

Bachelor of Science (Biotechnology, Biochemistry, Chemistry)				
Course Outcomes				
Semester-I				
Course Code	Course	Credits	Course Outcome	
ELS1	English (First Language)	4	CO1	Appreciate the different genres of literature: prose, poetry and essay
			CO2	Gain competence in speaking skills by practicing conversations and involving in communication activities like asking and seeking for opinions, clarifications, getting attention, and agreeing and disagreeing with opinions
			CO3	Figure out the etymological origins of English words by learning Greek and Latin roots, prefixes and suffixes and learn to spell correctly.
			CO4	Distinguish the subtle differences in meaning and articulation in homonyms, homographs & homophones
			CO5	Learn the different types of nouns, pronouns, adjectives and articles
			CO6	Learn and practice skills such as Creativity, Interpersonal Skills, Motivation and Self-analysis
	Second Language-Hindi	4	CO1	अपनी स्वयं की बनाई हुई दुनिया से बाहर निकल कर सीखने और समझने का प्रयत्न करें
			CO2	लेखन कला की उत्कृष्टता के लिए सरल और जटिल शब्दों का भंडारण करना
			CO3	सहपाठियों को शामिल करते हुए, दूसरों के अनुभवों को सुनकर आत्मसात करें
			CO4	शब्दों और विचारों के बीच संबंधों को समझने की समझ
			CO5	अपनी साहित्यिक शैली को पुष्ट करें
			CO6	छात्र सबसे अलग अपनी पहचान बनाने का प्रयास करें
			CO1	Read, write and try to understand the language.

Second Language-Arabic	4	CO2	Speak the language to some extent on the basis of the lesson AL HIWAAR.
		CO3	Construct meaningful sentences with appropriate words.
		CO4	Get enriched with an insight into the reality of life and this world, through the verses of SURAHS.
		CO5	Get inspired through the verses of SURAH AT THEEN and become good human beings by having love and compassion for others.
		CO6	The chapters of Grammar help to learn 'Parts of Speech' in Arabic.
Second Language-Sanskrit	4	CO1	पुरातन भारतीय संस्कृतिः , चारित्रक , इतिहासादि विषयानाम् परिणत ज्ञानं प्राप्नोति ।
		CO2	शब्दस्य पूर्व स्वरूपं , तत् समीचीन अर्थज्ञानम् ।
		CO3	द्विपद सम्मेलनं विघटयतुमपि अवगन्तुं शक्नुवन्ति ।
		CO4	पञ्चतन्त्रस्य पूर्वापरविश्लेषणाज्ञानम् आगमिष्यन्ति ।
Second Language-French	4	CO1	You will be able to understand the basic grammatical structure of the French language (differences in pronouns, gendered nouns & adjectives, gendered articles)
		CO2	You will be able to understand the basic syntactic structure of the French language (subject + verb + determinant + object), you will learn the tentative placement of adjectives and the mobility of adverbs.
		CO3	You will be able to make basic conversation and write a dialogue in French regarding your daily life ( classroom, friends, family, home, city, country of residence, language, age, activities, basic physical and emotional qualities )
		CO4	You will be able to use a bilingual dictionary to find new nouns independently and write sentences using same/similar grammatical/syntactic structures learnt in class
		CO5	You will be able to ask and answer basic questions by providing short reasons for your choices

			CO6	You will be able to carry out a formal and informal basic conversation in French (written & oral)
			CO7	You will be able to read texts related to daily life aloud in French and understand them
			CO8	You will be able to listen to conversations related to daily life in French and comprehend them
AECC1b	Basic Computer Skills	2	CO1	Will be able to exhibit proficiency in a core set of applications, viz., Microsoft Word, Excel and PowerPoint.
			CO2	Will be able to apply writing skills in preparing and presenting documents.
			CO3	Will be able to discuss key hardware terminology and hardware functionality.
			CO4	Will be able to demonstrate competency in using PC operating systems and using the Internet as a search tool.
			CO5	Will learn concept of computer networks and communication system.
			CO5	Will learn concept of computer networks and communication system.
AECC1	Environmental Studies	2	CO1	Demonstrate a general understanding of the breadth and interdisciplinary nature of environmental issues.
			CO2	Be well-prepared for meaningful careers and post-graduate education in fields related to environmental science and beyond.
			CO3	Formulate an action plan for sustainable alternatives that integrate science, humanist, and social perspectives.
			CO4	Apply systems concepts and methodologies to analyse and understand interactions between social and environmental processes.
			CO5	To cultivate compassion, curiosity, collaboration, and hope.
			CO6	Appreciate the ethical, cross-cultural, and historical context of environmental issues and the links between human and natural systems.
			CO1	Students will be able to understand about the basics of cell
			CO2	They would learn in detail about the cell structure and functions in various organisms like bacteria, fungi, plant and animal.

