



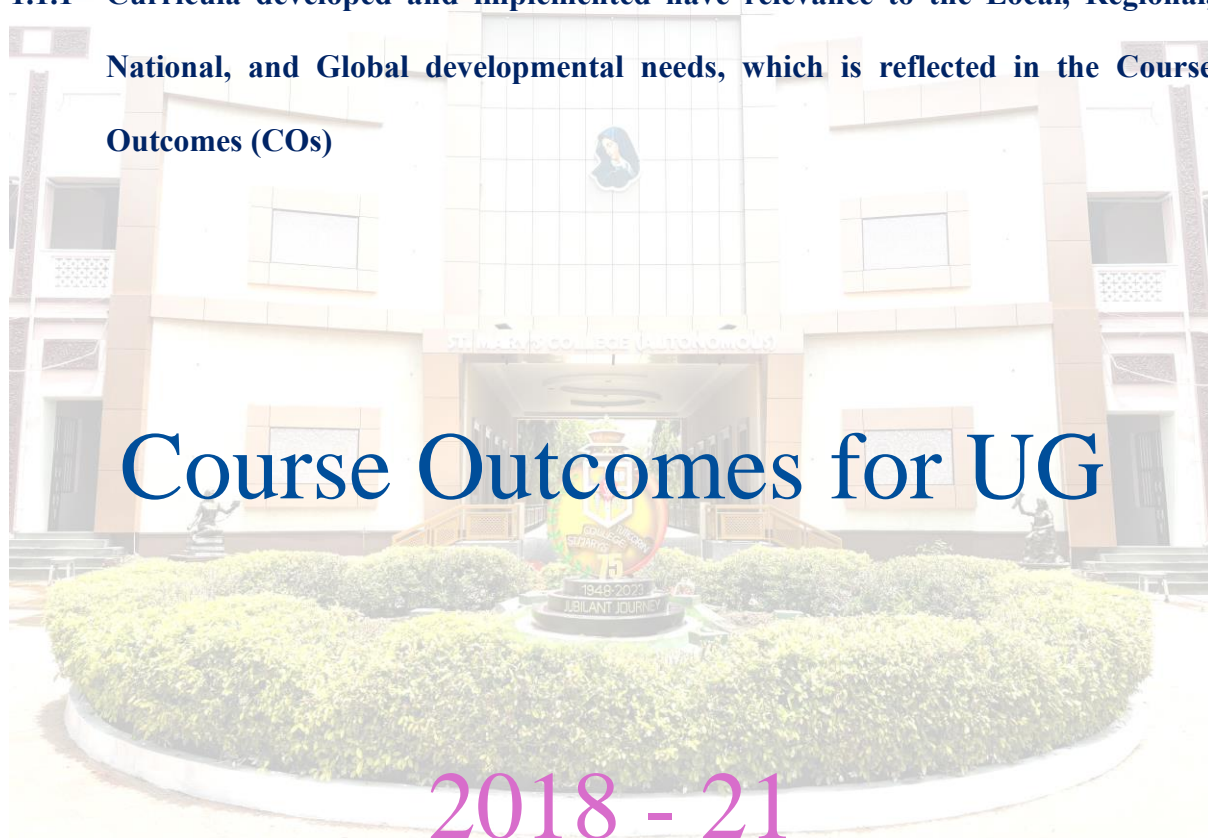
**St. Mary's College (Autonomous)**  
Reaccredited with 'A+' Grade by NAAC (Cycle IV)  
Thoothukudi



**Criterion: I – Curricular Aspects**  
**1.1 – Curriculum Design and Development**  
**Year: 2018-2023**



**1.1.1 Curricula developed and implemented have relevance to the Local, Regional, National, and Global developmental needs, which is reflected in the Course Outcomes (COs)**



## B.A. English

SEMESTER – I			
Core – I		Age of Shakespeare and Milton	
18UENC11	Hrs/Week: 5	Hrs / Semester: 75	Credits: 4

### Course Outcome :

CO.No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	analyze the structure and rhyme scheme of the sonnets.	1	An
CO-2	develop an appreciation of how the formal elements of language and genre shape meaning.	5	Co
CO-3	practice writing as a process of motivated inquiry engaging other writers' ideas.	6	Ap
CO-4	cultivate their capacity to judge the aesthetic and ethical value of literary texts.	8	Ev
CO-5	recognize how writers can transgress or subvert generic expectations and fulfill them.	3	Un
CO-6	create an aesthetic taste for literary texts.	8	Cr
CO-7	apply the unique qualities of the structure and content of the assigned literary texts by Shakespeare and Milton	4	Ap
CO-8	perceive the unique qualities of the authors studied and compare and contrast them.	4	Ev

<b>SEMESTER - I</b>			
<b>Core - II</b>		<b>English Grammar and Usage</b>	
<b>18UENC12</b>	<b>Hrs/Week: 5</b>	<b>Hrs/ Semester:75</b>	<b>Credits: 4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	perceive the structural meaning of word groups using parts of speech.	3	Ev
CO-2	demonstrate competency in recognizing the tenses. Identify the voice and rewrite the sentences changing the voice.	3,7	Un
CO-3	differentiate the adjectives in comparison and demonstrate the command of conversation using direct and indirect speech.	9	An
CO-4	formulate the structures of English Language using Phrases and Clauses and analyze the transformation of sentences.	7,9	Cr, An
CO-5	construct a well-organized essay with appropriate usage of vocabulary with an effective introduction and conclusion supporting the main topic. Identify the elements of a letter and apply the elements to compose letters.	3,4	An
CO-6	develop knowledge of underlying 'rules' of grammar.	9	Ap
CO-7	improve the skills of structures in written and spoken English and gain confidence.	3	Cr
CO-8	build the mental abilities of reasoning and correct observation.	10	An

<b>SEMESTER - I</b>			
<b>Allied - I</b>		<b>Social History of England</b>	
<b>Code: 18UENA11</b>	<b>Hrs/Week: 3</b>	<b>Hrs / Semester: 45</b>	<b>Credits: 3</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	explain the development of science and the age of reasoning.	1	Ev
CO-2	describe the invasion and the expansion of the British colonies all over the world.	4	Ev
CO-3	enumerate the importance of the customs and culture followed by the high class British society.	8	Co
CO-4	relate the war of Americans and French and the development in the industrial field.	2, 4	Un
CO-5	discuss the reforms and the development of education in the modern era.	10	Co
CO-6	demonstrate an awareness of the social, historical and cultural elements of the Centuries.	4,10	Un
CO-7	interpret literary works in a better perspective.	8	Un
CO-8	develop an ability to read text in relation to their historical and cultural context.	1,8	Cr

<b>SEMESTER – I</b>			
<b>Allied - II</b>		<b>Literary Forms</b>	
<b>Code:18UENA12</b>	<b>Hrs/ week: 3</b>	<b>Hrs / Semester: 45</b>	<b>Credits: 3</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	perceive the different genres of Literature.	1	Ev
CO-2	extend the dimensions of Literary forms.	1, 4	Un
CO-3	analyse the meaning of Literary terms.	3, 4	An
CO-4	formulate the exponents of literary genres.	2	Co
CO-5	evaluate one's own perspective in relation to other points of view.	1, 2	Ev
CO-6	distinguish literary texts from other types of texts.	1	An
CO-7	recognize how form and structure shape a text's meaning.	4	Ap
CO-8	demonstrate their ability to explain the influence of genre on a given text.	6	Un

<b>SEMESTER - II</b>			
<b>Core - III Age of Dryden and Pope</b>			
<b>Code: 18UENC21</b>	<b>Hrs/Week: 5</b>	<b>Hrs / Semester: 75</b>	<b>Credits: 4</b>

**Course Outcome :**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	expose to the representative works of the age.	4, 8	Un
CO-2	enrich the cultural literacy of the characteristic tendency of scientific rationalism.	8	An
CO-3	inculcate the historically represented perspectives and diverse canons of the age.	1	An
CO-4	illustrate the intellectual trends and the philosophical investigations of the age.	4	Un
CO-5	differentiate the various tendencies of the age in connection with the emergence of the novels.	2	An
CO-6	understand various schools of poetry	7	Un
CO-7	understanding of strategies of textual interpretation appropriate to different literary genres	7	Un
CO-8	provide knowledge about the social and political background	3	Kn

<b>SEMESTER - II</b>			
<b>Core- IV</b>		<b>Age of Wordsworth</b>	
<b>Code : 18UENC22</b>	<b>Hrs/Week : 5</b>	<b>Hrs / Semester: 75</b>	<b>Credits : 4</b>

**Course Outcome :**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	recognize the development of literature and culture of the age.	1	Un
CO-2	introduce the school of Romanticism.	8	Re
CO-3	analyze the significant works of the age.	1, 2	An
CO-4	Identify a writer's thoughts and reflect on points of view that challenge one's perspective.	2	Ev
CO-5	demonstrate an ability to reconstruct the views of the works represented in the age.	1	Un
CO-6	provide knowledge about the social and political background of the age	3	Un
CO-7	develop their introspection by the reading of their prescribed texts.	4,8	An
CO-8	formulate rich vocabulary through their perusal of literary work of art	1	An

<b>SEMESTER - II</b>			
<b>Allied – III</b>		<b>Dramatic Art &amp; Techniques</b>	
<b>Code : 18UENA21</b>	<b>Hrs/Week : 3</b>	<b>Hrs / Semester: 45</b>	<b>Credits : 3</b>

**Vision:**

To cultivate theatrical skills and prepare students for careers in film, stage, television and radio.

**Mission:**

To educate and train the students in the skills involved in executing and producing stage plays.

**Course Outcome :**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	create love for dramatic works.	7	Cr
CO-2	apply innovative dramatic experiences.	3	Ap
CO-3	develop the ability to create dramatic scripts.	1	Ap
CO-4	build imaginative skills to comprehend the feelings of the people.	4	Ap
CO-5	estimate and assess characters and personalities.	8	Ev
CO-6	prioritize relationships.	3	Ev
CO-7	identify and solve problems.	5	An
CO-8	construct values, co-operation and courageous expression.	3	An



<b>SEMESTER - II</b>			
<b>Allied – IV Children's Literature</b>			
<b>Code : 18UENA22</b>	<b>Hrs/Week : 3</b>	<b>Hrs / Semester: 45</b>	<b>Credits : 3</b>

**Course Outcome :**

<b>CO No.</b>	<b>Upon completion of this course, students will</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	recall their childhood experiences and understand the psychology of the children	8	Re
CO-2	extend their empathy towards the issues related to children	10	Un
CO-3	understand life's experiences from a child's perspective	4	Un
CO-4	adapt themselves for a meaningful life with rewarding experiences	2	Co
CO-5	build their capacity for critical thoughts	1	An, Co
CO-6	interpret the texts based on a child's outlook	4	Ev
CO-7	estimate child behaviour across cultures	6	Co
CO-8	compare and contrast childhood experiences with adulthood	8,4	Ev

<b>SEMESTER – III</b>			
<b>Core – V</b>		<b>Age of Tennyson</b>	
<b>Code:18UENC31</b>	<b>Hrs/Week: 6</b>	<b>Hrs / Semester: 90</b>	<b>Credits: 4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	analyse the social and literary history of the Victorian age.	1	An
CO-2	develop an appreciation of trends and movement in Victorian age, through the study of the prose and poetry.	5	Cr
CO-3	practise writing as a process of motivated inquiry engaging other writers' ideas.	6	An
CO-4	cultivate their capacity to judge the aesthetic and ethical value of literary texts.	8	Ev
CO-5	recognize how writers can transgress or subvert generic expectations and fulfil them.	3	Un
CO-6	create an aesthetic taste for literary texts and poems from Alfred Lord Tennyson to G.M Hopkins.	8	Cr
CO-7	render the unique qualities of the structure and content of the assigned literary texts.	4	An
CO-8	perceive the unique qualities of the authors studied and compare and contrast them.	4	Ev

<b>SEMESTER - III</b>			
<b>Allied – V</b>		<b>History of English Literature - I</b>	
<b>Code: 18UENA31</b>	<b>Hrs / Week: 3 Hrs</b>	<b>Hrs / Semester: 45 Hrs</b>	<b>Credits: 3</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this Course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	demonstrate an understanding of the functions and historical development of the English language.	4, 10	Un
CO – 2	know the beauty of the coherence of language and literature.	1, 8	Un
CO – 3	become familiar with the important literary figures and the literary works of the period studied.	1, 8	Un
CO – 4	analyze the dominant literary and artistic productions and movements of the early and the modern period.	8	An
CO – 5	understand texts in their cultural and historical contexts.	1, 8	Un
CO – 6	interpret and appreciate the didactic purpose in literature.	8	An, Ev
CO – 7	show insight into the distinctive features of major literary movements and genres.	4, 10	An, Ev
CO – 8	demonstrate an awareness of the social, historical and cultural elements of the centuries.	4,10	Un

<b>SEMESTER III</b>			
<b>Allied VI</b>		<b>Myth in Literature</b>	
<b>Code: 18UENA32</b>	<b>Hrs/Week: 3</b>	<b>Hrs/Sem: 45</b>	<b>Credits:3</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO- 1	identify characteristics of myths, folklore	1	Un
CO- 2	describe the different types of myths.	2	Re
CO- 3	analyse the cultural and historical effects of mythological warriors	4	An
CO-4	define what sets apart a hero from the rest of society.	2	Re
CO- 5	appraise the characteristics of gods and goddesses of ancient mythology.	1	Ev
CO-6	relate the cultural effects of mythological systems.	4	An
CO-7	assess how comparative religion is used to compare the themes of sacred myths.	8	Ev
CO-8	understand the use of myths and legends to establish guidelines for living.	8	Un

<b>SEMESTER III</b>			
<b>Skill Based Elective</b>		<b>Employability Skills</b>	
<b>Code: 18UENS31</b>	<b>Hrs/Week: 4</b>	<b>Hrs/Semester: 60</b>	<b>Credits: 4</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	create an ability to work constructively with others on a common task.	2	Cr
CO-2	analyse own strengths and weaknesses, aims and values.	10	An
CO-3	analysing and responding positively to changing circumstances	1,3	An
CO-4	predict appropriate methods to find solutions	3,5	Co
CO-5	discuss and achieve mutually satisfactory resolution of contentious issues	1,2	Co
CO-6	become original or inventive and apply lateral thinking	3	Ev
CO-7	create an ability to take action unprompted	5	Cr
CO-8	assess the tasks and rank according to the importance	8	Un

<b>SEMESTER - III</b>			
<b>Non- Major Elective I</b>		<b>Functional English – I</b>	
<b>Code: 18UENN31</b>	<b>Hrs/Week: 2</b>	<b>Hrs/ Semester: 30</b>	<b>Credits: 2</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	improve and apply the conventions of academic writing in English.	1	Un, Ap
CO-2	learn the meaning of new vocabulary and use them in speaking and writing.	1	Cr
CO-3	develop insight into the structure of English language.	3	An
CO-4	understand the fundamentals of Grammar.	3	Un
CO-5	provide an account of basic phonology theory.	7	Ap
CO-6	apply their knowledge of English phonetics to improve their pronunciation.	3,7	Ap
CO-7	demonstrate the ability to transcribe speech.	8,9	Un
CO-8	sharpen the writing skill and train them to write clearly, coherently and cohesively.	2,3	An, Cr

<b>SEMESTER III</b>	
<b>Self Study I (Optional)</b>	<b>Fairy Tale Literature</b>
<b>Code: 18UENSS1</b>	<b>Credits: 2</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon the completion of the course, the students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO -1	develop their creative aptitude.	6	Cr
CO -2	analyse the significant impact created by fairy tales in the society.	2	Ev
CO -3	use fairy tales as a resource to study literature and culture in a general perspective.	10	Ap
CO -4	understand how fairy tales function as vehicles of social and political values.	4	Un
CO -5	compare and contrast each text with the aim of interpreting the tales in different dimensions.	3	Ev
CO -6	re-interpret the classic fairy tales and rewrite the tales based on the needs and requirements of the present time.	5	Cr
CO -7	perceive the function of fairy tales and their enduring influence on literature and culture.	8	Ap
CO -8	hone their analytical skills and to propose argumentative statements.	4	An

