

SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI



THREE-YEAR UNDERGRADUATE PROGRAMME

Bachelor of Science (B.Sc.)

Subject: CHEMISTRY

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 (Chemistry) (Level 4.5)

(As per uniform NEP Scheme)

The Vertical	Type of 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 / Minor	Theory	108200	General Chemistry-1	2	2	30	9	20	6	50	20
	Lab/Practical	108201	Chemistry Lab 1	2	4	25	10	25	10	50	20
Minor / Major	Theory	-	-	2	2	30	9	20	6	50	20
	Lab/Practical	-	-	2	4	25	10	25	10	50	20
Generic/Open Elective	Theory	108202	Chemistry in Everyday Life	2	2	30	9	20	6	50	20
	Theory	108203	Pollution & Remedies	2	2	30	9	20	6	50	20
VSC	-	-	-	-	-	-	-	50	20	50	20
SEC	Lab/Practical	108204	Chemistry Lab 2 (Calibration and Standardization Essentials)	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	108205	General Chemistry-2	2	2	30	9	20	6	50	20
	Lab/Practical	108206	Chemistry Lab 3	2	4	30	9	20	6	50	20
Major / Minor	Theory		-	2	2	25	10	25	10	50	20
	Lab/Practical		-	2	4	30	9	20	6	50	20
Generic/ Open Elective	Theory	108207	Food Safety, Adulteration and Detection	2	2	25	10	25	10	50	20
	Theory	108208	Entrepreneurship in Chemistry	2	2	30	9	20	6	50	20
VSC	Lab/Practical	108209	Chemistry Lab 4 (Chemical Laboratory Practices)	2	4	-	-	50	20	50	20
SEC	Lab/Practical	108210	Chemistry Lab 5 (IT Skills for Chemists)	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)

Subject	The Vertical	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
Chemistry	Major-T	108211	General Chemistry-3	2	2	30	9	20	6	50	20
Chemistry	Major-T	108212	Inorganic Chemistry-1	2	2	30	9	20	6	50	20
Chemistry	IKS-T	108213	IKS in Chemistry	2	2	30	9	20	6	50	20
Chemistry	Major-P	108214	Chemistry Lab 6	2	4	25	10	25	10	50	20
Chemistry	Minor-T	108215	Minor Chemistry-1	2	2	30	9	20	6	50	20
Chemistry	Minor-P	108216	Minor Chemistry Lab 7	2	4	25	10	25	10	50	20
Chemistry	GOEC-T	108217	Chemistry for Competitive Examinations	2	2	30	9	20	6	50	20
Chemistry	VSC-P	108218	Chemistry Lab -8 (Preparation of Commercial products)	2	4	-	-	50	20	50	20
Chemistry	FP/CES	108219	Chemistry Lab 9 (FP/ CEP in Chemistry - I)	2	4	-	-	50	20	50	20
Chemistry	CC		Separate SOP will be released	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)

Subject	The Vertical	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		
Chemistry	Major-T	108220	Organic Chemistry-1	2	2	30	9	20	6	50	20
Chemistry	Major-T	108221	Physical Chemistry-1	2	2	30	9	20	6	50	20
Chemistry	Major-T*	108229*	Analytical Chemistry	2	2	30	9	20	6	50	20
Chemistry	Major-P	108222	Chemistry Lab 10	2	4	25	10	25	10	50	20
Chemistry	Minor-T	108223	Minor Chemistry 2	2	2	30	9	20	6	50	20
Chemistry	Minor-P	108224	Minor Chemistry Lab 11	2	4	25	10	25	10	50	20
Chemistry	GOEC-T	108225	Chemistry for Sustainable Agriculture	2	2	30	9	20	6	50	20
Chemistry	VSC-P	108226	Chemistry Lab 12 (Synthesis and extraction of industrial products)	2	4	-	-	50	20	50	20
Chemistry	SEC-P#	108227 [#]	Chemistry Lab 13 (Basic Cheminformatics) (Discontinued from 2026-27)	2	4	-	-	50	20	50	20
Chemistry	FP/CES	108228	Chemistry Lab 14 (FP/ CEP in Chemistry - II)	2	4	-	-	50	20	50	20
Chemistry	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)