	BIOTECHNOLOGY	4T+1P	CO3	They would also understand about the ultrastructure of Prokaryotes and Eukaryotes
			CO4	It will help them to understand the cell cycle, Mitosis and Meiosis with their role in the normal functioning of the organism
			CO5	Students will be able to understand the basic principles of Genetics and its understanding with the help of Mendel's experiments.
			CO6	Students will be able to explain the concepts related to the Mendel's Genetics, the chromosomal derivations and able to understand the concept of allelism
			CO7	Students will be able to describe the linkage and recombination.
			CO8	They would also learn about the extension to Mendel's laws of Genetics and their applications in various studies using statistical applications.
	BIOCHEMISTRY	4T+1P	CO1	Learn the elements present in biomolecules and the different monomers and polymers
			CO2	Explain the role of water in synthesis and breakdown of polymers.
			CO3	List the four major complex biomolecules found in living cells, three of which are found on food labels and the basis for grouping of biomolecules into those four groups.
			CO4	For each group of biomolecules learn the name of its generic monomer (simple polymer (complex structure) and their function.
			CO5	Identify their chemical elements and the difference between simple sugars and Complex Carbohydrates.
			CO6	Summarize the function of proteins and recognize the importance of the three dimensional shape of a protein on its function and the role of non-covalent bonds in maintaining the shape of a protein.
			CO7	Compare and contrast saturated, mono-unsaturated, and poly-unsaturated fatty acids.

			CO8	Explain the importance of poly-unsaturated fatty acids and why omega-3 and omega-6 fatty acids are considered essential. List sources of polyunsaturated fatty acids.
	CHEMISTRY	4T+1P	CO1	Understand the different types of chemical bonding in molecules.
			CO2	Analyse the reactivity of the compounds of p-block elements based on their structure
			CO3	Correlate preferential product formation based on structural organic theory
			CO4	Know the synthetic methodology for preparation of hydrocarbons
			CO5	Understand the chemical reactivity of hydrocarbons based on their structural properties
			CO6	Visualize the 3D structure of organic molecules
			CO7	Understand the physical properties of liquids and gases
			CO8	Understand solid state chemistry
Course Code	Course	Credits	Course Outcome	
ELS2	English (First Language)	4	CO1	Appreciate genres like prose, poetry, drama and essay and critically evaluate their aesthetic, meaning and usage
			CO2	Enhance their word bank by learning vocabulary: Oxymoron, Hyperbole, Loan Words, Portmanteau Words, Simile and Metaphor
			CO3	Learn different types of verbs, tenses and adverbs
			CO4	Gain the essentials of writing skills through Paragraph writing, Sequencing, Descriptive and Argumentative Writing
			CO5	Gain and practice skills like Decision-making, Holistic Health, Conflict Resolution and Ethical Behaviour
			CO6	Learn the different figures of speech
			CO1	बोलने और लेखन कौशल का अधिक से अधिक प्रदर्शन
			CO2	शब्दों और विचारों के बीच संबंधों को समझने की समझ