<b>SEMESTER – IV</b>			
<b>Core – VI</b>		<b>Twentieth Century British Literature</b>	
<b>Code:18UENC41</b>	<b>Hrs/Week: 6</b>	<b>Hrs / Semester: 90</b>	<b>Credits: 4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	identify various forms and types of poetry.	1	An
CO-2	develop an appreciation of literature to gain an understanding of the social and literary background of England in the Twentieth Century.	5	Cr
CO-3	Understand and appreciate the literary features of the century	6	An
CO-4	cultivate their capacity to judge the aesthetic and ethical value of literary texts.	8	Ev
CO-5	analyse and appreciate fiction and the enrich their knowledge about diverse fictional forms in prose.	3	Un
CO-6	create an aesthetic taste for literary texts and poems from Alfred Lord Tennyson to G.M Hopkins.	8	Cr
CO-7	gather a general awareness about the Victorian Age and the social milieu of early and mid twentieth century.	4	An
CO-8	to understand and appreciate the basic concepts of style and literary devices in prose.	4	Ev



<b>SEMESTER - IV</b>			
<b>Allied – VII</b>		<b>History of English Literature - II</b>	
<b>Code: 18UENA41</b>	<b>Hrs/Week: 3 Hrs</b>	<b>Hrs/Semester: 45 Hrs</b>	<b>Credits: 3</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this Course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	demonstrate an understanding of the functions and historical development of the English language.	4, 10	Un
CO-2	know the beauty of the coherence of language and literature	1, 8	Un
CO-3	become familiar with important literary figures and literary works of the period studied.	1, 8	Un
CO-4	analyse the dominant literary and artistic productions and movements of the early and the modern period	8	An
CO-5	understand texts in their cultural and historical contexts.	1,8	Un
CO-6	interpret and appreciate the didactic purpose in literature	8	An, Ev
CO-7	show insight into the distinctive features of major literary movements and genres.	4, 10	An, Ev
CO-8	demonstrate an awareness of the social, historical and cultural elements of the centuries.	4,10	Un, An

<b>SEMESTER IV</b>			
<b>Allied VIII</b>		<b>Media Writing</b>	
<b>Code: 18UENA42</b>	<b>Hrs/ Week: 3</b>	<b>Hrs/Semester: 45</b>	<b>Credits: 3</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	develop the ability to write articles in journals and magazines.	1, 3	Cr
CO – 2	apply the acquired knowledge in writing columns and editorials	6	Ap
CO – 3	distinguish the writing style for print and broadcast media	4	An
CO – 4	exhibit a command over language and general knowledge	2, 3	Ap
CO – 5	develop their communication skills.	3, 9	Cr
CO – 6	examine people related issues.	2, 5	An
CO – 7	analyse the required criteria for publishing.	1, 5	An
CO – 8	evaluate different kinds of advertisements.	6	Ev

<b>SEMESTER - IV</b>			
<b>Core Skill Based</b>		<b>English for Proficiency</b>	
<b>Code: 18UENS41</b>	<b>Hrs/Week: 4</b>	<b>Hrs / Semester: 60</b>	<b>Credits: 4</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	perceive the nuances involved in proficiency exams.	10	Ev
CO-2	enrich themselves with the aspects of Grammar.	1	Un
CO-3	improve their vocabulary.	1	Cr
CO-4	develop English Language Skills.	1	Cr
CO-5	apply strategies to comprehend words and ideas.	7	Ap
CO-6	acquire an in depth knowledge of the skills essential for professional mastery.	7	Un
CO-7	develop reading and writing skills	1	Cr
CO-8	improve communicative competency and thereby enhance personality	5	Un

<b>SEMESTER – IV</b>			
<b>Non- Major Elective II</b>		<b>Functional English – II</b>	
<b>Code: 18UENN41</b>	<b>Hrs/Week: 2</b>	<b>Hrs / Semester: 30</b>	<b>Credits: 2</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	improve and apply the conventions of academic writing in English.	1	Un, Ap
CO-2	learn the meaning of new words and use them in speaking and writing.	1	Cr
CO-3	convert their passive vocabulary into active one; enhancing their speaking and writing skills.	7	Ap
CO-4	gain proficiency in writing skills	4	Un
CO-5	organise ideas logically and to present them appropriately in various situations of communication.	5	An
CO-6	apply their knowledge of English phonetics to improve their pronunciation.	5	Ap
CO-7	practise the unique qualities of professional rhetoric and writing style.	1	Un
CO-8	analyse and use the formal elements to write a report.	6	An, Cr

<b>SEMESTER- IV</b>			
<b>Ability Enhancement Course: Yoga and Meditation</b>			
<b>Code: 18UAYM41</b>	<b>Hrs/Week : 2</b>	<b>Hrs/Semester : 30</b>	<b>Credits: 2</b>

**Course Outcome:**

- To learn and practice various meditation, yoga methods to transform the ordinary life into a healthy, harmonious life leading to holistic wellbeing,
- To create an eco-friendly, loving and compassionate world.
- Acquire knowledge and skill in yoga for youth empowerment.
- Increase their power of concentration
- Learn the causes and ways to overcome fear and sadness.
- Create a ecofriendly, loving and compassionate world

<b>SEMESTER IV</b>	
<b>Self Study II (Optional)</b>	<b>Appreciation of Films (Film Versions of Literary Texts)</b>
<b>Code: 18UENSS2</b>	<b>Credits: 2</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon the completion of the course, the students will be able to:</b>	<b>PSO addressed</b>	<b>CL</b>
CO -1	recognise types of films and their impact on society.	2	An
CO -2	understand the concepts behind storytelling, setting & surrounding of an event and cinematography.	4	Un
CO -3	compare and contrast the written form (books) and adapted form (movies).	10	An
CO -4	evaluate the role of films on the lives of the people.	4	Ev
CO -5	understand narrative techniques and stage directions used in films.	3	Un
CO -6	differentiate between the different genres of film.	8	Un
CO -7	consider film's position in the media landscape and inculcate theatrical and dramatic aptitude.	10	Cr
CO - 8	understand how content, form, and contexts work together to create meaning in film.	3	Un

<b>SEMESTER V</b>			
<b>Core VII (Common Core) Women Empowerment in India</b>			
<b>Code: 18ULCC51</b>	<b>Hrs/Sem :90</b>	<b>Hrs/ Week: 6</b>	<b>Credits : 6</b>

**Course Outcome:**

<b>Co. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO- 1	illustrate women's historical, socio economic and political experiences.	1, 2	Un
CO- 2	classify the nature and growth of women's movement in the Modern Age.	8,9	Un
CO- 3	identify the legal rights conferred on women by laws and legislations.	8,5	A
CO- 4	infer a range of issues pertinent to women's emancipation, dignity and status	2,6	An
CO- 5	analyse women's participation in politics from a feminist perspective.	8,8	An
CO- 6	appraise the theoretical outlook on feminism from India and abroad.	4,6	Ev
CO- 7	evaluate various emerging gender issues in contemporary India.	8,10	Ev
CO- 8	assess the Indian feminist traditions that have arisen out of the heterogeneity of Indian experience.	7,10	Ev

<b>SEMESTER – V</b>			
<b>Core VIII</b>		<b>Essentials in Shakespearean Writings</b>	
<b>Code : 18UENC52</b>	<b>Hrs/ week : 6</b>	<b>Hrs/ Sem : 90</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon successful completion of this course students will be able to:</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	acquaint with Shakespeare's dramatic and poetic genius.	8	Un
CO-2	identify the distinct features of the literary genres of Shakespeare's works.	2	Ev
CO-3	trace the development of Elizabethan theatre.	2,8	Un
CO-4	analyse Shakespeare's works in the modern context.	1,8	An
CO-5	analyse how a writer's tone and voice influence audiences' perception.	1, 2	An
CO-6	find out the difference between the English used during the Elizabethan Age and today.	7	Un
CO-7	understand the universal appeal of Shakespeare's works	8	Un
CO-8	involve themselves in creative writing.	6	Cr



SEMESTER V			
Core IX American Literature			
Code: 18UENC53	Hrs/Sem:90	Hrs/Week: 6	Credits:5

**Course Outcome:**

Co. No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	highlight the important social condition of each period in order to understand the authors.	1	Re
CO-2	understand the important features of American literature.	2	Un
CO-3	identify and interpret the representative works of American writers.	2	Un
CO-4	assess the significant themes in American Literature.	4	Ev
CO-5	appraise the literary devices employed by the major writers.	2	Ev
CO-6	interpret the historical perspective of American Literature.	4	Un
CO-7	review the dimensions of American literature in the universal context.	8	Ev
CO-8	formulate imagination to a wider range of voices across cultures.	8	Cr

SEMESTER V			
Core Integral I		Literary Criticism	
Code:18UEN151	Hrs/Week: 5	Hrs/Sem: 75	Credits:4

**Course Outcome:**

C.O. No.	Upon Completion of this course students will be able to	PSO addressed	CL
CO-1	practise critical thinking and devise novel ideas.	1	An
CO-2	develop critical sensibility and impart basic knowledge of criticism.	2	An
CO-3	interpret literary compositions to shape their perceptions of the world .	4	Ap, Un, Ev
CO-4	acquaint with the classical and modern theories to compete in the world of higher learning.	5	Un
CO-5	develop literary taste to articulate original ideas.	2	An
CO-6	view literary texts with a critical outlook to compete in the global market.	5	Ev
CO-7	acquaint with the factors involved in criticism like interpretation, elucidation, judgment and appreciation.	1	Un
CO-8	evaluate any work of art to higher perception.	4	Ev

<b>SEMESTER-V</b>			
<b>Core Integral II      Phonetics : Theory and Practice</b>			
<b>Code : 18UENI52</b>	<b>Hrs/ week :5</b>	<b>Hrs/ Sem : 75</b>	<b>Credits :4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	discuss in detail the production and articulation of Speech Sounds	3, 7	Un
CO-2	construct the vowel and consonant sounds using Phonetic symbols	7	Ap
CO-3	understand correct Stress and Intonation pattern	3,9	Un
CO-4	enumerate transcription to improve Speech Sounds	3,7	Ap
CO-5	acquire good LSRW skills to foster effective oral and written communication	3,5	Ev
CO-6	articulate standard pronunciation of English words	1, 7	Ap
CO-7	better accentuation and effective communication	5	Ap
CO-8	understand and analyse variations in speech sounds	3	Ap

<b>Semester – V</b>		
<b>Self – Study Paper (Compulsory)</b>		
<b>Code: 18UENSS3</b>	<b>Science Fiction</b>	<b>Credits : 2</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course students will be able to:</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	have a critical perspective of the future scene of the world	1	An
CO-2	understand how science and technology influence the world of Literature	1,8	Un
CO-3	analyse the style of science fiction writings of writers	5	An
CO-4	correlate the happenings of the day with the text	5	Ap
CO-5	apply the caution stated in the studies to safeguard interests of the humans and the earth	10	Ap
CO-6	intensify and acknowledge the power of imagination	1	Un
CO-7	compare and contrast the advantages and disadvantage of science in its global context	8	Ap
CO-8	seek solution in humanism as an ultimatum to resolve technological and scientific issues	10	Ap

<b>SEMESTER –VI</b>			
<b>Core X</b>		<b>Indian Writing in English</b>	
<b>Code : 18UENC61</b>	<b>Hrs/ week : 6</b>	<b>Hrs/ Sem : 90</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	acquaint with the major Indian writers in English.	4	Ev
CO-2	expose to the socio-politico-economic realities of human life.	5, 8	An
CO-3	relate to a wide range of Indian Writing in English.	1, 2	Un
CO-4	define the meaning of ‘Indianness’ through representative works.	3, 4	Re
CO-5	evaluate closely to determine a writer’s purpose and perspective.	3	Ev
CO-6	understand the issues in the contemporary Indian society	8	Un
CO-7	become familiar with the usage of Indian English	7	Un
CO-8	attempt to become creative writers	6	Cr

<b>SEMESTER VI</b>			
<b>Core XI</b>		<b>Women's Writing</b>	
<b>Code: 18UENC62</b>	<b>Hrs/Week: 6</b>	<b>Hrs/Sem: 90</b>	<b>Credits: 4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this Course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	understand the role of women in Literature	2	Un
CO – 2	recognise the biased social structure of women in the modern era.	3	Un
CO – 3	interpret women's writings across cultures.	3, 5	Ap
CO – 4	analyse the artistic and intellectual contributions of women to literature.	8	An
CO – 5	identify the marginalization of women in society.	8	Un
CO – 6	analyse gender perspectives in writings	3	An
CO – 7	construct their Identity.	4	Cr
CO – 8	appraise the multi-faceted personality of women.	2,6	Ev

<b>SEMESTER-VI</b>			
<b>Core XII</b>		<b>New Literatures in English</b>	
<b>Code : 18UENC63</b>	<b>Hrs/ week :6</b>	<b>Hrs/ Sem : 90</b>	<b>credits :4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	acquire knowledge about contemporary literature across cultures.	1, 2	Un
CO-2	recognize similarity of experiences of Post-Colonial writers	8	Un
CO-3	identify the various themes presented in New Literatures in English.	1	Ap
CO-4	appreciate the diversity of literary and social voices.	1, 2	Ev
CO-5	develop a penchant for New Literatures in English.	1, 8	Cr
CO-6	understand texts in their cultural and historic contexts.	4	Un
	develop a critical understanding of how literature can both uphold and resist existing structures of power.	8, 10	Un
CO-8	critically analyse different literary texts across cultures	8	An

<b>SEMESTER-VI</b>			
<b>Core Integral III</b>		<b>World Classics</b>	
<b>Code : 18UENI61</b>	<b>Hrs/ week :6</b>	<b>Hrs/ Sem : 75</b>	<b>Credits :4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	relate to the ideologies and psychological impact of diverse people through the classics	1	Un
CO-2	appraise literary texts of great masters	2, 3	Ev
CO-3	analyze the rhetorical pattern and themes of the classics	1,2	An
CO-4	compare and evaluate Literature of diverse cultures	2	Ev
CO-5	improve the skill of analyzing the language used in prose and poetry.	3,7	An
CO-6	evaluate the text against its socio-cultural historic background	1, 8	Ev
CO-7	analyse the literary devices and techniques in different genres of the classics	1	An
CO-8	develop a critical analyses of translations	4, 8	Ev



<b>SEMESTER VI</b>			
<b>Core Integral IV</b>		<b>Diasporic Literature</b>	
<b>Code: 18UENI62</b>	<b>Hrs/Week: 6</b>	<b>Hrs/Sem:90</b>	<b>Credits:4</b>

**Course Outcome:**

<b>Co. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	highlight the important social condition of each culture in order to understand the authors.	1	Re
CO-2	understand the important features of diasporic literature.	2	Un
CO-3	identify and interpret the representative works of the writers of diaspora.	2	Un
CO-4	assess the significant themes in diasporic literature.	4	Ev
CO-5	appraise the literary devices employed by the major writers.	2	Ev
CO-6	interpret the historical perspective of diasporic literature.	4	Un
CO-7	review the dimensions of diasporic literature in the universal context.	8	Ev
CO-8	formulate imagination to a wider range of voices across cultures.	8	Cr

## B.A. History

SEMESTER – I			
Core I		History of India upto A.D. 647	
18UHIC11	Hrs / Week: 5	Hrs / Semester: 75	Credits: 4

### Course Outcome:

CO.No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	Widen the knowledge of Ancient History of India.	1	Un, Re
CO-2	Understand the Geographical features of India and their impact.	1	Un, Re
CO-3	Appreciate the engineering skills of Indus Valley people.	2	Un, An
CO-4	Comprehend the legacy of Vedic Civilisation.	1	Un, An Ev
CO-5	Analyse Dravidian Civilisation.	1	Un, An Ev
CO-6	Analyse the Persian and Macedonian Invasion.	2	Un, An, Ev
CO-7	Know the genealogy of various kings and their administration.	1	Un, Re
CO-8	Analyse the significance of Nalanda University.	1	Un, Ev

<b>SEMESTER - I</b>			
<b>Core II</b>		<b>Religions in India</b>	
<b>18UHIC12</b>	<b>Hrs / Week: 5</b>	<b>Hrs / Semester: 75</b>	<b>Credits: 4</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	develop religious tolerance	1	Un, An, Ev
CO-2	respect the feelings of other religions.	2	Un, An
CO-3	understand the basic principles and teachings of various religions.	1	Un, Re
CO-4	study the schism in religion.	1	Un, Re
CO-5	analyse the forms of worship.	2	Un, An
CO-6	know the essence of all religions.	1	Un, Re
CO-7	appreciate the ethical and moral standards of religions.	2	Un, An Ev
CO-8	appreciate the contribution of various religions.	2	Un, An, Ev