Level	The Vertical	Course Code	Course Title	Credits	Workload	Theory/Practical Marks				Theory/Pract (Total) Marks	
						External		Internal			
						Max.	Min.	Max.	Min.	Max.	Min.
5.5	Major-T	108230	InorganicChemistry-2	2	2	30	9	20	6	50	20
5.5	Major-T	108231	Organic Chemistry-2	2	2	30	9	20	6	50	20
5.5	Major-T	108232	Physical chemistry 2	2	2	30	9	20	6	50	20
5.5	Major-P	108233	Chemistry Lab 15	2	4	25	10	25	10	50	20
5.5	Major-Elective T1	108234	Elective Chemistry-1 (Spectroscopy I)	2	2	30	9	20	6	50	20
5.5	Major-Elective P1	108235	Chemistry Lab 16 A (Elective Chemistry-1)	2	4	25	10	25	10	50	20
OR											
5.5	Major-Elective T2	108236	Elective Chemistry-2 (Spectroscopy II)	2	2	30	9	20	6	50	20
5.5	Major-Elective P2	108237	Chemistry Lab 16 B (Elective Chemistry-2)	2	4	25	10	25	10	50	20
OR											
5.5	Major-Elective T3	108238	Elective Chemistry-3 (Biomolecules)	2	2	30	9	20	6	50	20
5.5	Major-Elective P3	108239	Chemistry Lab 16 C (Elective Chemistry-3)	2	4	25	10	25	10	50	20
5.5	Minor-T	108240	Minor Chemistry-3	2	2	30	9	20	6	50	20
5.5	Minor-P	108241	Minor Chemistry Lab 17	2	4	25	10	25	10	50	20
5.5	VSC-P	108242	Chemistry Lab -18 (Oil and Milk Analysis)	2	4	-	-	50	20	50	20
5.5	SEC-P1	107243	Chemistry Lab 19 (ICT Tools in Chemistry)	2	4	-	-	50	20	50	20
5.5	FP/CEP	108244	Chemistry Lab 20 (FP/ CES in Chemistry - III)	2	4	-	-	50	20	50	20
5.5	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 T3) with respective Practical Course in Semester V.

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

Level	The Vertical	Course Code	Course Title	Credits	Workload	Theory/Practical Marks				Theory/Pract (Total) Marks	
						External		Internal		Max.	Min.
						Max.	Min.	Max.	Min.		
5.5	Major-T	108245	Inorganic Chemistry 3	2	2	30	9	20	6	50	20
5.5	Major-T	108246	Organic Chemistry 3	2	2	30	9	20	6	50	20
5.5	Major-T	108247	Physical Chemistry 3	2	2	30	9	20	6	50	20
5.5	Major-P	108248	Chemistry Lab 21	2	4	25	10	25	10	50	20
5.5	Major-Elective T1	108249	Elective Chemistry 4 (Organic Spectroscopy)	2	2	30	9	20	6	50	20
5.5	Major-Elective P1	108250	Chemistry Lab 22 A (Elective Chemistry 4)	2	4	25	10	25	10	50	20
OR											
5.5	Major-Elective T2	108251	Elective Chemistry 5 (Green Chemistry and Nanochemistry)	2	2	30	9	20	6	50	20
5.5	Major-Elective P2	108252	Chemistry Lab 22 B (Elective Chemistry 5)	2	4	25	10	25	10	50	20
OR											
5.5	Major-Elective T3	108253	Elective Chemistry 6 (Chemistry of Consumer and Industrial Products)	2	2	30	9	20	6	50	20
5.5	Major-Elective P3	108254	Chemistry Lab 22 C (Elective Chemistry 6)	2	4	25	10	25	10	50	20
5.5	Minor-T	108255	Minor Chemistry 4	2	2	30	9	20	6	50	20
5.5	Minor-P	108256	Minor Chemistry Lab 23	2	4	25	10	25	10	50	20
5.5	VSC-P	108257	Chemistry Lab 24 (Water and Soil Analysis)	2	4	-	-	50	20	50	20
5.5	Intern/Apprenticeship	108258	Chemistry Lab 25 (Internship / Apprenticeship)	4	8	-	-	50	20	50	20

Important:

- VSC Should be Complementary to Major has to be selected from the Basket Provided by University, from the same Faculty/Discipline of the Major/Minor
- **Students** must select **Any One** of the Major-Elective Courses (T1 to T3) with respective Practical Course in Semester VI.