SLS2

Second Language-Hindi	4	CO3	कौशल और प्रतिनिधित्व के साथ भाषा और व्याख्यानों के सिद्धांतों को समझें एवं उन्हें आत्मसात करने का प्रयत्न करें
		CO4	अपनी स्वयं की बनाई हुई दुनिया से बाहर निकल कर सीखने और समझने के दौरान सहपाठियों को शामिल करते हुए, दूसरों के अनुभवों को महसूस करते हुए, अपनी साहित्यिक शैली को पुष्ट करें
		CO5	मानव संबंधों के प्रति सहानुभूति और सराहना की भावना रखना
		CO6	छात्रों की कहानियों में दिलचस्पी का विकास करना
Second Language-Arabic	4	CO1	Read, write and understand the language.
		CO2	Lead a dignified life of piety and virtue through the verses of SURAH AL QADR and SURAH AZ ZILZAL.
		CO3	Keep the importance of knowledge and education in mind, by studying lesson, the 7th Nizam Mir Osman Ali Khan.
		CO4	Inculcate values that help in their overall development.
		CO5	Learn to distinguish between phrases and sentences and construct meaningful sentences with suitable words and phrases.
		CO6	Enhance their knowledge in History of Arabic Literature: Impact of the Holy Qur'an on Arabic Literature, Compilation of the Holy Qur'an and Poetry in Islamic Period.
Second Language-Sanskrit	4	CO1	पुरातन भारतीय संस्कृति: , चारित्रिक , इतिहासादि विषयानाम् परिणत ज्ञानं प्राप्नोति ।
		CO2	धातुनिर्माणे निष्णाताः अभवान् ।
		CO3	विग्रहवाक्यस्य आवश्यकथा अवगन्तुं शक्नुवन्ति ।
		CO4	द्विपद सम्मेलनं अपि अवगन्तुं शक्नुवन्ति ।
		CO5	पञ्चतन्त्रस्य पूर्वापरविश्लेषणाज्ञानम् आगमिष्यन्ति ।
		CO6	संस्कृते संभाषणा ज्ञानम् लभन्ते

	Second Language-French	4	CO1	You will be able to understand the basic grammatical structure of the French language (differences in pronouns, gendered nouns & adjectives, gendered articles)
			CO2	You will be able to understand the basic syntactic structure of the French language (subject + verb + determinant + object), you will learn the tentative placement of adjectives and the mobility of adverbs and one set of pronouns (pronoun of place).
			CO3	You will be able to use present tense, simple past and future tenses and immediate past and near future tenses in the correct context.
			CO4	You will be able to use a bilingual dictionary to find new nouns independently and write sentences using same/similar grammatical/syntactic structures learnt in class
			CO5	You will be able to ask and answer basic questions by providing short reasons for your choices
			CO6	You will be able to carry out a formal and informal basic conversation in French (written & oral)
			CO7	You will be able to read texts related to daily life aloud in French and understand them
			CO8	You will be able to listen to conversations related to daily life in French and comprehend them
AECC2	Basic Computer Skills	2	CO1	Will be able to exhibit proficiency in a core set of applications, viz., Microsoft Word, Excel and PowerPoint.
			CO2	Will be able to apply writing skills in preparing and presenting documents.
			CO3	Will be able to discuss key hardware terminology and hardware functionality.
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			CO5	Will learn concept of computer networks and communication system.
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	BIOTECHNOLOGY	4T+1P	CO1	Explain the basics of biomolecules and elucidate the structures of different biomolecules
			CO2	Analyze the classification of biomolecules carbohydrate, amino acids, proteins, and lipids.
			CO3	Predict structural aspects of DNA and RNA.
			CO4	Relate different metabolic activities involved in maintaining the living conditions of the cells in an organisms
			CO5	Integrate the basic principles about microbiology and different principles of various microscopy techniques.
			CO6	Describe the basic structure and characteristics of bacteria, fungi, virus and algae.
			CO7	Perform sterilization, culture and identification of microorganisms
			CO8	Students will be able to Perform Microbial techniques
	Biochemistry	4T+1P	CO1	Student will be able to explain basic structural organization of Nucleic acids (DNA & RNA).
			CO2	Understand the properties of nucleotides, how they contribute to secondary and tertiary structures of nucleic acids at the molecular level and how torsional states are maintained in cellular DNA.
			CO3	Understand and demonstrate how the structure of biomolecules determines their chemical properties and reactivity.
			CO4	Will be able to understand and correlate the things with practicals
			CO5	Would be able to demonstrate the principles behind the instrumentation.
			CO6	Would be able to design experiments based on the properties and nature of the samples.
			CO7	Student can further study on how a DNA is synthesized in body and how to process samples using different techniques.
			CO8	Be knowledgeable in classical laboratory techniques and be able to use modern instrumentation.