<b>SEMESTER- I</b>			
<b>Allied I - General Economics</b>			
<b>Code: 18UHIA11</b>	<b>Hours / week :3</b>	<b>Hrs / Semester: 45</b>	<b>Credits :3</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO 1	understand and demonstrate core microeconomic and macroeconomic terms, concepts, and theories.	1	Un
CO 2	identify appropriate tools to make an economic evaluation.	2	Ev,Un
CO 3	identify key macroeconomic indicators, and measures of economic change, growth, and development	2	Ev
CO 4	be effective economic analysts and apply economic theories.	1	Ap
CO 5	demonstrate an ability to conceptualize problems analytically.	4	An
CO 6	employ marginal analysis for decision making	1	Ap
CO 7	analyze operations of markets under varying competitive conditions	4	An
CO 8	analyze causes and consequences of unemployment, inflation and economic growth	4	Cr

<b>SEMESTER- I</b>			
<b>Allied II– Labour Economics</b>			
<b>Code: 18UHIA12</b>	<b>Hours / week :3</b>	<b>Hrs / Semester: 45</b>	<b>Credits :3</b>

**Course Outcome:**

<b>CO. No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	demonstrate knowledge and understanding of how labour markets work in theory and in practice	1	Un
CO – 2	analyse various topics such as migration, labor market discrimination, and incentive problems in labor markets.	6	An
CO – 3	manipulate industrial disputes and be able to analytically solve problems relating to trade unions.	3	An
CO - 4	understand the historical and present day impact of unions on labour operations.	6	Un
CO - 5	understand human capital investments and wage differentials; Analyze wage structures.	3	Un
CO – 6	understand labour markets and public policies by using economic theory and empirical analysis.	8	Un
CO – 7	apply their understanding of theoretical models to analyze trends in data pertaining to topics in labour	6	Ap
CO – 8	keep and follow current social security measures for the future employment.	7	Cr

<b>SEMESTER - II</b>			
<b>Core III</b>		<b>History of India from A.D. 648 to 1526</b>	
<b>18UHIC21</b>	<b>Hrs / Week: 5</b>	<b>Hrs / Semester: 75</b>	<b>Credits: 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	know about the Origin of Rajputs and their legacy.	1	Un, Re
CO-2	understand the Muslim culture and their legacy.	1	Un Re
CO-3	analyse the Arab Conquest of Sindh.	2	Un, An, Ev
CO-4	understand the impact of foreign invasions.	1	Un, Re
CO-5	estimate the reforms of Delhi Sultanate.	2	Un, An, Ev
CO-6	explain the advent of Muslim polity and culture.	1	Un, Re
CO-7	know the struggle between Vijayanagar and Bahmani Kingdoms.	1	Un, Re
CO-8	evolve the study of fine arts through the ages.	2	Un, An, Ev

<b>SEMESTER - II</b>			
<b>Core IV</b>		<b>Monuments in India</b>	
<b>18UHIC22</b>	<b>Hrs / Week: 5</b>	<b>Hrs / Semester: 75</b>	<b>Credits: 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	respect and take pride of Historical Monuments.	2	Un, An, Ev
CO-2	know the historicity of Historical Monuments	1	Un, Re
CO-3	appreciate the workmanship of artisans.	2	Un, An, Ev
CO-4	know the means to preserve Historical Monuments.	1	Un, Re
CO-5	analyse the preservation of Monument Art.	2	Un, An, Ev
CO-6	analyse the influence of foreign invasions.	2	Un, An, Ev
CO-7	evaluate the significance of Historical Monuments.	2	Un, An, Ev
CO-8	understand the patronage of kings.	1	Un, Re

<b>SEMESTER- II</b>			
<b>Allied III– Population Economics</b>			
<b>Code: 18UHIA21</b>	<b>Hours / week : 3</b>	<b>Hrs / Semester: 45</b>	<b>Credits :3</b>

### **Course Outcome**

<b>CO. No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	provide knowledge about population geography, population & environment, population & family welfare, population growth.	6	Un
CO – 2	obtain useful knowledge for the analysis of population changes, its consequences and drivers.	8	Un
CO – 3	demonstrate an understanding of demographic changes in the world and their major determinants.	1	Ev
CO - 4	use demographic concepts and theories to understand contemporary socio- economic issues	2	Un
CO - 5	apply demographic concepts and population theories into relevant policy settings.	2	Ap
CO – 6	use demographic concepts and population theories to explain past, present population characteristics.	1	Un, Ap
CO – 7	demonstrate an understanding of demographic changes in the world and their major determinants.	1	Un
CO – 8	demonstrate an understanding of the theoretical differences among the most influential models that have been put forward in demographic research to account for the first demographic transition.	4,8	Un, Re



<b>SEMESTER- II</b>			
<b>Allied IV – Women Entrepreneurship</b>			
<b>Code: 18UHIA22</b>	<b>Hours / week :3</b>	<b>Hrs / Semester: 45</b>	<b>Credits :3</b>

**Course Outcome:**

CO. No	Upon completion of this course, students will be able to	PSO addressed	CL
CO - 1	understand the development of entrepreneurship as a field of study and as a profession.	3	Un
CO - 2	developing their entrepreneurial competencies.	3	Cr
CO - 3	identify and source the necessary financial and non-financial resources available for a new venture.	1	An
CO - 4	promote entrepreneurship among women as a means to achieve self-reliance and socio-economic independence.	3,4	Ap
CO - 5	train the students to learn about the successes and failures from business.	7	Ap
CO - 6	understand the importance of entrepreneurship as a tool for development, the concept and basic principles of Innovation.	1,2	Un
CO - 7	develop capabilities and skills necessary to assume entrepreneurial activity.	3	Cr
CO - 8	describe a new business in a well-written venture plan.	7	Ap

<b>Semester – III</b>			
<b>Core V History of India from AD 1526 to 1772</b>			
<b>Sub. Code: 18UHIC31</b>	<b>Hrs/Week : 4</b>	<b>Hrs / Sem : 60</b>	<b>Credits : 4</b>

**Course outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the History of the Mughals and the Advent of the Europeans.	1	Un, Re
CO-2	cherish the glory of Marathas.	1	Un, Re
CO-3	appreciate the religious policy of Akbar.	5	Ap
CO-4	understand the settlements of European.	1	Un, Re
CO-5	estimate the Anglo-French rivalry in India.	4	An
CO-6	analyse the golden age of Mughals	4	An
CO-7	Become aware of the advent of Europeans.	1	Un, Re
CO-8	understand the British supremacy in India.	1	Un, Re

<b>Semester - III</b>			
<b>Allied - V</b>		<b>Modern Governments – I</b>	
<b>Sub. Code: 18UHIA31</b>	<b>Hours / Week :3</b>	<b>Hours / Sem : 45</b>	<b>Credits : 3</b>

**Course outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	assess the performance of the political institutions.	4	An
CO-2	understand the basic elements of state.	1	Un, Re
CO-3	appreciate the forms of Constitution.	1	Un, Re
CO-4	assess the types of Government.	4	An
CO-5	estimate the powers and functions of the organs of the Government.	4	An
CO-6	highlight the fathers of the Constitution.	2	Un, Re
CO-7	become aware of the functioning of the Government.	1	Un, Re
CO-8	develop interest in the Government affairs.	3	Ap

<b>SEMESTER III</b>			
<b>Allied VI</b>		<b>Indus Valley Civilization</b>	
<b>Code: 18UHIA32</b>	<b>Hrs/Week : 3</b>	<b>Hrs/Sem : 45</b>	<b>Credits : 3</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	widen the knowledge of Indus Valley Civilization in the context of other ancient civilizations in the world.	1	Un, Re
CO-2	know the latest and recent excavations of Indus Valley sites.	1	Un, Re
CO-3	understand the salient features of Indus Valley people.	1	Un, Re
CO-4	analyse the social, economic and religious condition of Indus Valley people.	4	An
CO-5	appreciate the administration of Indus Valley Civilization.	1	Un, Re
CO-6	highlight the engineering skills of Indus Valley Civilization.	2	Un, Re
CO-7	analyse the religious condition of Indus Valley Civilization.	4	An
CO-8	trace out the causes for its decline.	1	Un, Re

<b>SEMESTER III</b>			
<b>Core Skill Based</b>		<b>Archives and Museums</b>	
<b>Code: 18UHIS31</b>	<b>Hrs/Week : 4</b>	<b>Hrs/Sem : 60</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	visit of Archives and Museums.	2	Un, Re
CO-2	understand the organisations and functions of Archives and Museums.	1	Un, Re
CO-3	highlight the primary sources of Archives and Museums.	2,4	Un, An, Ev
CO-4	apply the uses of Archives and Museums in historical writings.	1	Un, Re
CO-5	respect and preserve Archives and Museums.	2	Un
CO-6	witness the evidences of History.	2,4	Un, Ev, Re
CO-7	develop more collaborative approaches.	2,4	Un, An, Ev
CO-8	identify good practice and skills of professionals.	1	Un, Re

<b>Semester – III</b>			
<b>Non Major Elective</b>		<b>Freedom Movement in India</b>	
<b>Code : 18UHIN31</b>	<b>Hrs / Week : 2</b>	<b>Hrs / Sem : 30</b>	<b>Credits : 2</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	Understand the history of hard earned freedom	1 ,2	Un, Re
CO-2	Appreciate the sacrifice of freedom fighters	1,2	Un, Re
CO-3	Know the imperialist policy of British	1,2	Un, Re
CO-4	Asses the various factors of nationalism	4	An
CO-5	Analyse the impact of western education	4	An
CO - 6	Aware of the role of freedom fighters	1,2	Un, Re
CO-7	Respect the values of nationalism and independence	3	Ap
CO-8	Strive hard to preserve independence	3	Ap

<b>Semester – III</b>	
<b>Self Study Paper    Development of Tourism Department in India with Special Reference to Tamil Nadu</b>	
<b>Code : 18UHISS1</b>	<b>Credits : +2</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	become aware of peaceful mobilization across cultural boundaries.	1	Un, Re
CO-2	analyse powerful agent for change.	4	An
CO-3	be rejuvenated physically and intellectually.	3	Ap
CO-4	promote international understanding.	2	Un
CO-5	make aware of conservation of eco-system.	1	Un, Re
CO-6	enumerate the economic and environmental goals.	1	Un, Re
CO-7	generate income and find employment opportunities.	1	Un, Re
CO-8	driving force to relieve civilization stress and storm.	3	Ap

<b>Semester IV</b>			
<b>Core VI</b>		<b>History of India from AD 1773 to 1857</b>	
<b>Sub. Code:18UHIC41</b>	<b>Hrs/Week : 6</b>	<b>Hrs/Sem : 90</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	appreciate the uprisings of native Indians in the context of British rule.	1	Un, Re
CO-2	understand Lord Warren Hastings reign.	1	Un, Re
CO-3	analyse Permanent Revenue settlement of Bengal.	4	An
CO-4	critically analyse Subsidiary Alliance of Lord Wellesley.	4	An
CO-5	appreciate the tactics of Tippu Sultan of Mysore.	1	Un, Re
CO-6	enhance the social reforms of Lord William Bentinck.	1	Un, Re
CO-7	elevate Great Revolt of 1857 as the First War of Indian Independence.	1	Un, Re
CO-8	enhance the leaders of Great Revolt of 1857.	1	Un, Re



<b>Semester – IV</b>			
<b>Allied – IV</b>		<b>Modern Governments – II</b>	
<b>Sub. Code: 18UHIA41</b>	<b>Hours / Week : 3</b>	<b>Hours / Sem : 45</b>	<b>Credits :3</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	enhance the knowledge about the political systems in U.K. and U.S.A.	1	Un, Re
CO-2	understand the salient features of British Constitution.	1	Un, Re
CO-3	assess the Presidential form of Government in U.S.A.	4	An
CO-4	analyse the means to solve legislative deadlocks.	4	An
CO-5	differentiate clearly the Parliamentary and Presidential form of Government.	2	Un
CO-6	highlight the mother of Parliaments.	1	Un, Re
CO-7	become aware of judicial review.	1	Un, Re
CO-8	examine the Constitutions of other countries.	4	An

<b>SEMESTER IV</b>			
<b>Allied VIII Social and Religious Reform Movements in India</b>			
<b>Code: 18UHIA42</b>	<b>Hrs/Week : 3</b>	<b>Hrs/Sem : 45</b>	<b>Credits : 3</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	appreciate the social and religious reforms and relieve from superstitious beliefs and blind faith.	1	Un, Re
CO-2	know about the social and religious evils prevailed in pre-independence era.	1	Un, Re
CO-3	analyse the blind faith and superstitious beliefs of the people.	4	An
CO-4	understand the impact of Western education.	1	Un, Re
CO-5	know the various policies put forth by British.	1	Un, Re
CO-6	highlight the services of social reformers.	1	Un, Re
CO-7	examine the present reforms of the society.	4	An
CO-8	assess the present social evils and their solutions.	4	An

<b>Semester IV</b>			
<b>Core SB</b>		<b>Principles and Methods of Archaeology</b>	
<b>Code:18UHIS41</b>	<b>Hrs/Week : 4</b>	<b>Hrs/Sem : 60</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	develop the archaeological skill to reconstruct the history of the past.	1	Un, Re
CO-2	learn the methods of excavation and exploration.	1	Un, Re
CO-3	understand the methods of conservation of excavated monuments.	1	Un, Re
CO-4	understand excavation methods and techniques.	1	Un, Re
CO-5	know about various dating system.	1	Un, Re
CO-6	analyse the disciplines of Archaeology.	4	An
CO-7	appreciate the work of Archaeologists.	1	Un, Re
CO-8	apply the archaeological skills in historical writing.	3	Ap

<b>Semester – IV</b>			
<b>Non-Major Elective</b>		<b>Constitution of India</b>	
<b>Code : 18UHIN41</b>	<b>Hrs / Week : 2</b>	<b>Hrs / Sem : 30</b>	<b>Credits : 2</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	respect the fathers of Constituent Assembly	3	Ap
CO-2	analyse the salient features of the Constitution	4	An
CO-3	follow and respect the Constitutional rules and regulations	3	Ap
CO-4	analyse the constitutional framework in the present scenario	4	An
CO-5	aware of the Constitutional amendments	1 ,2	Un, Re
CO - 6	highlight the decentralization of power in administration	1 ,2	Un, Re
CO-7	appreciate fundamental rights and duties of citizens	1 ,2	Un, Re
CO-8	enumerate the ideals of democracy	1 ,2	Un, Re

<b>Semester – IV</b>	
<b>Self Study</b>	<b>Introduction to Cosmetology</b>
<b>Code : 18UHISS2</b>	<b>Credits :2</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	identify career and educational options in the field of Cosmetology.	1	Un, Re
CO-2	learn additional skills needed for a Cosmetologist.	1	Un, Re
CO-3	recognise the importance and practice ethical behavior in a professional work.	1, 3	Un, Ap
CO-4	use creativity and self reflection and produce meaningful conclusions.	1, 2	Un, Re
CO-5	perform saloon business such as front desk operations.	3	Ap
CO-6	develop interviewing skills.	6	Cr
CO-7	practice self – marketing the products and business.	3	Ap
CO-8	aware of the basic knowledge of starting one's own business.	1	Un, Re

<b>SEMESTER V</b>			
<b>Core VII (Common Core) Women Empowerment in India</b>			
<b>Code: 18ULCC51</b>	<b>Hrs/ Week: 6</b>	<b>Hrs/Sem : 90</b>	<b>Credits : 6</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO- 1	illustrate women's historical, socio economic and political experiences.	1, 2	Un
CO- 2	classify the nature and growth of women's movement in the Modern Age.	8, 9	Un
CO- 3	identify the legal rights conferred on women by laws and legislations.	8, 5	A
CO- 4	infer a range of issues pertinent to women's emancipation, dignity and status	2, 6	An
CO- 5	analyse women's participation in politics from a feminist perspective.	8, 8	An
CO- 6	appraise the theoretical outlook on feminism from India and abroad.	4, 6	Ev
CO- 7	evaluate various emerging gender issues in contemporary India.	8, 10	Ev
CO- 8	assess the Indian feminist traditions that have arisen out of the heterogeneity of Indian experience.	7,10	Ev

