprenticeship/ OJT (On the Job Training)	4	8	-	-	50	20	50	20

Important: VSC should be Complementary to Major and SEC has to be selected from the Basket Provided by University, from the same Faculty/Discipline of the Major/Minor

SWAYAM/NPTEL Courses under NEP 2020

Sr. No.	Semester	Course Title	Course Code*	Credits**	Institution	Agency	Enrollment Ends	Link to Enroll
1	I	Basics of Food and Nutrition	NOC26_GE100	3	Sri Ramachandra Inst. of Higher Ed. and Res. (DU)	NPTEL	17 Aug, 2026	https://onlinecourses.nptel.ac.in/e-learning/preview/noc26_ge100
2	II	-	-	-	-	-	-	-
3	III	Food Oils and Fats: Chemistry and Technology	NOC26_AG18	4	IIT, Kharagpur	NPTEL	14 Aug, 2026	https://onlinecourses.nptel.ac.in/e-learning/preview/noc26_ag18
4	IV	Thermal Processing of Foods	NOC26_CH105	4	IIT, Guwahati	NPTEL	27 July, 2026	https://onlinecourses.nptel.ac.in/e-learning/preview/noc26_ch105
6	V	Fundamentals of Food Process Engineering	NOC26_AG25	4	IIT, Kharagpur	NPTEL	27 July, 2026	https://onlinecourses.nptel.ac.in/e-learning/preview/noc26_ag25
7	VI	Dairy and Food Process and Products Technology	NOC26_AG23	4	IIT, Kharagpur	NPTEL	27 July, 2026	https://onlinecourses.nptel.ac.in/e-learning/preview/noc26_ag23

* Course codes may vary according to the year and session of enrollment

** Credits will be awarded as per provisions of the SWAYAM/NPTEL at the time of actual enrollment.

Instructions for Enrollment in SWAYAM/NPTEL Courses under NEP 2020

All students of **B.Sc. with Food Science as Major or Minor** of all semesters are encouraged to enroll in suitable SWAYAM/NPTEL online courses to enhance their academic knowledge, practical skills, and employability.

General Instructions

1. Students may choose any course of their interest listed in table above for specific semester.
2. Before enrollment, students must ensure that they have an active Academic Bank of Credits (ABC) ID. The same ABC ID should be used while registering for the selected SWAYAM/NPTEL course so that earned credits can be deposited in the Academic Bank of Credits.
3. Students should carefully read the course details including duration, eligibility, syllabus, examination schedule, and credit structure before enrolling.
4. Merely enrolling in a course does not make a student eligible for academic credits. Students must:
Complete the course requirements, Appear for the proctored examination, and successfully pass the examination as per the norms prescribed by SWAYAM/NPTEL.
5. Credits will be awarded only after successful completion and certification of the course by the concerned agency.
6. Every student must submit the details of the enrolled course to the Department of Food Science immediately after registration.
7. Submission of enrollment details to the Department is mandatory to facilitate record maintenance and compliance with University requirements regarding credit transfer and academic documentation.
8. Students are advised to preserve all course-related documents, including Enrollment confirmation, Course progress records, Examination registration receipt, Score card, Final certificate.
9. Students shall be responsible for timely registration for the examination, payment of examination fees (if applicable), and completion of all course requirements within the stipulated period.
10. The Department of shall not be responsible for missed deadlines, incomplete registrations, examination non-appearance, or failure to satisfy the certification requirements of the concerned SWAYAM/NPTEL course.
11. After successful completion of the course, students must submit a copy of the course certificate and score card to the Department of Food Science for further processing and reporting to the University.