	Chemistry	4T+1P	CO1	Explain the physical and chemical properties of oxides and halides of p-block elements.
			CO2	Elucidate the chemistry of noble gases and their compounds
			CO3	Differentiate the pathway of nucleophilic substitution reaction of organic halides.
			CO4	Analyse the properties of d-block elements
			CO5	Prepare alcohols, phenols and ethers, and have an understanding of their chemical reactivity
			CO6	Synthesize aldehydes and ketones and gain mechanistic insights of their reactivity
			CO7	Correlate the chemical behavior with variation in electric potential
			CO8	Volumetrically and gravimetrically analyse ions in solution
<b>Semester-III</b>				
Course Code	Course	Credits	Course Outcome	
ELS3	English (First Language)	3	CO1	Critically appreciate and evaluate the various genres of literature: prose, poetry, short story and essay
			CO2	Articulate with greater display of Speaking and Writing skills through inputs in Vocabulary and Grammar
			CO3	Enhance their proficiency through inputs in Grammar like prepositions, voice, connectives
			CO4	Learn and use synonyms and antonyms, phrasal verbs, idioms, technical and
			CO5	media vocabulary, and the differences between the British and American variations of
			CO6	Develop better writing skills and become adept in organizing one's thoughts and ideas into essays
			CO1	पूरे सत्र को ध्यान से निभाएँ और संयम बनाए रखें
			CO2	छात्रों के संदेह के स्पष्टीकरण के लिए प्रशिक्षक सुलभ रहें

SLS3

SLS3	Second Language-Hindi	3	CO3	मानव संबंधों के प्रति सहानुभूति और सराहना की भावना रखना
			CO4	सीखने और समझने के दौरान सहपाठियों को शामिल करते हुए, दूसरों के अनुभवों को महसूस करते हुए, अपनी साहित्यिक शैली को पुष्ट करें
			CO5	बोलने और लेखन कौशल का अधिक से अधिक प्रदर्शन
			CO6	छात्र सबसे अलग अपनी पहचान बनाने का प्रयास करें
	Second Language-Arabic	3	CO1	Improve the skills of reading, writing, understanding and speaking the language with the help of new vocabulary.
			CO2	Do a comprehensive study of the lessons, The Holy Qur'an and The Holy Hadith.
			CO3	Become good human beings, through the teachings of The Holy Qur'an and Holy Hadith
			CO4	Study the various forms of Present / Future Tense Verbs and to use them at appropriate situations.
			CO5	Gain knowledge in grammar by studying the changes happening in Present / Future Tense Verbs when certain particles HUROOF NASIBAH / HUROOF JAZIMAH precede them.
			CO6	Enhance your knowledge in the Pre-Islamic Arabic literature.
	Second Language-Sanskrit	3	CO1	शब्दस्य पूर्व स्वरूपं , तत् समीचीन अर्थज्ञानम् ।
			CO2	परियोजनादि विजये स्वतन्त्रेण प्रदर्शनार्थं स्वशक्तिः प्राप्नोति:
			CO3	साहित्य इतिहास श्रवणे स्वजीवित लक्ष्यं पुरयति
		CO4	विक्रममहाराज तदेव नवरत्नकवीनाम् विश्लेषणाद्यायनम् भवति ।	
		CO5	चारित्रक काव्य महत्यज्ञानम् प्राप्नुवन्ति	
		CO6	व्यवहारिक संस्कृत भाषायां लेखन अनुवाक निर्माणं आगच्छति।	
		CO1	You will be able to understand and narrate situations from the past in their chronological order	

	Second Language-French	3	CO2	You will be able able to understand, speak & write about health, ecology, job opportunities
			CO3	You will be able to speak about the characteristics and traits of a person/ association
			CO4	You will be able to express the cause and consequence of certain actions and be able to call for action
SEC1	Professional Skills	2	CO1	Develop a planned approach towards career and life
			CO2	Gain ability to match skills and interests with a chosen career path
			CO3	Develop interview skills and professional etiquette
SEC2	Immunological techniques	2	CO1	Students will be able to understand and identify the cellular and molecular basis of immune responsiveness and demonstrate knowledge of the role of the
			CO2	The student will demonstrate knowledge and practice of common immunological laboratory procedures used to detect and measure the immune response
			CO3	Students will be able to understand the principle, methodology and vivid applications of various immunological techniques
			CO4	Students will be able to summarize the principle, methodology and vivid applications of various cellular assays
			CO5	The students will be able to transfer knowledge of immunology into clinical decision-making through case studies presented in class.
			CO1	Students will be able to understand about the basics of molecular biology.
			CO2	They would understand about the concepts related to the interactions of the bio-molecules.
			CO3	It will help them to understand the various principles and mechanism of interaction between DNA, RNA, Proteins and bio-molecules.
			CO4	It would help them to learn the smooth functioning of the biological system for understanding the basics concepts of central dogma and their functions