<b>Semester -V</b>			
<b>Core VIII</b>		<b>History of India from AD 1857 to 1947</b>	
<b>Code:18UHIC52</b>	<b>Hrs/Week: 6</b>	<b>Hrs/sem:90</b>	<b>Credits:5</b>

**Course Outcome:**

<b>Co. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO - 1	uphold the noble ideals of our leaders and render selfless service to our nation.	1	Un, Re
CO - 2	understand the work of Indian National Congress.	1	Un, Re
CO - 3	know the various stages of Indian Independence.	1	Un, Re
CO - 4	study the Constitutional development of India.	1	Un, Re
CO - 5	trace out the causes of nationalism.	1	Un, Re
CO - 6	highlight the nationalist spirit.	2	Re
CO - 7	assess the sacrifice of Freedom fighters.	4	An
CO - 8	understand the value of Independence.	1	Un. Re

Semester -V			
Core IX		History of Europe from A.D. 1453-1783	
Code:18UHIC53	Hrs/Week: 6	Hrs/sem:90	Credits:4

**Course Outcome:**

CO. No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	important landmarks in Europe revolutionized the course of world history.	1, 2	Un,Re
CO-2	understand the diplomatic alliances of various European countries.	1, 2	Un, Re
CO-3	study the various places of French Revolution.	1, 2	Un, Re
CO-4	appreciate geographical discoveries.	1, 2	Un, Re
CO-5	know the administration of various dynasties.	1, 2	Un, Re
CO-6	analyse the role of Europe in international affairs.	4	An
CO-7	evaluate the work of benevolent despots in Europe.	5	Un, Ev
CO-8	assess the foreign policy of Europe.	4	An



<b>Semester – V</b>			
<b>Core Integral I</b>		<b>History of Thoothukudi</b>	
<b>Code : 18UHII51</b>	<b>Hrs / Week : 5</b>	<b>Hrs / Sem : 75</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO -1	appreciate the freedom fighters of Thoothukudi.	1	Un, Re
CO -2	understand Swadeshi Movement in Thoothukudi.	1	Un, Re
CO -3	analyse the mass conversion in Thoothukudi.	4	An
CO -4	know the significance of pearl fishing and trade and commerce.	1	Un, Re
CO -5	learn coastal policy of the Portuguese, Dutch and British in Thoothukudi.	6	Cr
CO -6	assess the role of missionaries in Thoothukudi.	4	An
CO -7	appreciate the historical monuments in Thoothukudi.	1	Un, Re
CO -8	understand the forgotten freedom fighters in Thoothukudi.	1	Un, Re

<b>Semester – V</b>			
<b>Core Integral – II</b>		<b>Constitution of India</b>	
<b>Code : 18UHII52</b>	<b>Hrs / Week : 5</b>	<b>Hrs / Sem : 75</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	provide awareness on the working of the constitution and prepare for the competitive Exams.	1	Un, Re
CO-2	understand the writing works of the Drafting Committee and Constituent Assembly.	1	Un, Re
CO-3	provide awareness on the working of the Constitution.	1	Un, Re
CO-4	awareness about the Fundamental Rights and Fundamental Duties.	1	Un, Re
CO-5	prepare for the Competitive Exams.	3	Ap
CO-6	appraise the powers and functions of the executive.	4	An
CO-7	appreciate the functioning of Union Cabinet.	1	Un, Re
CO-8	develop teamwork and leadership in terms of free legal aid.	6	Cr

<b>Semester – V</b>	
<b>Self Study Course (Compulsory) Beach Tourism</b>	
<b>Code : 18UHISS3</b>	<b>Credits : 1</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	know the different types of beach tourism	1 ,2	Un, Re
CO-2	understand beach activities	1,2	Un, Re
CO-3	identify the beach tourist spots and its development	3	Ap
CO-4	estimate the economical factors of beach tourism	4	An
CO-5	ensure the significance of handicraft and fisheries	1,2	Un,Re
CO - 6	assess the impact of beach tourism	4	An
CO-7	evaluate the uses of beach tourism	4	An
CO-8	analyse the importance of beach tourism in present scenario	4	An

<b>Semester – VI</b>			
<b>Core – X</b>		<b>History of Tamil Nadu from A.D. 1336 to 2000 A. D</b>	
<b>Code : 18UHIC61</b>	<b>Hrs / Week : 6</b>	<b>Hrs / Sem : 90</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	obtain the historical background of the Tamil Nadu State.	1	Un, Re
CO-2	estimate the legacy of various dynasties.	5	Ev
CO-3	know about the history of Tamil Nadu in British India.	1	Un, Re
CO-4	appreciate the work of various ministries after Independence.	1	Un, Re
CO-5	visit historical sites in Tamil Nadu.	3	Ap
CO-6	analyse the cultural heritage of Tamils.	4	An
CO-7	assess the legacy of architecture.	5	Ev
CO-8	compare the past and present political condition of Tamil Nadu.	4	An

<b>Semester – VI</b>			
<b>Core – XI</b>		<b>History of Europe 1789 to 1945 A. D.</b>	
<b>Code : 18UHIC62</b>	<b>Hrs / Week : 6</b>	<b>Hrs / Sem :90</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	appreciate the work of Napoleon Bonaparte.	1	Un, Re
CO-2	analyse the impact of French Revolution.	4	An
CO-3	understand the Unification Movements of Europe.	1	Un, Re
CO-4	critical and analytical study of World Wars.	4	An
CO-5	create an awareness on the role of Europe in International relations.	6	Cr
CO-6	analyse the dictatorship of Hitler and Mussolini.	4	An
CO-7	understand the historical background of the establishment of UNO.	1	Un, Re
CO-8	appreciate the work of UNO.	1	Un, Re

<b>Semester – VI</b>			
<b>Core – XII</b>		<b>International Relations from A.D.1945 to 2000 A. D</b>	
<b>Code : 18UHIC63</b>	<b>Hrs / Week : 6</b>	<b>Hrs / Sem : 90</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the ideals of International Relations.	1	Un, Re
CO-2	understand the current international affairs.	1	Un, Re
CO-3	promote better international understanding.	1	Un, Re
CO-4	analyse the means to promote international peace.	4	An
CO-5	analyse the international issues and ways to solve it.	4	An
CO-6	analyse the disintegration of USSR.	4	An
CO-7	evaluate the Apartheid policy of South Africa.	5	Ev
CO-8	understand the oil diplomacy of Middle East.	1	Un, Re

<b>Semester – VI</b>			
<b>Core Integral III</b>		<b>Historiography</b>	
<b>Code : 18UHIIC61</b>	<b>Hrs / Week : 5</b>	<b>Hrs / Sem : 75</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the various disciplines of history.	1	Un, Re
CO-2	appreciate the significance of historical writings.	1	Un, Re
CO-3	enhance historical writing skills.	1	Un, Re
CO-4	analyse the various works of historians.	4	An
CO-5	know the recent trends in historical writing.	1	Un, Re
CO-6	evaluate the sources in historical writings.	5	Ev
CO-7	apply methodology in historical writings.	3	Ap
CO-8	promote thesis writing and articles.	1	Un, Re

<b>Semester – VI</b>			
<b>Project</b>			
<b>Code : 18UHIP61</b>	<b>Hrs / Week : 7</b>	<b>Hrs / Sem : 105</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	analyse the essence of the research work.	4	An
CO-2	appreciate the value of historical sites.	1	Un, Re
CO-3	enhance data collections through various means.	1	Un, Re
CO-4	appreciate the role of Archives and Libraries.	1	Un, Re
CO-5	know the recent methodology in historical writing.	1	Un, Re
CO-6	evaluate the sources in historical writings.	5	Ev
CO-7	apply methodology in historical writings.	3	Ap
CO-8	promote thesis writing and articles.	1, 2	Un, Re



<b>Semester – VI</b>			
<b>Project</b>			
<b>Code : 18UHIP61</b>	<b>Hrs / Week : 7</b>	<b>Hrs / Sem : 105</b>	<b>Credits : 4</b>

### **Guidelines**

The following are the guidelines to be adhered to

- The project should be group work.
- The project must be typed in English.
- The minimum number of pages should be approximately fifty.
- The project work should be useful and relevant to the present scenario.
- Project observations, suggestions and conclusion shall form an inevitable part of the project.
- Marks for the project report will be 100 divided as 50 % for project and % 50 for Viva-Voce.

## B.A. Economics

SEMESTER- I			
CORE – I Micro Economics – I			
Code: 18UECC11	Hours / week : 5	Hrs / Sem.: 75	Credits :4

### Course Outcome:

CO. No	Upon completion of this course, students will be able to	PSO addressed	CL
CO - 1	describe and illustrate basic economic concepts of scarcity, choice and opportunity cost	4	Ev
CO - 2	identify and apply relevant terminology and concepts to economic issues and problems	3	Ap
CO – 3	use the theory of consumer choice to explain and to predict consumer behaviour.	5	Cr
CO – 4	understand the broader social consequences of economic decisions making	3	Ap
CO - 5	represent demand and supply, in graphical form, including the downward and upward slope of the demand and supply curves and the shifts in demand and supply curves.	2, 4	Cr
CO – 6	identify the major factors affecting demand for and supply of commodities	4	An
CO – 7	apply the concept of elasticity of demand and supply	4, 3	Ap
CO – 8	analyse the behavioral patterns of different economic agents like consumers and producers	1	An

<b>SEMESTER- I</b>			
<b>CORE II – Indian Economy – I</b>			
<b>Code: 18UECC12</b>	<b>Hours / week : 5</b>	<b>Hrs / Semester: 75</b>	<b>Credits :4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO - 1	understand the various aspects of India's economy	4	Un
CO – 2	develop ideas of the basic characteristics of Indian economy and its potential on natural resources.	4	Ev
CO – 3	provide an analytical discussion of various sectoral issues relating to Indian economy	1	An
CO – 4	acquire knowledge on the history, recent developments, and impending challenges of Indian Economy	5	Un
CO – 5	develop a perspective on the different problems and approaches to economic planning and development in India	3	An
CO – 6	understand the role of the Indian Economy in the global context, and examine how different factors have affected the process of development.	4, 5	Un
CO – 7	understand the economic problems and measures in their contextual perspective.	4	Un
CO – 8	understand the importance, causes and impact of population growth and its distribution, translate and relate them with economic development.	4	Un

<b>SEMESTER- I</b>			
<b>Allied I – Principles of Commerce</b>			
<b>Code: 18UECA11</b>	<b>Hours / week :3</b>	<b>Hrs / Semester: 45</b>	<b>Credits :3</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO - 1	familiarise with basic principles, concepts and perspectives in respect of commerce.	4	Re
CO – 2	evaluate and critically assess the impact of the principles considered on individuals and businesses, from academic, practical and technological perspectives.	1, 5	Ev
CO – 3	take a job in the trade/finance/ insurance organizations and industry with basic commercial know-how	1, 5	Ap
CO – 4	identify the location of plant and the localization of industries	4	Ev
CO – 5	gain the knowledge of the functions of Central and Commercial banks	4	Ap
CO – 6	impart the students the basic requirements to enable them to take up Business as a career.	1, 2, 5	Cr
CO – 7	understand the functions of Stock Exchange	3	Ev
CO - 8	analyse the functions of SEBI	4, 5	Un

<b>SEMESTER- I</b>			
<b>Allied II – Economics of Advertising</b>			
<b>Code: 18UECA12</b>	<b>Hours / week : 3</b>	<b>Hrs / Semester: 45</b>	<b>Credits : 3</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO - 1	understand what advertising is and its role in advertising and brand promotion and the economic effects of advertising.	4	Un
CO – 2	create advertisement copy and appreciate the growth of modern advertising	4	Cr
CO – 3	comprehend the role and importance of advertising in society	4, 5	Ev
CO – 4	create and conduct ethically sound and socially responsible advertising strategies and campaigns	1, 4	Cr
CO – 5	identify, analyze, and understand the advertising environment	1, 5	An
CO – 6	prepare the advertising message and fully integrate the creative process.	1	Cr
CO – 7	understand the importance of placing the message in conventional and “new” media.	1, 5	Ev
CO - 8	know the importance of budget and analyse the factors affecting budget.	4	An

<b>SEMESTER- II</b>			
<b>CORE III - Micro Economics -II</b>			
<b>Code: 18UECC21</b>	<b>Hours / week :5</b>	<b>Hrs / Semester: 75</b>	<b>Credits :4</b>

**Course Outcome:**

CO. No	Upon completion of this course, students will be able to	PSO addressed	CL
CO - 1	explain how competitive markets organise the allocation of scarce resources and the distribution of goods and services	1, 5	Ap
CO - 2	understand how households (demand) and businesses (supply) interact in various market structures to determine price and quantity of a good produced.	4, 5	Un
CO – 3	explain the factors that affect the production of an individual firm, and the relationship between a firm's productivity and its costs	3, 4, 5	An
CO - 4	understand the meaning of marginal revenue and marginal cost and their relevance for firm profitability	4	Un
CO – 5	describe the behaviour of the profit maximizing firm under various types of market structures: pure competition, monopoly, oligopoly and monopolistic competition	4, 5	Ev
CO –6	deal with the advanced theoretical issues and their practical applications like Theory of Firm, Theories of Distribution.	1, 5	Un
CO – 7	relate the basic economic theory and principles to current microeconomic issues and evaluate related public policy	1, 3	An
CO- 8	describe the incomes earned by the factors of production (land, labour, capital, entrepreneurship) wages, interest, rents, and profit	4	Ev

<b>SEMESTER- II</b>			
<b>CORE IV – Indian Economy – II</b>			
<b>Code: 18UECC22</b>	<b>Hours / week : 5</b>	<b>Hrs / Semester: 75</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	be familiar with the current dominant thoughts and tools used for economic policy making and research.	4	Re
CO – 2	understand agriculture as the foundation of economic growth and development, analyse the progress and changing nature of agricultural sector and its contribution to the economy as a whole.	1, 4	Un
CO – 3	evaluate “Green Revolution” because it has reached its limits and needs to be extended.	1	Ev
CO – 4	understand the issues and challenges of Demographic Change, Transition and Human Development Index measurement in India:	3, 4	Un
CO – 5	understand Important features of five year plans and their growth rates	4	An
CO – 6	understand the issues relating to industries, including industrial policy and growth, industrial Structure, Industrial sickness and labour reforms	4, 5	Un
CO – 7	explain the issues like economic reforms and WTO which deals with the contemporary issues relating to liberalization, privatization, disinvestment and globalization	1, 5	Ap
CO – 8	grasp the importance of planning undertaken by the government of India, have knowledge on the various objectives, failures and achievements as the foundation of the ongoing planning and economic reforms taken by the government.	1, 4	Cr

<b>SEMESTER- II</b>			
<b>ALLIED III - Principles of Marketing</b>			
<b>Code: 18UECA21</b>	<b>Hours / week :3</b>	<b>Hrs / Semester: 45</b>	<b>Credits :3</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>C L</b>
CO – 1	identify core concepts of marketing and the role of marketing in business and society	4	Un
CO – 2	develop marketing strategies based on product, price, place and promotion objectives.	1, 4, 5	Ev
CO – 3	create an integrated marketing communications plan which includes promotional strategies and measures of effectiveness.	5	Cr
CO – 4	communicate the unique marketing mixes and selling propositions for specific product offerings.	1, 5	Ap
CO – 5	construct written sales plans and a professional interactive oral sales presentation.	1, 4	Cr
CO – 6	formulate marketing strategies that incorporate psychological and sociological factors which influence consumers.	1, 5	Cr
CO – 7	collect, process, and analyze consumer data to make informed marketing decisions	1, 3	Ev
CO – 8	analyze marketing problems and provide solutions based on a critical examination of marketing information	3	An



<b>SEMESTER- II</b>			
<b>Allied IV - Salesmanship</b>			
<b>Code: 18UECA22</b>	<b>Hours / week : 3</b>	<b>Hrs / Semester: 45</b>	<b>Credits : 3</b>