	BIOTECHNOLOGY	4T+1P	CO5	Students will be able to understand the gene expression and regulation in Prokaryotes and Eukaryotes.
			CO6	Students will be able to explain the basics of r-DNA technology with the deep understanding of cloning and various enzymes involved in the reactions
			CO7	Students will be able to describe the basic concepts and application of r-DNA technology in agriculture and medicine.
			CO8	They would also learn about various tools used to understand the transfer of DNA and RNA molecules for studying their pattern for further analysis.
	BIOCHEMISTRY	4T+1P	CO1	Student will be able to understand how these biomolecules (which they studied in the previous year) will be able to give energy for the systems.
			CO2	Understand the first and second laws of thermodynamics and how they impact evolutionary trends.
			CO3	Attain knowledge on biomolecular interactions.
			CO4	Understand the roles of ATP and reduced cofactors in shuttling energy and electrons around within cells.
			CO5	Knowing about enzymes and their mode of actions will help in better understanding of metabolisms
			CO6	Learning the basics aids in better handling of enzymes in vitro.
			CO7	Will be able to plan and execute an enzyme assay.
			CO8	assaying of enzymes is key in drug discovery and clinical identifications, student will be able to understand or assess the metabolic disorders
			CO1	Correlate the chemistry of rare earth metals and their corresponding compounds with their electronic configuration
			CO2	Know the nomenclature of coordination compounds and their different structural aspects.
			CO3	Have knowledge about structure and bonding issues to understand the stability and reactivity of simple organometallic complexes

	CHEMISTRY	4T+1P	CO4	Explain the chemical properties of carboxylic acids and their derivatives, amines, nitro hydrocarbons, cyanides and isocyanides
			CO5	Synthesize organic compounds, which are of relevance to multistep organic synthesis in the industry.
			CO6	Formulate the first law of thermodynamics for closed systems and arrange the change in energy in these systems via heat and work transfer
			CO7	Analyse energy changes in chemical reaction using first law of thermodynamics
			CO8	Assess thermodynamic applications using second law of thermodynamics
<b>Semester-IV</b>				
Course Code	Course	Credits	Course Outcome	
ELS4	English (First Language)	3	CO1	Gain knowledge of other literatures: the African American, British and Indian
			CO2	Appreciate literatures, their historical, cultural and sociological aspects and evaluate their impact
			CO3	Gain knowledge in vocabulary through practice in commonly confused words, Indianisms, one-word substitutes and common errors
			CO4	Learn the skill of report writing
			CO5	Learn to welcome change in life and not confine oneself with old ideas.
			CO6	Discuss and debate on social evils like "discrimination" and understanding "unity in diversity".
	Second Language-Hindi	3	CO1	अध्ययन की सुविधा की दृष्टि से बोधपरक विषय, भाषा तथा शैलीगत सरलता का विशेष रूप से ध्यान रखना
			CO2	भाषाओं को सुनने, सीखने और बोलने के साथ-साथ, अपनी खुद की भाषा की ओर भी एक नया दृष्टिकोण विकसित करना
			CO3	छात्र सबसे अलग अपनी पहचान बनाने का प्रयास करें
			CO4	अपनी स्वयं की बनाई हुई दुनिया से बाहर निकलें

SLS4

		CO5	कौशल और प्रतिनिधित्व के साथ भाषा और व्याख्यानों के सिद्धांतों को समझें एवं उन्हें आत्मसात करने का प्रयत्न करें
		CO6	शब्दों और विचारों के बीच संबंधों को समझने की समझ
Second Language-Arabic	3	CO1	Improve the skills of reading, writing, understanding and speaking the language by using new words and phrases.
		CO2	Become good human beings by studying the lessons in prose, SEERAH AR RASOOL and ZIKR ASH'HAR SAHABIYAT AR RASOOL-SAWS.
		CO3	Learn to lead a dignified and respectful life even in an unfavourable environment.
		CO4	Enhance your knowledge in Arabic grammar by studying the the subject and predicate thoroughly..
		CO5	Enrich your vocabulary by studying new words, synonyms, antonyms, singular and plural.
		CO6	Enhance your knowledge in the History of Arabic Literature by studying the poetry and poets of Abbasid period.
Second Language-Sanskrit	3	CO1	पुरातन भारतीय संस्कृति: , चारित्रिक , इतिहासादि विषयानाम् परिणत ज्ञानं प्राप्नोति ।
		CO2	विवेकानन्दादि महनीयानाम् चरितं ज्ञातुम् शक्नुवन्ति ।
		CO3	परियोजनादि विजये स्वतन्त्रेण प्रदर्शनार्थं स्वशक्तिः प्राप्नोति:
		CO4	कृदन्तरूपाणि उपयुक्त्व वाक्यनिर्माणे कौशल्यं भविष्यन्ति ।
		CO5	व्यवहारिक संस्कृत भाषायां लेखन अनुवाक निर्माणं आगच्छति।
		CO6	विश्वमानव सौभ्रातृत्वं , वसुधैव कुटुम्बक निर्माणे स्वकर्तव्यं संपूर्णं करोति।
		CO1	You will be able to use vocabulary related to shopping and banking in French
		CO2	You will be able able to understand, speak & write about a theft

	Second Language-French	3	CO3	You will be able to describe daily objects (their shape, colour, form and material) and compare them
			CO4	You will be able to use vocabulary related to media (computer, television, newspaper) in French
SEC 3	Universal Human Values	2	CO1	Understand the importance of value in individual social and national life.
			CO2	Learn from case studies of lives of great and successful people who followed and practised human values.
			CO3	Become a conscious practitioner of human values
			CO4	Realise their potential as human beings.
SEC 4	DRUG DESIGNING	2	CO1	The successful students will be able to describe about the drug designing, its history and challenges and different drug targets used in drug discovery.
			CO2	It will help the successful students to explain about principles involved in drug identification,
			CO3	The successful students will be able to briefly describe the structure-based drug designing and ligand based drug designing.
			CO4	The successful students will be able to explain the different strategies used for drug discovery
			CO5	The successful students will be able to describe about the principle involved in pharmacogenomics and its role in drug development.
DSC	BIOTECHNOLOGY	4T+1P	CO1	Students will be able to explain about the basics of bioinformatics.
			CO2	They would apply the ideas to the different bioinformatics tools and resources.
			CO3	Their exploration of the online portal, databases, and gene and protein sequencing will be aided.
			CO4	It would assist them in describing about phylogeny, matrices, sequence alignment, and data comparison
			CO5	The fundamentals of biostatistics, including tabulation and representation
			CO6	By using principles of probability, probability distribution, central tendency, and dispersion, students will be able to enumerate the data

			CO7	Pupils will be able to explain how biostatistics is used to evaluate hypotheses for both small and large sample sizes.
			CO8	Additionally, they would study a variety of instruments, including Karl Pearson's correlation, ANOVA, and the Chi square test.
	BIOCHEMISTRY	4T+1P	CO1	Demonstrate an understanding of the metabolic pathways - the energy-yielding and energy requiring reactions in life.
			CO2	Demonstrate an understanding of the diversity of metabolic regulation, and how this is specifically achieved in different cells.
			CO3	Correlate the metabolic activity of tissues and organs with their function.
			CO4	Understand and apply scientific reasoning in the chemical sciences
			CO5	Describe and appreciate the modern techniques utilized in understanding the key mechanistic steps at atomic-level detail.
			CO6	Describe how these biochemical processes are not isolated but tightly integrated, with specific control sites and key junctions.
			CO7	List stages in the catabolism of food molecules and describe what occurs during each stage.
			CO8	Be able to communicate scientific information effectively in writing.
	CHEMISTRY	4T+1P	CO1	Explain the orbital splitting of coordination complexes in different environment
			CO2	Rationalise the physical properties of coordination complexes and their detection
			CO3	Know the application of coordination complexes
			CO4	Discuss the importance of different elements in biological systems
			CO5	Differentiate the mono, di and polysaccharides
			CO6	Explain the methodology for amino acid and protein synthesis and their properties
			CO7	Discuss of physical and chemical properties of heterocyclic compounds
			CO8	Monitor kinetics of chemical and photochemical reactions
<b>Semester-V</b>				