**Course Outcome:**

<b>CO. No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	define salesmanship and evaluate the individual qualities a salesperson must possess to succeed in building long-term customer relationships	1, 4	Un
CO – 2	understand and relate selling with the Principle of Contingency Benefits.	4	Un
CO – 3	identify specific techniques involved in selling, i.e. prospecting, planning and making a sales presentation, negotiating buyer resistance, closing a sale, organizing a territory and managing time.	1, 4, 5	Cr
CO - 4	understand the importance of building partnering relationships with potential customers.	4	Un
CO - 5	examine the ethical and legal issues in selling.	1, 4	Ev
CO – 6	evaluate the important types of information required by a salesperson prior to approaching a sales prospect	1, 4	Ev
CO – 7	demonstrate the ability to identify, analyze, and evaluate the four objectives of an effective sales approach	4, 5	An
CO – 8	evaluate a range of methods for overcoming objections or sales resistance and demonstrate a range of closing techniques used in closing a sale	1, 4	Ev

<b>Semester- III</b>			
<b>Core V-Tamil Nadu Economy</b>			
<b>Code: 18UECC31</b>	<b>Hours / week :6</b>	<b>Hrs / Sem.: 90</b>	<b>Credits :4</b>

**Course Outcome:**

<b>CO. No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	understand and realize the need to exploit and utilize through development and improvement of production techniques.	1, 2	Un
CO – 2	know the agricultural market and analyse the agricultural finance.	2	An
CO – 3	evaluate the major issues and development process in agriculture in Tamil Nadu	4	Ev
CO – 4	analyse the budgetary procedure.	6	An
CO – 5	deliver effectively the preparation of budget and how they are passed in the house. Understand the changes in size and flexibility of state and central budget along with the role played by Finance.	1,2,4	Un
CO – 6	give a basic knowledge about the industries in our economy.	7	An
CO – 7	discuss the role of government in industrial development	1,7	An
CO – 8	evaluate critically the growth process in Tamil Nadu	4	Ev

<b>Semester- III</b>			
<b>Allied V- Statistics – I</b>			
<b>Code: 18UECA31</b>	<b>Hours / week :3</b>	<b>Hrs / Semester: 45</b>	<b>Credits :3</b>

**Course Outcome:**

<b>CO. No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	enhance knowledge on the concept of statistics and the ways of mobilizing data	1,4,	Ev
CO – 2	gain knowledge on the various methods of presenting data	1,4	An
CO – 3	use appropriate statistical methods in the analysis of simple datasets	1,6	An
CO – 4	use their conceptual knowledge of statistics and statistical computing skills to define problems related to statistics, and guide critical reasoning about research design, data production, and the interpretation of findings.	1,2	An
CO – 5	demonstrate understanding of how to design experiments and surveys for efficiency.	2, 5	Ap
CO – 6	demonstrate the ability to perform complex data management and analysis.	5	Ap
CO – 7	develop skills in presenting quantitative data using appropriate diagrams, tabulations and summaries	1,	Ev
CO – 8	construct and analyze graphical displays to summarize data.	1,6	An

<b>Semester- III</b>			
<b>Allied - VI Mathematical Methods I</b>			
<b>Code: 18UECA41</b>	<b>Hours / week :3</b>	<b>Hrs / Semester: 45</b>	<b>Credits :3</b>

**Course Outcome:**

<b>CO. No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	acquire knowledge about the linkage between mathematical techniques and economics.	1,4	An
CO – 2	provide an understanding of the application of mathematical techniques in economic analysis	1,6	Un
CO – 3	comprehend the role of matrix in Economics	1	Un
CO – 4	understand the types and various operations of matrices.	1	Un
CO – 5	apply the basic concepts of equations in economics.	3	Ap
CO – 6	know and apply the skills of commercial arithmetic in business life.	2, 3	Ap
CO – 7	analyse the application of equations in Economics	6	An
CO – 8	use knowledge of content and mathematical procedures to solve problems and make connections between the different areas of mathematics.	1, 8	An

<b>Semester- III</b>			
<b>Core Skill Based- Entrepreneurial Development</b>			
<b>Code: 18UECS31</b>	<b>Hours / week :4</b>	<b>Hrs / Semester: 60</b>	<b>Credits :4</b>

**Course Outcome:**

<b>CO. No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	have knowledge about attraction for and challenges of an entrepreneur	2	An
CO – 2	understand entrepreneurship scenario in the economy	1	Un
CO – 3	apply how the technology can be utilized to improve industrial performance.	1, 3	Ap
CO – 4	understand different methods that can be used to minimize and certainties at different stages of the entrepreneurial process.	1	Un
CO – 5	consider the legal and financial conditions for starting a business venture,	3	Ap
CO – 6	explain the importance of marketing and management in small businesses venture	1,2	An
CO – 7	know about the internal and external sources of financial planning and apply it's in present day business situations.	1, 3, 5	Ap
CO – 8	detect weaknesses and strengths with in business opportunities and give suggestions how to improve these weaknesses and utilize this strength.	2, 4, 8	Ap

<b>Semester- III</b>			
<b>Non Major Elective I      Tourism and Economic Development</b>			
<b>Code: 18UECN31</b>	<b>Hours / week :2</b>	<b>Hrs / Semester: 30</b>	<b>Credits :2</b>

**Course Outcome:**

<b>CO. No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	understand the nature of tourism and explore the reasons for the rapid growth of tourism.	1,2	Un
CO – 2	view how the travel motivators promote social tourism, apply the concept to explore the demand, factors influencing tourism	2, 3	Ap
CO – 3	understand and explore maintenance of tourism products in India and abroad	1,7	Un
CO – 4	assert and apply the method to develop an ideal itinerary and function of tour managers.	1,7	Ap
CO – 5	provide information about tour packages	1	Un
CO – 6	plan, lead and organize the effective and efficient operations through tourism formalities	5, 8	An
CO – 7	know and apply innovative structure in present day tourism operations	1, 7	Ap
CO – 8	analyse and develop the market of tourism product	6,7	An

<b>Semester- III</b>	
<b>Self-Study / On-Line Course (Optional) Banking Practices</b>	
<b>Code: 18UECSS1</b>	<b>Credits :2</b>

**Course Outcome:**

<b>CO. No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	understand of Indian Banking System structure, functions of banks.	1	Un
CO – 2	analysis of RBI functions, working and policy.	6,8	An
CO – 3	describe the contribution of electronic finance to financial globalization and international regulation of electronic finance.	6	An
CO – 4	analyse banking products and services in relation to the bank customer's needs and describe the distribution channels	5,7	An
CO – 5	perform a matching of customer needs with specific banking products and services	5	Un
CO – 6	understand the procedure for operations of types of cards	1,5	Un
CO – 7	discuss the knowledge about telephone banking and On - line banking.	1,2	Ap
CO – 8	know the statutory protection available to the paying banker and collecting banker.	1,2	An

<b>Semester- IV</b>			
<b>Core VI – Monetary Economics</b>			
<b>Code: 18UECC41</b>	<b>Hours / week :6</b>	<b>Hrs / Sem.: 90</b>	<b>Credits :4</b>

**Course Outcome:**

<b>CO. No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	explain and discuss why people hold money and why it is used in the trading process.	1	Un, Re
CO – 2	know the theoretical building blocks that are needed for an understanding of the monetary theories and solve macro-economic models and assess the role and efficacy of monetary policy for various types of models in both classical and Keynesian set-ups.	2	Ev, Ap
CO – 3	describe and explain the main channels of the monetary transmission mechanism, through which monetary policy can have real effects on the economy.	2	Ap
CO – 4	discuss the merits and disadvantages of different monetary policies used by Central Banks.	4	Un
CO – 5	understand and appreciate the relationship between money and inflation.	1	Un
CO – 6	discuss the present status of monetary policy.	1	Ap
CO – 7	expound the functions and instruments of money market and capital market.	6	Un
CO – 8	develop understanding of the uncertainties policy-makers face and suggest remedies for policy makers to deal with these.	2,6	Un, Cr



<b>Semester- IV</b>			
<b>Allied VII - Statistics II</b>			
<b>Code: 18UECA41</b>	<b>Hours / week : 3</b>	<b>Hrs / Sem: 45</b>	<b>Credits :3</b>

**Course Outcome:**

<b>CO. No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	understand the basic statistical concepts including measures of central tendency , dispersion , correlation and regression etc.	7	Un
CO – 2	calculate and apply the various measures of central tendency like mean, median and mode etc.	7,8	Ap
CO – 3	compute and interpret correlation and regression analysis.	8	An, Ev
CO – 4	collect and analyse data to support economic decision making using statistical and econometric techniques.	8	An
CO – 5	familiar with variety of examples where statistics helps accurately explain abstract and physical phenomena	1	Un
CO – 6	recognize the importance and value of statistical thinking to solve an economic problem.	2,8	Re
CO – 7	independently read statistical literature of various types including survey articles, scholarly books and online sources.	1,2	Ap
CO – 8	be lifelong learners who are able to expand their statistical expertise when needed or for interest's sake.	7	Cr

<b>Semester- IV</b>			
<b>Allied VIII- Mathematical Methods II</b>			
<b>Code: 18UECA42</b>	<b>Hours / week :3</b>	<b>Hrs / Sem.:45</b>	<b>Credits :3</b>

**Course Outcome:**

<b>CO. No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	acquisition of fundamental mathematical skills that are essential for the study and practice of economics.	8	Un
CO-2	get a good grounding and in-depth understanding of the theory and application of differential calculus.	7	Re
CO-3	acquire an introduction to apply a range of mathematical techniques to economic problems.	2,8	Ap
CO-4	locate maxima and minima for functions of single and several variables and be able to distinguish between them.	7,8	Un, Ap
CO-5	account for the mathematical methods that are used in economics to solve equilibrium and optimization problem	2	An, Ev
CO-6	apply differentiation with respect to marginal concepts relating to cost, revenue and production function.	1,8	Ap
CO-7	learn and understand the application of integration in economics.	1	Un, Re
CO-8	acquire lifelong skills to understand current economics and to investigate economic models using mathematical techniques.	7	Cr

Semester- IV			
Core Skill Based- Women and Economic Development			
<b>Code: 18UECS41</b>	<b>Hours / week :4</b>	<b>Hrs / Sem:60</b>	<b>Credits : 4</b>

**Course Outcome:**

CO. No	Upon completion of this course, students will be able to	PSO addressed	CL
CO – 1	create self-awareness about their own biases, fears and comfort levels.	1	Cr
CO – 2	examine the range and issues in the development from the perspective of women and girls.	8	An, Ev
CO – 3	review recent literature on gender and development including how development policies and programs affect women.	1,4	Un
CO – 4	provide a critical eye to gender inequality and how it is addressed in the field of economic development.	2,4	Ev
CO – 5	get an awareness of inequality of privileges and insist them in political participation.	4	Un
CO – 6	learn about women empowerment and ways to achieve it.	5	Un, Re
CO – 7	develop entrepreneurial skills and work more effectively with diverse groups including male-dominated spaces.	3,5	Ap
CO – 8	respond to issues of conflict and confrontation without sacrificing personal power.	6,7	Ap

<b>Semester- IV</b>			
<b>Non Major Elective II    Tourism and Economic Development II</b>			
<b>Code: 18UECN41</b>	<b>Hours / week :2</b>	<b>Hrs / Sem.: 30</b>	<b>Credits : 2</b>

**Course Outcome:**

<b>CO. No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO - 1	recognize and raise awareness for moral issues and dilemmas in tourism.	1	Re
CO - 2	know about various types of tour packages and also about tourism marketing.	2,6	Un
CO- 3	demonstrating knowledge and understanding the basic principles of tourism in all its dimensions and areas.	2,7	Ap
CO-4	identify and evaluate the elements of the tourism system and its interaction with the environment.	1	Ev
CO-5	describing the demand and supply of tourism, cycles and economic growth.	2	An
CO-6	understand the importance of transport and communication in travel tourism and hospitality industry.	1,4	Un
CO-7	understand and disseminate the global code of ethics for tourism	6	Un
CO-8	create an awareness on the economic impact generated by tourism.	1,7	Cr

<b>Semester- IV</b>	
<b>Self-Study / On-Line Course (Optional) Social Economics</b>	
<b>Code: 18UECSS2</b>	<b>Credits :2</b>

**Course Outcome:**

<b>CO. No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the basic socio-economic concepts and principles of well-known social doctrines.	1	Un
CO-2	gain an understanding of major socio-economic problems and evaluate how they lead to wide range of real world issues.	2,4,7	Ev
CO-3	createan awareness about discrimination, consumerism and its protection.	4,6	Cr
CO-4	master the theoretical and tools necessary to critique and create economic research.	4,7	An, Cr
CO-5	encourage students to consult department advisors to take law as their career.	1	Cr, Ap
CO-6	learn about economic crimes, causes and consequences and allow them to analyse them.	7	Un, Re
CO-7	learn how to articulate pragmatic, principles based policies to enhance economic well-being and promote social-justice.	6,7	Re
CO- 8	prepare students to participate in debate and group discussions related to socio-economic issues and suggest remedial measures.	4,7	Cr, Ap

<b>Semester – V</b>			
<b>Part III Core XI (Common Core) Human Resource Management</b>			
<b>Code:18UMCC51</b>	<b>Hrs/Week: 6</b>	<b>Hrs/Sem: 90</b>	<b>Credit : 4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to:</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	gain knowledge on the basic concepts of planning human resource and help them to understand basic techniques of business.	1,2	Un
CO – 2	understand the basic selection process in HR.	1,2,3	Un
CO – 3	know the importance of training and development in HR.	2,3,4	Ap
CO – 4	know about the transfer policies	2,3,5	Un, Re
CO – 5	gain knowledge on compensation methods.	3,4	Un, An
CO – 6	understand the promotional policies in business	3,4	Un, Re
CO – 7	know about the significance and problems in performance appraisal.	3,4,5	Ap
CO – 8	know about the methods of performance appraisal	3,4,5	Ap

Semester- V			
Core VIII -Macro Economics- I			
<b>Code: 18UECC52</b>	<b>Hours / week :6</b>	<b>Hrs / Semester: 90</b>	<b>Credits :4</b>

**Course Outcome:**

CO. No	Upon completion of this course, students will be able to	PSO addressed	CL
CO - 1	explain what economics is and explain why it is important	1,3,6	An
CO - 2	describe the relationships among GDP, net domestic product, national income, personal income and disposable income.	6	An
CO- 3	identify and differentiate the different types of unemployment	3	Ev
CO-4	identify the strengths and weaknesses of the Keynesian and classical model.	2,3,4	Ev
CO-5	explain and graph the consumption function	1, 6	An
CO-6	explain what would cause the consumption function to grow steeper or flatter or to shift up or down	2, 6	An
CO-7	know the multiplier and identify the leakages of multiplier	1,6,8	An
CO-8	understand the acceleration principles	1	Un

<b>Semester- V</b>			
<b>Core IX -Fiscal Economics</b>			
<b>Code: 18UECC53</b>	<b>Hours / week :6</b>	<b>Hrs / Semester: 90</b>	<b>Credits :4</b>

**Course Outcome:**

<b>CO. No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO - 1	differentiate between public finance and private finance	6	Ap
CO - 2	explain tax and non- tax revenue, differentiate between direct and indirect tax, explain shifting of taxation and effects of taxation	1, 2, 6	An
CO- 3	classify the public revenue and its various sources; revenue receipts and non- revenue receipts, understand the tax and non-tax revenue.	1,3	Ev
CO- 4	describe how and in which manner government spends, the causes of increasing public expenditure in the modern economies, explain the varying effects of public expenditure on the economy and role of public expenditure in a developing economy.	2, 3	Ev
CO - 5	identify the measures to reduce public expenditure.	3	Ev
CO - 6	explain the types of public debt and how debt is repaid	1,2,5	An
CO -7	describe the government budget, explain different types of budgets such as balanced and unbalanced budget and know the budgetary procedure.	3	Ev
CO-8	analyse the latest government budget allotment	6,8	An



<b>Semester- V</b>			
<b>Core Integral I - Rural Economics</b>			
<b>Code: 18UECI51</b>	<b>Hours / week :5</b>	<b>Hrs / Semester: 75</b>	<b>Credits :4</b>

**Course Outcome:**

<b>CO. No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO - 1	discuss the importance and Significance of rural development	1, 2	Ap
CO - 2	know the aims and features of National Agricultural Policy.	2	An
CO- 3	apply their knowledge and understanding, and problem-solving abilities, to independently identify rural development issues from a geographical perspective	2, 6	Ap
CO - 4	analyze present problems and provide solutions based on a rural industrial environment.	6	An
CO - 5	identify and analyse specific problems of agricultural labour.	3,6	Cr
CO- 6	describe the current problems of rural marketing & regulate the market structure.	2,3	Ev
CO-7	know the Community Development Programme	2	An
CO-8	understand rural development programme	1,4	Un

Semester- V			
Core Integral II - Tourism Economics			
<b>Code: 18UECI52</b>	<b>Hours / week :5</b>	<b>Hrs / Semester: 75</b>	<b>Credits :4</b>

**Course Outcome:**

CO. No	Upon completion of this course, students will be able to	PSO addressed	CL
CO – 1	know the structure and scope of tourism industry	1,2	An
CO – 2	demonstrating knowledge and understanding of the basic principles of tourism in all its dimensions and areas.	5	Ap
CO – 3	discuss trends in and analyze problems of supply and demand for tourism services	1,2	Ap
CO – 4	planning and management of projects in Tourism	1,2	Ap
CO – 5	understand the travel agency and its functions	1	Un
CO – 6	plan, lead, organize and control resources for effective and efficient tourism operations.	5,8	Ap
CO – 7	develop and evaluate tourism policy and planning initiatives	7, 4	Ev
CO – 8	analyse the effects of economic policies implemented by the government on the overall performance of the economy and on the tourism sector in particular.	6	An

<b>Semester- V</b>	
<b>Self-Study or On-line Course (Compulsory)– Economics of Insurance</b>	
<b>Code: 18UECSS3</b>	<b>Credits :2</b>

**Course Outcome:**

<b>CO. No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	know the importance of insurance	1,2	An
CO – 2	understand the classification of risks	1	Un
CO – 3	identify and apply the insurance policies procedures and benefits with present situation	1,3	Ap
CO – 4	understand the calculation of premium	1	Un
CO – 5	enhance the knowledge of Life and fire insurance.	7	Ap
CO – 6	describe the motor insurance	1, 2	Un
CO – 7	identify the role of insurance in economics	1,3	Ap
CO – 8	understand the IRDA	1	Un

<b>Semester- VI</b>			
<b>Core –X Macro Economics – II</b>			
<b>Code: 18UECC61</b>	<b>Hours / week :6</b>	<b>Hrs / Semester: 90</b>	<b>Credits :4</b>

**Course Outcome:**

CO. No	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	describe theories of distribution	1	Un
CO-2	evaluate macroeconomic performance using indicators that include output measures and unemployment	1, 4	Ev
CO-3	understand the concepts used, methods to measure and difficulties encountered in the calculation of National Income	1, 3	Un
CO-4	identify, compare, and apply key features of Neoclassical and Keynesian economic models.	4	Ap
CO-5	analyse fiscal and monetary policy decisions to counter business cycle swings by using macro-economic models.	6	Un
CO-6	evaluate macroeconomic performance using indicators that include inflation.	1, 2	Ev
CO-7	know about Macroeconomic Policies	1	Un
CO-8	identify the fiscal and monetary policies for internal and external balance	1	Un

<b>Semester- VI</b>			
<b>Core XI– Development Economics</b>			
<b>Code: 18UECC62</b>	<b>Hours / week :6</b>	<b>Hrs / Semester: 90</b>	<b>Credits :4</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the concept of economic growth and development	1	Un
CO-2	know about India's stage of Economic Growth	4	Un
CO-3	identify the Achievements and Failures of Five Year plans in India	1	Un
CO-4	describe the nature and meaning of economic development or underdevelopment, both in general, and as applied to people in specific developing countries.	1	An
CO-5	illustrate how economics can be used to create or analyse alternative approaches to promote development.	4	Ap
CO-6	explain the major development problems, choices and opportunities currently faced by developing countries.	6	Un
CO-7	select, assess and justify specific policy choices that developing countries might make to achieve their economic and social objectives.	1	Ev
CO-8	analyse, synthesise and evaluate information drawn from the available data and appropriate theoretical tools, and to express their ideas orally and in writing.	6	An, Ev

Semester- VI			
Core XI I– Labour Economics			
<b>Code: 18UECC63</b>	<b>Hours / week :6</b>	<b>Hrs / Semester: 90</b>	<b>Credits :4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	describe efficiency of Indian labour	1	An
CO-2	know about characteristics & objectives of trade unions	1	Un
CO-3	elaborate the detailed study on worker's participation in management in India	4	Un
CO-4	explain the relationship of the labour market to other markets.	4	Un
CO-5	understand the basic mechanism of the labour market, in particular with how unemployment, wage and productivity differences can arise as equilibrium phenomena.	1	Re
CO-6	perform supply and demand analysis in the labour market.	2	Ap
CO-7	show the causes and changes in the productivity of labour.	4	Ap
CO-8	analyze the effect of labour unions.	3	An

<b>Semester- VI</b>			
<b>Core Integral III - International Economics</b>			
<b>Code: 18UECI61</b>	<b>Hours / week :5</b>	<b>Hrs / Semester: 75</b>	<b>Credits :4</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	describing the benefits of international trade and defects	1	Un
CO-2	elaborate the detailed study on balance of trade and balance of payments	4	Un
CO-3	elaborate the procedure to be implemented for GATT, UNCTAD and WTO	1	Ap
CO-4	familiar with the main economic theories and models of international trade.	1	Un
CO-5	aware of the likely distributional consequences of trade and thus of conflicting interests within an economy regarding trade liberalization.	3	Un
CO-6	understand economists' arguments concerning trade policy and its analysis.	4	Un
CO-7	apply economic reasoning to issues of the day surrounding globalization.	6	Ap
CO-8	have an elementary understanding of open-economy macroeconomics and the determinants of exchange rates and the balance of payments.	4	Un

<b>Semester- VI</b>			
<b>Core Integral IV-Energy Economics</b>			
<b>Code: 18UECI62</b>	<b>Hours / week : 7</b>	<b>Hrs / Semester: 105</b>	<b>Credits :7</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	deliver the importance of nature & scope of Energy Economics	1	Un
CO-2	give sound information on ONGC, OPEC, OAPEC, IEA and World Bank.	3	Un
CO-3	prepare and evaluate energy intensity and elasticity	5	Ap
CO-4	understand the basics of energy resources	1	Un
CO-5	understand the classification and importance of energy resources	3	Un
CO-6	know about the consequences and remedial measures of environmental crisis	1	Un
CO-7	know about the impact of energy consumption on production and environment.	4	Ap
CO-8	understand the usage of energy supply and demand	1	Un



<b>Semester- VI</b>			
<b>Core Integral IV–Group Project</b>			
<b>Code: 18UECP61</b>	<b>Hours / week :7</b>	<b>Hrs / Semester: 105</b>	<b>Credits :7</b>

**Vision:** Facilitate quick understanding of complex data.

**Mission:** Applies the research strategy in real life situation

**Course Outcome:**

<b>CO. No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the research design	4	Un
CO-2	critically assess contributions to the literature.	4, 5	An
CO-3	attain the skills needed to formulate and analyse models used in the particular field of Economics.	5	Ap
CO-4	prepare and present original research papers in the particular field.	4	Cr
CO-5	improve generic skills like oral communication and written communication.	8	Ap
CO-6	perform the interpretation and analysis of data.	3	An
CO-7	originate clarification and present the research report.	4, 5	Ev
CO-8	identify about the universe from a sample	1	Un

## B.Sc. Mathematics

SEMESTER – I			
Core I		Classical Algebra	
Code :18UMAC11	Hrs / Week: 5	Hrs / Semester: 75	Credits: 4

### Course Outcome

CO.No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	solve polynomial equations and simultaneous linear equations.	4	An
CO-2	solve the equations using the relation between the roots and coefficients.	4	An
CO-3	form the equations from the given roots and identify and solve the reciprocal equations	5 , 9	Cr, Un
CO-4	transform the equations by increasing, decreasing and multiplying the roots of the equations	4	Un
CO-5	solve the equations by removing the terms of the equations.	4	Ap
CO-6	locate real and imaginary roots of the equations	5 , 9	Un
CO-7	find the approximate values of the irrational roots of the equations.	4	Cr
CO-8	determine the roots of the equations by using various methods like Cardon's method, Ferrari's method.	4	Cr

<b>SEMESTER – I</b>			
<b>Core II</b>		<b>Calculus</b>	
<b>Code :18UMAC12</b>	<b>Hrs / Week: 5</b>	<b>Hrs / Semester: 75</b>	<b>Credits: 4</b>

**Course Outcome :**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	state the concept of curvature of a plane curve.	5	Re
CO-2	calculate the curvature of various curves in plane and space	5 , 9	Ev
CO-3	apply the fundamental concepts of Calculus to variety of real world problems.	4	Ap
CO-4	find surface area using a double integral.	3 , 8	Un
CO-5	evaluate triple integrals and use them to find volumes in rectangular, cylindrical and spherical coordinates.	4 , 10	Ev
CO-6	compute definite and indefinite integrals of algebraic and trigonometric functions using formulae and substitution	10	Cr
CO-7	know the relationship between the Gamma and Beta functions	6 , 7	An
CO-8	use Beta and Gamma function to solve different type of integrals and to understand Gamma function as a generalization of factorial function.	7	Un, Ev

<b>SEMESTER - I</b>			
<b>Allied Physics – Paper I</b>			
<b>18UPHA11</b>	<b>Hrs / Week: 4</b>	<b>Hrs / Semester: 60</b>	<b>Credits: 3</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	define fundamentals of elasticity and discuss concepts of stress and strain and the relationship between both, use the stress-strain equations to solve the problems of elastic modes	1	Re, Un
CO-2	solve problems related to uniform and non-uniform bending of beams	1	An
CO-3	define the terms viscosity and surface tension	1	Re
CO-4	describe the properties of fluids such as viscosity, surface tension and capillary rise and evaluate the value of coefficient of viscosity	1,2,6	Un,Ev
CO-5	estimate the thermal conductivity of a bad conductor	1	Ev
CO-6	calculate the specific heat capacity of a liquid	1, 6	An
CO-7	calculate the thickness of a thin wire by forming interference fringes	1, 2, 6	An
CO-8	assess the dispersive power and resolving power of a grating	1, 2, 6	Ev

<b>SEMESTER – II</b>			
<b>Core III                      Analytical Geometry of Three Dimensions</b>			
<b>Code:18UMAC21</b>	<b>Hrs / Week: 5</b>	<b>Hrs / Semester: 75</b>	<b>Credits: 4</b>

### **Course Outcome**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the fundamental aspects of three-dimensional geometry.	1,2 , 3	Un
CO-2	represent simple three-dimensional figures using two-dimensional drawings.	4	Un
CO-3	demonstrate basic mathematical understanding and computational skills in three dimensions.	5 , 9	Un
CO-4	apply algebraic methods to the study of curves and surfaces that lie in three dimensions.	5	Ap
CO-5	apply geometric properties and relationships to solve problems in three dimensions.	5	Un
CO-6	develop logical thinking, geometric thinking and three-dimensional spatial ability.	6 , 7	An
CO-7	solve many difficult problems with simple solutions.	6, 10	Cr
CO-8	create opportunities to use spatial skills in problem-solving tasks.	5, 9	Cr

<b>SEMESTER – II</b>			
<b>Core IV</b>		<b>Differential Equations</b>	
<b>Code:18UMAC22</b>	<b>Hrs / Week: 5</b>	<b>Hrs / Semester: 75</b>	<b>Credits: 4</b>

### Course Outcome

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	identify an ordinary differential equation and its order.	4	Un
CO-2	verify whether a given function is a solution of a given ordinary differential equation (as well as verifying initial conditions when applicable).	5, 9	An
CO-3	classify ordinary differential equations into linear and nonlinear equations.	5, 9	Un
CO-4	solve first order linear differential equations.	4	An
CO-5	find the general solution of second order linear homogeneous equations with constant coefficients.	4	Cr
CO-6	compute the Laplace transform and inverse Laplace transform	4	Ap
CO-7	use the Laplace transform to compute solutions of second order, linear equations with constant coefficients	4	Ap
CO-8	identify essential characteristics of ordinary and partial differential equations.	4	Un

<b>SEMESTER – II</b>			
<b>Allied Physics – Paper II</b>			
<b>18UPHA21</b>	<b>Hrs / Week: 4</b>	<b>Hrs / Semester: 60</b>	<b>Credits: 3</b>

### Course Outcome

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	apply the Gauss law in the calculation of electric fields due to various charge distributions and Understand coulomb's law which gives an idea about the electrostatic force between point charges.	1	Ap, Un
CO-2	define and explain self and mutual inductance	1	Re, Un
CO-3	employ Lenz law and Faraday's law for magnetically coupled circuits	1	An
CO-4	apply knowledge of electricity and magnetism to explain the nature of physical process and related technological advances	1	Ap
CO-5	understand the principle of energy release in nuclear reactions and identify the present energy scenario and the need for energy conservation	8	Un
CO-6	examine the structure of various number system and its application in digital design	6, 8	Un, An
CO-7	analyse the environmental aspects of renewable energy sources	5	An
CO-8	acquire the knowledge of solar cells, photovoltaic cells, wind energy and solar energy principles and applications	5	Un

Semester – III			
Part III	Core V	Sequences and Series, Trigonometry	
Code :18UMAC31	Hrs/week :6	Hrs/Semester :90	Credits :4

### Course Outcome

Co No	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	develop the analytical thinking to generalize the known concepts.	3	Cr
CO-2	know the important inequalities necessary to compare the real numbers.	3	Ev
CO-3	explain the difference between a sequence and a series in the mathematical context.	2	Un
CO-4	able to identify boundedness, monotonic, limit points etc. of a sequence.	8	Un
CO-5	able to apply various tests to verify the convergence or divergence of a given sequence and also the series.	4	Ap
CO-6	gain a basic knowledge about analysis which helps them in higher studies.	3	Re
CO-7	apply the real situation wherever usage of trigonometrical equations	4	Ap
CO-8	reconstruct the formulae which are accustomed in elementary levels	8	Ev



Semester – III			
Part III	Allied III	Statistics I	
Code :18UMMA31	Hrs/week :3	Hrs/ Semester:45	Credits : 3

### Course Outcome

CO.No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	understand the difference between the central moments and general moments	1	Un
CO-2	compute the central moments and general moments	3	Ev
CO-3	analyse the time reversal test	8	Cr, Ap
CO-4	convert fixed base index to chain base index	3	Ap
CO-5	classify the different index numbers	8	Un, Ap
CO-6	find correlation between two variables	3	Ap
CO-7	evaluate particular regression lines	3, 7	Ap
CO-8	know the uses of index numbers	4	Cr

<b>Semester –III</b>			
<b>Part III</b>	<b>Allied IV</b>	<b>Linear Programming</b>	
<b>Code : 18UMMA32</b>	<b>Hrs/week : 3</b>	<b>Hrs/ Semester:45</b>	<b>Credits : 3</b>

### Course Outcome

CO.No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	develop a fundamental understanding of linear programming models	1, 3	Un
CO-2	develop a linear programming model from problem description	5	An
CO-3	formulate a simplified description of a suitable real-world problem as a linear programming model in general, standard and canonical forms	8	Cr
CO-4	solve a two-dimensional linear programming problem graphically.	8	Ap
CO-5	convert a linear programming problem into standard form.	8	Un
CO-6	apply the simplex method for solving linear programming problem.	5	Ap
CO-7	express the dual of a linear programming problem and solve the resulting dual problem using the dual simplex method	8	Cr,Ap
CO-8	model , analyze or solve a practical real-world problem using the theory and methods learned in this course	4, 5	Ap,An

<b>Semester – III</b>			
<b>Part III Core Skill Based Numerical Aptitude and Arithmetic Ability</b>			
<b>Code :18UMAS31</b>	<b>Hrs/week : 4</b>	<b>Hrs/ Semester : 60</b>	<b>Credits :4</b>

### Course outcome

CO. No	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	acquire the ability to understand and analyze the problem	2	Un
CO-2	develop their calculating and computing skills.	5	Ap
CO-3	solve mathematical problems using shortcut methods.	4	Cr
CO-4	build confidence to face the competitive examinations.	5	Cr
CO-5	solve the questions with accuracy and within the given time limit.	3	Cr
CO-6	enhance logical skills, arithmetic skills and aptitude skills.	5	Ap
CO-7	simplify and evaluate algebraic expressions.	3	Ev
CO-8	use mathematical concepts in real world situations.	4, 8	Ap