Course Code	Course	Credits	Course Outcome		
ELS5	English (First Language)	3	CO1	Gain knowledge of other literatures: the African American, British and Indian	
			CO2	Appreciate literatures, their historical, cultural and sociological aspects and evaluate their impact	
			CO3	Gain knowledge in vocabulary through practice in commonly confused words, Indianisms, one-word substitutes and common errors	
			CO4	Learn the skill of report writing	
			CO5	Learn to welcome change in life and not confine oneself with old ideas.	
			CO6	Discuss and debate on social evils like "discrimination" and understanding "unity in diversity".	
	Second Language-Hindi	3	CO1	छात्र-समूह चर्चाओं में भाग लेकर लाभांविता हों	
			CO2	मानव संबंधों के प्रति सहानुभूति और सराहना की भावना रखना	
			CO3	राष्ट्रभाषा हिंदी की राष्ट्र के समस्त राष्ट्रीय तत्वों को व्यक्त करने के साथ साथ समूचे राष्ट्र में भावनात्मक एकता कायम रखने में महत्वपूर्ण भूमिका	
			CO4	व्याख्यानों के सिद्धांतों को समझें एवं उन्हें आत्मसात करने का प्रयत्न करें	
			CO5	लेखन कला की उत्कृष्टता के लिए सरल और जटिल शब्दों का भंडारण करना	
			CO6	बोलने और लेखन कौशल का अधिक से अधिक प्रदर्शन करना	
	Second Language-Arabic		3	CO1	Improve the skills of reading, writing, understanding and speaking the language with the help of new words.
				CO2	Become a patriot by studying the lesson about the freedom fighters 'BAT AL HURRIYYAH' .
				CO3	Treat every human with due respect.
				CO4	Learn that 'AL MUSAWAT AL INSANIYYAH' teaches Human Equality, which means that everyone should enjoy equal rights in social life without any discrimination.

SLS5			CO5	Learn the importance of education as the educated lead a dignified life in the society whereas the uneducated are exploited everywhere.
			CO6	Enhance your knowledge in the History of Arabic Literature by studying the development of prose during the Abbasid period.
	Second Language-Sanskrit	3	CO1	उपनिषदादि विषये अधुनिक आविष्करण स्थापने उपयुक्तः।
			CO2	शास्त्रकाराणाम् आलोचनात्मक, सादृश्यनात्मक अध्यानादि विषयज्ञानं आगमिष्यति।
			CO3	अलङ्काराणां परिचय ज्ञानम् प्राप्नुवन्ति।
			CO4	व्यवहारिक संस्कृत भाषायां लेखन अनुवाक निर्माणं आगच्छति।
			CO5	अन्ते भाषायां जीवनेऽपि कुशलत्वं, प्रतिनिधित्वं, वक्तृत्वं, स्थैर्यं आगमिष्यति।
	Second Language-French	3	CO1	You will be able to understand and narrate situations from the past in their chronological order
			CO2	You will be able able to understand, speak & write about health, ecology, job opportunities
			CO3	You will be able to speak about the characteristics and traits of a person/ association
			CO4	You will be able to express the cause and consequence of certain actions and be able to call for action
	GE – INFORMATION TECHNOLOGY	4	CO1	Comprehend and resolve common desktop and database issues.
			CO2	Learn future technologies through acquired foundational skills and knowledge and employ them in new business environments.
			CO3	Plan, install, manage, and troubleshoot a computer network.
CO4			Select and apply current techniques, skills, and tools necessary for computing practice and integrate IT-based solutions into the user environment effectively.	
CO5			Apply the knowledge of IT and networking principles to manage projects effectively in diverse environments as a member or a leader in the team.	



			CO7	Utilize knowledge from the physical and biological sciences as a basis for understanding the role of food and nutrients in health and disease processes
			CO8	Apply knowledge of health behavior and decision-making skills when assessing and evaluating the nutritional status of individuals and their response to nutrition intervention.
	CHEMISTRY	4T+1P	CO1	Understand the basics for absorption of electromagnetic radiation in different regions of spectra
			CO2	Determine molecular structure of compounds based on principles of nuclear magnetic resonance spectroscopy
			CO3	Determine molecular composition through mass spectroscopic technique
			CO4	Understand the principle behind different techniques employed for separation and purification of compounds in a mixture
			CO5	Have hands on practical experience of experiments based on distribution law, electrochemistry, colorimetry and other physical constants
			CO6	Separate compounds based on their relative solubility
			CO7	Elucidate functional groups in compounds based on infrared spectroscopic method
			CO8	Classify compounds based on their rotational
<b>Semester-VI</b>				
Course Code	Course	Credits	Course Outcome	
ELS6	English (First Language)	3	CO1	Read and interpret and analyze the implicit and explicit layers of meaning embedded in a poem.
			CO2	Become more empathetic and question discrimination of gender that is prevailing in the society and promote gender equality
			CO3	Understand the need for the English to be adapted to the local cultural contexts of India.
			CO4	Improve language skills by learning types of sentences, use relative clauses and common errors in English