Semester III	
Self Study Course	Foundation of Mathematics
Code: 18UMASS1	Credits: +2

### Course Outcome

CO.No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	gain enriched understanding of concepts of mathematical sets, theory of sets, equivalent sets and cardinal number.	1	Un
CO-2	describe and explain the concepts of axiomatic method and euclidean geometry.	3	Un
CO-3	obtain a basic outline of a paradoxes in set theory, cantor's paradox and russell's paradox.	1	Un
CO-4	differentiate advantages and disadvantages of the axiomatic method and genetic method.	3	An
CO-5	discuss the method of truth table and the predicate calculus.	3	Cr
CO-6	understand and analyze the concepts of axiomatic method and the completeness of an axiom system.	6	Un
CO-7	construct geometry according to euclid, euclid's postulates and non-euclidean geometry	8	Cr
CO-8	analyze the notion of axiomatic method and formal axiomatic method.	2	An

SEMESTER – IV			
Part III	Core VI	Real Analysis	
Code :18UMAC41	Hrs / Week: 6	Hrs / Semester: 90	Credits: 4

### Course Outcome

CO. No	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	interpret real number system and its properties.	1	Un
CO-2	define and recognize the continuity of real functions	1	Re
CO-3	define and recognize the real functions and its limits	1	Re
CO-4	interpret mathematical ideas via extended written presentation.	2	Un
CO-5	develop a broad understanding encompassing logical reasoning, generalization, abstraction, and formal proof.	5	An
CO-6	formulate proofs and structure mathematical arguments.	6	An
CO-5	determine the continuity, differentiability and integrability of functions defined on subsets of the real line	3	Ev
CO-7	apply the Mean Value Theorem and the Fundamental theorem of Calculus to problems in the context of real analysis	5	Ap
CO-8	describe fundamental properties of the real numbers that lead to the formal development of real analysis.	3	An

Semester - IV			
Part III	Allied V	Statistics II	
Code : 18UMMA41	Hrs/week :3	Hrs/ Semester :45	Credits : 3

### Course Outcome

CO.No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	understand the difference between the discrete distribution and continuous distribution.	1, 2	Un
CO-2	calculate the mean, mode and median for different distributions.	7	Ap
CO-3	find approximate solutions to problems	4, 8	Cr, Un
CO-4	apply concepts and theorems in solving problems.	4	Ap
CO-5	demonstrate problem solving skills	3	An
CO-6	evaluate recurrence relation of p.d.f for various distribution.	3	An
CO-7	fit binomial, poisson and normal distribution.	8	Ap
CO-8	compare moment generating function and cumulant generating function	2, 7	Ev

Semester –IV			
Part III	Allied VI	Discrete Mathematics	
Code :18UMMA42	Hrs/week :3	Hrs/ Semester:45	Credits :3

### Course Outcome

CO No	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	understand logic and mathematical reasoning to count or enumerate objects in a systematic way.	1	Un
CO-2	use truth tables for expressions involving the logical connectives .	8	Ap
CO-3	develop capacity in knowing what constitutes a valid argument, and in constructing valid arguments or proofs.	3	An
CO-4	apply standard rules of inference.	3	Ap
CO-5	grasp the notions of lattices.	1	Un
CO-6	understand Boolean algebra and truth tables.	1	Un
CO-7	evaluate Boolean functions and simplify expressions using the properties of Boolean Algebra.	5	Ev
CO-8	apply logical reasoning to solve a variety of problems.	4	Ap

<b>Semester – IV</b>			
<b>Part III      Core Skill Based      Math Type using LaTeX</b>			
<b>Code :18UMAS41</b>	<b>Hrs/week :4</b>	<b>Hrs/ Semester:60</b>	<b>Credits :4</b>

### **Course Outcome**

CO. No	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	know the difference between MS Word and LaTeX	3	Un
CO-2	understand the uses of LaTeX	2	Un
CO-3	apply LaTeX in their typing work	1	Un
CO-4	handle math symbols and tables	3	An
CO-5	create documents and make small presentations.	3	Ap
CO-6	become proficient in the use of software applications as used in an office environment.	3, 8	Ap
CO-7	manipulate with the real life needs in preparing documents	3	Ap
CO-8	prepare projects in updating with the new updates and versions	8	Cr



Semester IV	
Self Study Course	Industrial Mathematics
Code: 18UMASS2	Credits:2

### Course Outcome

CO.No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	evaluate range, quartile, mean deviation and standard deviation.	1	Ev
CO-2	apply basic operation to calculate frequencies.	3	Ap
CO-3	make connections of mathematical ideas to other ideas both inside of and outside of mathematics.	4	Ap
CO-4	demonstrate mathematical skills in the area of conditionally probability.	6	Un
CO-5	evaluate the consistency of data from a sample.	7	Ev
CO-6	demonstrate the knowledge of probability and the standard statistical distributions.	7	Un
CO-7	relate mean deviation and standard deviation.	3	Un
CO-8	measure the association between two binary variables with yule's coefficient.	5	Ev

Semester –V			
Part III Core VII (Common Core) Computer Oriented Numerical Methods			
Code: 18UCCC51	Hrs/Week: 6	Hrs/ Semester : 90	Credits : 4

**Course Outcome:**

CO. No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	find numerical solution of a problem in all aspects and apply these methods to practical implementation as reliable and efficient.	3	Re
CO-2	recognize and apply appropriate principles and concept relevant to numerical analysis.	5	Ap
CO-3	discover the most appropriate estimate for the missing data.	1	Cr
CO-4	analyze the errors obtained in the numerical solutions of problems.	6	An
CO-5	use appropriate numerical methods, determine the solutions to given problems.	3	Ap
CO-6	demonstrate the use of the interpolation method to find the solution for the data.	8	Un
CO-7	develop their calculation skills.	1	Cr
CO-8	differentiate gauss jacobi iteration and gauss seidal iteration method.	3	

Semester – V			
Part III	Core VIII	Modern Algebra	
Code :18UMAC52	Hrs/week :5	Hrs/Semester :75	Credits :4

### Course Outcome

CO No	Upon completion of this course, students will	PSO addressed	CL
CO-1	explain the theory behind relations and functions and how functions may relate dissimilar structures to each other.	3	Cr
CO-2	describe and generate the basic algebraic structures such as Groups, Rings, Fields, Integral Domain, Euclidean Domain, etc., and will identify examples of these specific constructs.	1	Ev
CO-3	have a working knowledge of important mathematical concepts such as order of Group, order of an element, generator of a cyclic group, index of a subgroup, characteristic of a Ring, Maximal and Prime Ideals etc.,	2	Un
CO-4	analyze relationship between abstract algebraic structures with familiar number system such as integers, complex and real numbers	2	An
CO-5	critically analyze and construct mathematical arguments that relate to the study of introductory linear algebra. (Proof and Reasoning).	8	An
CO-6	develop ability to form and evaluate conjectures.	1, 5	Ap
CO-7	produce the group concepts in other science disciplinary	3	Ap
CO-8	illustrate the isomorphic structures	8	An

Semester – V			
Part III	Core IX	Modern Analysis	
Code :18UMAC53	Hrs / Week: 5	Hrs / Semester: 75	Credits: 4

### Course Outcome

CO No	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	gain knowledge of concepts of modern analysis, such as open sets ,closed sets, completeness, connectedness and compactness in metric spaces	1	Un
CO-2	be able to write simple proofs on their own and study rigorous proofs	5	Ap
CO-3	develop a higher level of mathematical maturity combined with the ability to think analytically	2	Un
CO-4	develop a broad understanding encompassing logical reasoning, generalization, abstraction, and formal proof.	5	Ap
CO-5	formulate proofs and structure mathematical arguments.	6	Ap
CO-6	explain the basic theory of metric spaces and its application to function spaces.	3	Ev
CO-7	follow more advanced treatments of real analysis and study its applications	3	Ap
CO-8	apply the theory to solve mathematical problems including the construction of simple proofs.	2	An

Semester –V			
Part III	Core X	Operations Research	
Code :18UMAC54	Hrs/week : 4	Hrs/Semester :60	Credits : 4

**Course Outcome:**

CO. No	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	identify optimum solution.	1	Un
CO-2	interpret the mathematical tools that are needed to solve optimization problems.	2	Ap
CO-3	make decision and improve its quality.	3	Ev
CO-4	comprehend the concept of a Transportation Model and develop the initial solution for the same	4	Un
CO-5	apply the Hungarian method for solving assignment problems	5	Ap
CO-6	examine the significant impact of job sequencing system on total elapsed time management	8	An
CO-7	use CPM and PERT techniques, to plan, schedule, and control project activities.	4	Ap
CO-8	apply Mathematical theories to Commerce and Business and Management	3	Ap

Semester –V			
Part III Core Integral I Vector Calculus and Fourier Series			
Code :18UMAI51	Hrs/week :4	Hrs/Semester :60	Credits :4

### Course Outcome

CO. No	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	differentiate and integrate vector-valued functions and apply calculus to motion problems in two and three dimensional space	2	An
CO-2	compute gradient, curl and divergence of vector fields.	1, 3	C
CO-3	use the gradient to find directional derivatives.	3	Ap
CO-4	solve problems in multiple integration using rectangular, cylindrical, and spherical coordinate systems	8	A
CO-5	select and apply appropriate models and techniques to define and evaluate integrals	3	E
CO-6	apply greens theorem, stokes theorem and gauss divergence theorem to evaluate integrals.	3	A
CO-7	know that any periodic function can be expressed as a fourier series.	6	Cr
CO-8	expand an odd or even function as a half-range cosine or sine fourier series.	1	Un, An

<b>Semester – V</b>			
<b>Part III    Core Integral II    Statistical Inference</b>			
<b>Code :18UMAI52</b>	<b>Hrs/week :4</b>	<b>Hrs/Semester :60</b>	<b>Credits :4</b>

### **Course Outcome**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the uses of statistical quality control.	1	Un
CO-2	compute the upper and lower control limits for different chart	3	Ev
CO-3	analyse the usage of different charts.	8	Cr, Ap
CO-4	know type I and type II error	1	Cr
CO-5	classify the different test static	5	Un, Ap
CO-6	check the difference between small and large samples.	1	Ap
CO-7	evaluate t-test, F-test etc	3, 7	Ap
CO-8	apply the correct test static	4	Ap

<b>Semester V</b>	
<b>Self Study Course (Compulsory)</b>	<b>Astronomy</b>
<b>Code:18UMASS3</b>	<b>Credits:2</b>

**Course Outcome:**

CO.No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	use mathematics to perform calculations on earth or space science problems	4	Ap
CO-2	make observations regarding the earth or space and infer conclusion from them.	3	Ap
CO-3	describe and explain the motion of objects (sun, moon, planets, stars)	4	Un
CO-4	sketch and explain the relationships of objects in solar and lunar eclipse.	8	Cr
CO-5	discuss the contribution of lunar and solar calendar.	6	Cr
CO-6	discuss about stars, meteorites, comets and their masses.	5	Cr
CO-7	describe how stars evolve.	6	Un
CO-8	describe astronomical distance and size scales.	1	Un



<b>Semester –VI</b>			
<b>Part III</b>	<b>Core XI</b>	<b>Complex Analysis</b>	
<b>Code :18UMAC61</b>	<b>Hrs/week :6</b>	<b>Hrs/Semester :90</b>	<b>Credits :4</b>

### Course Outcome

CO. No	Upon successful completion of this course students will be able to	PSO addressed	CL
CO-1	compute sums, products, quotients, conjugate, modulus, and argument of complex numbers.	1	An
CO-2	understand the significance of differentiability for complex functions and be familiar with the Cauchy-Riemann equations.	2	Un
CO-3	evaluate integrals along a path in the complex plane and understand the statement of Cauchy's Theorem.	6	Ev
CO-4	know the condition(s) for a complex variable function to be analytic and/or harmonic.	3	Un
CO-5	compute the Taylor and Laurent expansions of simple functions, determining the nature of the singularities and calculating residues.	2	An
CO-6	use the Cauchy Residue theorem to evaluate integrals and sum series.	6	Ap
CO-7	demonstrate curve properties for image processing with transformation	6	Ap
CO-8	outline complex number system with intense perception	6	An

Semester –VI			
Part III	Core XII	Linear Algebra	
Code : 18UMAC62	Hrs/week : 6	Hrs/Semester : 90	Credits : 4

**Course Outcome :**

CO.No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	know all the definitions in Linear Algebra	1	U
CO-2	analyze and construct mathematical arguments that relate to the study of linear algebra. (proof and reasoning).	2, 3	An
CO-3	solve systems of linear equations.	3	A
CO-4	work within vector spaces and to distill vector space properties	3	An
CO-5	determine whether a system of equations is consistent or not and find its general solution.	6	An
CO-6	compute eigenvalues and eigenvectors of a matrix.	4	A
CO-7	develop analytical thinking	5	An
CO-8	understand the concept of Inner Product Spaces	1	U

<b>Semester VI</b>			
<b>Part III</b>	<b>Core XIII</b>	<b>Mechanics</b>	
<b>Code :18UMAC63</b>	<b>Hrs/week :6</b>	<b>Hrs/Semester :90</b>	<b>Credits :4</b>

### Course Outcome

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the equilibrium of forces	1	Un
CO-2	know the conditions for equilibrium	3	Ev
CO-3	distinguish between parallel and non parallel forces	8	Cr, Ap
CO-4	know the types of friction laws	1	Cr
CO-5	apply friction laws in problems	5	Un, Ap
CO-6	understand the two types of impact	1	Ap
CO-7	understand the simple harmonic motion	3, 7	Ap
CO-8	determine the simple harmonic motion	4	Ap

Semester VI			
Part III	Core Integral III	Graph Theory	
Code :18UMAI61	Hrs / Week: 5	Hrs / Semester: 75	Credits: 4

### Course Outcome

CO. No	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	interpret the basics of graphs.	1	Un
CO-2	identify induced subgraphs, paths,cycles ,independent sets and coverings in graphs	1	Re
CO-3	determine whether graphs are Hamiltonian and/or Eulerian and to solve problems involving vertex and edge connectivity, planarity and crossing numbers	5	An
CO-4	combine theoretical knowledge and independent mathematical thinking in creative investigation of questions in graph theory.	8	Un
CO-5	inspect the applications of graph theory	7	An
CO-6	model and solve real-world problems using graphs both quantitatively and qualitatively.	4	Ap
CO-7	develop an appropriate level of mathematical literacy and competency.	6	Cr
CO-8	formulate problems in terms of graphs, solve graph theoretic problems and apply algorithms.	5	Cr

Semester VI			
Core Integral	IV	Coding theory	
Code: 18UMAI62	Hrs / Week: 7	Hrs / Semester: 105	Credits: 4

### Course Outcome

CO. No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	understand the fundamental concepts of coding theory, types of error and control code technique.	1	Un
CO-2	perform with vectors, matrices and projective spaces over finite fields and polynomials.	4	Cr
CO-3	describe the concepts of extended golay code and decode the extended golay code.	3	Ev
CO-4	analyze the theoretical principles of source coding.	6	An
CO-5	analyze the notion of various decoding techniques.	3	An
CO-6	understand and analyze the concepts of error control coding.	2	Un, An
CO-7	prove general facts about different codes and block control coding.	6	Ev
CO-8	apply the knowledge of perfect codes, hamming codes, extended codes and golay codes for error detection and correction.	5	Ap

## B.Sc. Physics

SEMESTER - I			
Core I		Properties of Matter	
Code: 18UPHC11	Hrs/Week: 4	Hrs/Semester: 60	Credits: 4

### Course Outcome:

CO. No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	calculate the acceleration due to gravity at a place.	1	An
CO-2	define stress, strain, Hooke's law and Poisson's ratio	1	Re
CO-3	describe the fundamental concepts of stress and strain and the relationship between both through the stress-strain equations in order to solve the problems for simple tridimensional elastic modes	1	Un
CO-4	calculate the elastic constant values of materials which is necessary for beam construction.	1, 6	An
CO-5	sketch the uses of I-form girders	1	Ap
CO-6	describe the properties of fluids such as viscosity, surface tension and capillary rise.	1	Un
CO-7	evaluate the properties and utility of lubricants	1, 6	Ev
CO-8	calculate the surface tension of a liquid	1, 6	Ap