			CO5	Learn and use, formal and informal vocabulary, one-word substitutes and appropriacy of language.
			CO6	Develop better writing skills and be able to write reviews and CVs.
SLS6	Second Language-Hindi	3	CO1	विचारों को एक भाषा से दूसरी भाषा में रूपान्तरित कर अनुवाद करने कि कला सीखना
			CO2	भारत जैसे बहुभाषा-भाषी देश के शिक्षा-क्षेत्र में अनुवाद की भूमिका
			CO3	समकालीन राजनीति के कारण अल्पसंख्यक वर्ग की छवि के रूप का चित्रण
			CO4	छात्र सबसे अलग अपनी पहचान बनाने का प्रयास करें
			CO5	शब्दों और विचारों के बीच संबंधों को समझने की समझ
			CO6	कौशल और प्रतिनिधित्व के साथ भाषा और व्याख्यानों के सिद्धांतों को समझें
	Second Language-Arabic	3	CO1	Enhance the skills of reading, writing, understanding and speaking comprehension
			CO2	Gain knowledge regarding the golden heritage of Telangana by studying the lesson 'AATHAR TELANGANA' .
			CO3	Study the struggle of freedom fighters and freedom movement of India and the importance of education through the lesson 'Sarojini Naidu' - the nightingale of India.
			CO4	Build up their proficiency in the language with a thorough study of prose and poetry.
			CO5	Learn different types of sentences and their structure by using new vocabulary and phrases.
			CO6	Be a good and kind hearted human being by possessing good manners and aim for higher positions in life.
				CO1

Second Language-Sanskrit	3	CO2	महाकवीनाम् आलोचनात्मक, सादृश्यनात्मक अध्ययनादि विषयज्ञानं आगमिष्यति।	
		CO3	अलङ्काराणां प्रयोगे पाण्डित्यम् लभ्यन्ते।	
		CO4	व्यवहारिक संस्कृत भाषायां लेखन अनुवाक निर्माणं आगच्छति।	
		CO5	अन्ते भाषायां जीवनेऽपि कुशलत्वं, प्रतिनिधित्वं, वक्तृत्वं, स्थैर्यं आगमिष्यति।	
	Second Language-French	3	CO1	You will be able to understand and narrate situations from the past in their chronological order by using two different past tenses
			CO2	You will be able able to understand, speak & write about France and Francophonie
			CO3	You will be able to get tourist information
			CO4	You will be able to express yourself in simple colloquial French
BIOTECHNOLOGY	4T+1P	CO1	Analyze different sources of pollutants and their harmful effects	
		CO2	Describe the effect of pollution with climate change and global warming.	
		CO3	Integrate the implication of biotechnology tools to address the problems caused by pollution.	
		CO4	Contrast renewable from non-renewable sources of energy and their applications	
		CO5	Relate and analyze the applications of various biofuel sources.	
		CO6	Integrate the application of biotechnology in bioremediation methods using microbes and plant sources	
		CO7	Describe the concepts and application of various phytoremediation, bioremediation and other methods	
		CO8	Students will learn to make a compost from organic waste	
		CO1	Explain the significant discoveries and theories through the historical progress of biological scientific discoveries, and their impacts on the development of molecular biology.	
		CO2	Differentiate the molecular organization of eukaryotic and prokaryotic cells.	

	BIOCHEMISTRY	4T+1P	CO3	Explain the molecular mechanisms by which DNA undergo replication, Transcription and translation organisms.
			CO4	Able to demonstrate basic isolation, estimation and quantification of nucleic acids and Ag-Ab reactions.
			CO5	Describe the basic mechanisms, distinctions and functions of innate and adaptive immunity and define the cellular/molecular pathways of humoral/cell-mediated adaptive responses
			CO6	Define the basic mechanisms that regulate immune responses and maintain tolerance.
			CO7	Explain the cellular and molecular aspects of lymphocyte activation, homeostasis, differentiation, and memory.
			CO8	Able to relate the role of Immunological techniques in diagnosing disease with sensitivity, specificity, assay speed, robustness, and simplicity.
	CHEMISTRY	4T+1P	CO1	Define and classify drugs with structure and function
			CO2	Recall the various medicinal chemistry terms used in the pharmaceutical industry
			CO3	Explain the mechanistic action of synthetic medicinal drugs.
			CO4	Use multi-step procedures for synthesis of drugs
			CO5	Know the metabolism, adverse effects and therapeutic value of drugs.
			CO6	Product detailing, marketing, distribution and selling of pharmaceutical products.
			CO7	Correlate the structure with the function of drugs
			CO8	Determine rates of chemical reactions quantitatively in the laboratory