<b>SEMESTER – I</b>			
<b>Core II Mechanics, Wave Oscillations and Acoustics</b>			
<b>Code: 18UPHC12</b>	<b>Hrs/Week: 4</b>	<b>Hrs / Semester: 60</b>	<b>Credits: 4</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	discuss impulse and linear momentum, calculate the change in momentum of an object for the net force acting on the object	1	Un
CO-2	analyze the motion of the projectile that is projected with an initial velocity	1	An
CO-3	calculate the torque and angular momentum for a moving particle	1, 6	An, Ev
CO-4	locate the center of gravity, the line of gravity and the center of pressure of the objects	1, 6	Un, Ev
CO-5	understand the factors affecting atmospheric pressure , variation of atmospheric pressure with temperature, principle of barometer and working of different kinds of barometer	1	Un
CO-6	define simple harmonic motion and discuss the principle of simple harmonic motion and their types	1	Re, Un
CO-7	understand how sound is transmitted through building components	1	Un
CO-8	identity, discuss and resolve acoustical problems related to architectural acoustics and acoustic comfort	1, 6	Un, An

<b>SEMESTER I</b>			
<b>Allied</b>		<b>Allied Chemistry I</b>	
<b>Code :18UCPA11</b>	<b>Hrs/Week : 4</b>	<b>Hrs/ Sem : 60</b>	<b>Credits : 3</b>

**Course Outcome :**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO 1	list the rules for filling of electron in orbitals, Recognize conductors, insulators and semiconductors, write the electronic configuration of elements	1, 4	Re, Ap
CO 2	identify methods to purify organic compounds Estimate the amount of Carbon, Hydrogen and sulphur in a sample	1,4,3,7	Un
CO 3	evaluate molecular weight of a chemical compound	1, 2	Cr
CO 4	correlate the importance of colloids in day to day life, develop a basic understanding of emulsions	1, 2, 3	An, Ev
CO 5	explain different types of molecular velocities and its significance	1, 4	Un
CO 6	know basic terms associated with gaseous state and an insight into degrees of freedom and law of equipartition of energies	1.2, 3	Re
CO 7	identify fundamental particles of nuclear isotopes	1, 3, 4	Re
CO 8	learn the basic principles behind nuclear fusion and fission and enumerate its application	1, 2	An



<b>SEMESTER - II</b>			
<b>Core III Thermal Physics and Statistical Mechanics</b>			
<b>Code: 18UPHC21</b>	<b>Hrs / Week: 4</b>	<b>Hrs / Semester: 60</b>	<b>Credits: 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	define temperature, pressure, closed system, reversible and irreversible process	1	Re
CO-2	understand the basic concepts of thermodynamics such as temperature, pressure, properties, closed system, reversible and irreversible process	1	Un
CO-3	understand the transfer of energy	1	Un
CO-4	demonstrate the experiment regarding the measurement of thermal conductivity and specific capacity	1, 2	An
CO-5	calculate the thermal conductivity of a bad conductor	1, 6	An
CO-6	understand the low temperature physics, concerned with the behavior of matter in the temperature regime where quantum effects are dominated	1	Un
CO-7	create an interest in field of research in low temperature physics	1	Cr
CO-8	employ Fermi-Dirac and Bose-Einstein statistics according to the spin of the particle and compare the three statistics	1	An, Ev

<b>SEMESTER – II</b>			
<b>Core IV</b>		<b>Optics</b>	
<b>Code: 18UPHC22</b>	<b>Hrs / Week: 4</b>	<b>Hrs / Semester: 60</b>	<b>Credits: 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the theory behind the important properties of light such as reflection, refraction, dispersion, interference, diffraction and polarisation.	1	Un
CO-2	calculate the focal length of lenses in contact and out of contact with each other	1, 6	An
CO-3	determine the refractive index and dispersive power of the material of the prism	1, 2, 6	Ev
CO-4	define the different types of aberrations in lenses and discuss the methods to reduce them	1	Re, Un
CO-5	describe the phenomenon of interference in reflected systems and calculate the refractive index of liquids by forming Newton's rings	1, 2, 6	Un, Ev
CO-6	calculate the thickness of a thin wire by forming interference fringes	1, 2, 6	Ev
CO-7	evaluate the dispersive power and resolving power of a grating and demonstrate experiments with a grating and find the wavelengths of the light used	1, 2, 6	Ev, An
CO-8	acquire knowledge of the polarisation of light and its changes upon reflection and transmission	1	Un

<b>SEMESTER II</b>			
<b>Allied</b>		<b>Allied Chemistry II</b>	
<b>Code : 18UCPA21</b>	<b>Hrs/Week : 4</b>	<b>Hrs/ Sem : 60</b>	<b>Credits : 3</b>

**Course Outcome :**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO 1	Differentiate ores and minerals Explain the methods of purification of ores Know the extracting methods , properties and uses of titanium, vanadium ,thorium. Titanium tetrachloride, Vanadiumpentoxide, Thorium nitrate.	1	An,Un, Re
CO 2	Synthesise some industrially important organic compounds such as Freon , rayon , polyester , nylon , thiokol Dacron	1, 5	Ev
CO 3	Classify fuels and know its industrial uses	1, 4	Ap
CO 4	Identify the techniques for sterilising water for domestic use	1, 4	An
CO 5	Know the basics of abrasives	1,4	Re
CO 6	Know the principles of volumetric analysis	1,3 , 4	Re
CO 7	Assess error analysis	1	Cr
CO 8	Know the basic concepts of photochemistry and electrochemistry	1,3	Re

<b>SEMESTER III</b>			
<b>Core V</b>		<b>Electricity and Electromagnetism</b>	
<b>Code: 18UPHC31</b>	<b>Hrs./Week : 4</b>	<b>Hrs./Sem : 60</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	recall Coulomb's law	1	Re
CO-2	discuss potential due to point charge	1	Un
CO-3	apply the principle of potentiometer to measure current and resistance	1,4,6	Ap
CO-4	compare self inductance and mutual inductance	1,4,6	Ev
CO-5	describe eddy current	1	Un
CO-6	construct LCR series and parallel resonance circuit	1,4,6	Cr
CO-7	study the uses of transformer	1,4,6	Ap
CO-8	formulate Maxwell's equations for the propagation of electromagnetic waves	1	Cr

<b>Semester –III</b>			
<b>Allied</b>		<b>Allied Mathematics – I</b>	
<b>Code : 18UMAA31</b>	<b>Hrs/week :3</b>	<b>Hrs/Sem :45</b>	<b>Credits :2</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	form the equations from the given roots.	1	Cr
CO-2	Approximate solutions of equations by applying Horner's method and Newton's method	1	Un ,Ev
CO-3	transform equations by increasing, decreasing and multiplying the roots of the equation.	3	An
CO-4	develop and apply concepts of expressions and equations to investigate and describe relationships	7	An
CO-5	demonstrate problem solving skills	3, 8	Cr
CO-6	evaluate eigen values and eigen vectors of square matrices and make use of the properties of determinants in their calculation.	1	Un, Ev
CO-7	calculate the radius of curvature by differentiation	1,3	Un, Ev
CO-8	calculate centre and circle of curvature.	1,3	Ev

SEMESTER – III			
Allied	Allied Mathematics – II		
Code : 18UMAA32	Hrs / Week: 3	Hrs / Semester: 45	Credits: 2

**Course Outcome:**

CO.No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	compute the curl and the divergence of vector fields	1,3	Cr
CO-2	compute the gradient of a scalar valued function	1,3	Cr
CO-3	solve Differential Equations	1	Ev
CO-4	interpret basic definitions and terminology associated with differential equations and their solutions	3	Un
CO-5	classify the differential equations with respect to their order and linearity	1	An
CO-6	solve linear differential equations	1	Ev
CO-7	find complementary functions	1	Re
CO-8	evaluate particular integrals of the form $e^{ax}$ , $\sin ax$ , $\cos ax$ , $x^m$ and $e^{ax}f(x)$	1,3	An,Ev

<b>SEMESTER III</b>			
<b>Core Skill Based</b>		<b>Instrumentation</b>	
<b>Code : 18UPHS31</b>	<b>Hrs/Week : 4</b>	<b>Hrs./Sem : 60</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	identify the errors of instruments.	3.4	Un
CO-2	find out the arithmetic mean, deviation from the mean, average deviation, standard deviation.	3,8	Cr
CO-3	list out the characteristics of resting potential	3	Re
CO-4	compare active and passive transducers	3	Ev
CO-5	understand the working of bio medical equipments such as electron microscope.	3	Un
CO-6	read and interpret the output of bio potential recorders such as ECG and EEG.	3,6	Ev
CO-7	recall the functional elements of measuring instruments	3,6	Re
CO-8	describe the applications of Physics in the field of medicine	3	Un

<b>SEMESTER III</b>			
<b>NME I</b>		<b>Applied Physics I</b>	
<b>Code : 18UPHN31</b>	<b>Hrs/Week : 2</b>	<b>Hrs/Sem : 30</b>	<b>Credits : 2</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO –1	recall the tools used in the home	3	Re
CO –2	discuss the systems of domestic wiring	3	Un
CO –3	explain the principle of Air Conditioning	3	Un
CO –4	sketch the refrigerating cycle	3	Ap
CO –5	describe the function of a compressor	3	Un
CO –6	understand the theory behind the important properties of light such as reflection, refraction , interference and total internal reflection	1,3	Un
CO –7	discuss the types of optical fibers	2,3	Ev
CO –8	list out the applications of lasers	3	Re



<b>Semester – III</b>			
<b>Women's Synergy</b>			
<b>Code : 18UAWS31</b>	<b>Hrs/ Week : 2</b>	<b>Hrs/Sem:30</b>	<b>Credits : 2</b>

#### **Course Outcome**

- To know about Women's health issues including menstruation, pregnancy, child birth etc, thereby taking care of themselves.
- Create awareness about their own biases, fears and comfort levels and encourage to dream and fuel their own growth and self development.
- Engage in promoting social justice and women rights
- Create platforms and facilitate the young women to operate symbiotically towards issues affecting their lives and take self initiatives for growth.
- Identify historic and contemporary women of importance as well as crucial moments in Women's history

<b>SEMESTER III</b>	
<b>Self Study Paper</b>	<b>Electrical Wiring and Appliances</b>
<b>Code : 18UPHSS1 (Optional)</b>	<b>Credits : +2</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	recall the tools used in the home	3	Re
CO –2	discuss the systems of domestic wiring	3	Un
CO –3	explain the principle of AC	1,3	Un
CO –4	sketch the refrigerating cycle	1,3	Ap
CO –5	describe the function of a compressor	3	Un
CO –6	list out the types of motor	1,3	Re
CO –7	describe a single phase a.c.motor	1,3	Un
CO –8	sketch electric kettle	3	Ap

<b>SEMESTER IV</b>			
<b>Core VI</b>		<b>Electronics and Communication</b>	
<b>Code : 18UPHC41</b>	<b>Hrs/Week : 4</b>	<b>Hrs/Sem : 60</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO –1	recall semiconductors	2	Re
CO –2	design a voltage regulator using Zener diode.	2,4,6	Cr
CO –3	construct Colpitt's oscillator, Hartley oscillator.	2,4,6	Cr
CO –4	design a single stage transistor amplifier and an oscillator	2,4,6	Cr
CO –5	list out the types of networks	2	Re
CO –6	differentiate monostable and bistable multivibrator	2,4,6	An
CO –7	describe Satellite Communication	2	Un
CO –8	apply the principle of Doppler effect to Radar	2,3	Ap

<b>SEMESTER - IV</b>			
<b>Allied</b>		<b>Allied Mathematics – III</b>	
<b>Code : 18UMAA41</b>	<b>Hrs / Week: 3</b>	<b>Hrs / Semester: 45</b>	<b>Credits: 2</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	identify the difference between partial differential equation and ordinary differential equation	1	An
CO-2	form the partial differential equation	1	Cr
CO-3	classify various types of partial differential equations	3	Un
CO-4	apply Laplace transform on functions	1	An
CO-5	understand inverse Laplace transform	1	Un
CO-6	solve differential equation using Laplace transform	1	An
CO-7	identify Beta integrals and Gamma integrals	3	An
CO-8	understand the concept of Beta and Gamma functions.	1	Un

<b>SEMESTER – IV</b>			
<b>Allied</b>		<b>Allied - Mathematics – IV</b>	
<b>Code : 18UMAA42</b>	<b>Hrs / Week: 3</b>	<b>Hrs / Semester: 45</b>	<b>Credits: 2</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	use the Jacobian to change variables to ease integration	1,3	Un
CO-2	evaluate line integrals	3	Ev
CO-3	set up the regions and integrate double integrals in rectangular and polar coordinates	3	Re, Ev
CO-4	set up and evaluate triple integrals	3	R,E
CO-5	use Green's theorem to evaluate line integrals along simple closed contours on the plane.	1	Cr
CO-6	apply Stokes' theorem to compute line integrals along the boundary of a surface.	1	An
CO-7	use Stokes' theorem to give a physical interpretation of the curl of a vector field.	1,3	An
CO-8	use the divergence theorem to give a physical interpretation of the divergence of a vector field.	1,3	An

<b>SEMESTER IV</b>			
<b>Core Skill Based      Physics for Competitive Examinations</b>			
<b>Code : 18UPHS41</b>	<b>Hrs./Week : 4</b>	<b>Hrs./Sem : 60</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO –1	recall units and dimensions	8	Re
CO –2	solve problems in gravitation and escape velocity	1,8	An
CO –3	solve problems in magnetic effect of current	1,8	An
CO –4	solve problems in Surface Tension and Viscosity	1,8	An
CO –5	solve problems related to Kirchhoff's laws & Steady current	1,8	An
CO –6	solve problems in Electrostatics & Electric potential	1,8	An
CO –7	solve problems in Electromagnetic Induction	1,8	An
CO –8	solve problems in Zener diode & Transistor	2,8	An

<b>SEMESTER IV</b>			
<b>NME II</b>		<b>Applied Physics II</b>	
<b>Code : 18UPHN41</b>	<b>Hrs/Week : 2</b>	<b>Hrs/Sem : 30</b>	<b>Credits : 2</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO –1	explain number system	2	Un
CO –2	construct logic gates	2	Cr
CO –3	construct solar ponds for water desalination, solar cookers and solar green houses	7	Cr
CO –4	assess the working of windmills used for power generation	7	Ev
CO –5	explain the applications of ultrasonics	1	Un
CO –6	define nanomaterials	3	Re
CO –7	list out Special features of nanophase materials	3	Re
CO –8	describe Pulsed laser deposition	3	Un

<b>SEMESTER- IV</b>			
<b>Ability Enhancement Course: Yoga and Meditation</b>			
<b>Code: 18UAYM41</b>	<b>Hrs/Week : 2</b>	<b>Hrs/Semester : 30</b>	<b>Credits: 2</b>

**Course Outcome:**

- To learn and practice various meditation, yoga methods to transform the ordinary life into a healthy, harmonious life leading to holistic wellbeing,
- To create an eco-friendly, loving and compassionate world.
- Acquire knowledge and skill in yoga for youth empowerment.
- Increase their power of concentration
- Learn the causes and ways to overcome fear and sadness.
- Create a ecofriendly, loving and compassionate world



<b>SEMESTER IV</b>	
<b>Self Study Course</b>	<b>Sensors</b>
<b>Code : 18UPHSS2 (Optional)</b>	<b>Credits : +2</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO –1	recall the Sensor Characteristics and the fundamental principles of Sensing.	3,5	Re
CO –2	classify the types of Transducer	3,5	Re
CO –3	recognise selected chemical sensors	3,5	Un
CO –4	understand the optical sensors	3,5	Un
CO –5	acquire the knowledge of selected humidity sensors and other sensors	3,5	Un
CO –6	explain working principle of various sensors	3,5	Un
CO –7	identify sensors for humidity and liquid level measurements	3,5	Un
CO –8	explain the terminologies for different sensors and their applications	3,5	Un

SEMESTER V			
Common Core Core VII – Solid state and Material Science			
Code : 18UPCC51	Hrs/Week : 6	Hrs/Sem :90	Credits : 4

**Course Outcome:**

CO.No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO–1	understand the basic symmetry elements and operations of crystals	1, 2	Un
CO– 2	distinguish the types of crystals and enumerate the various crystal imperfections	3,4	An
CO–3	get a clear knowledge about metallic glasses, ceramics and biomaterials.	1, 3, 5,7, 8	Re
CO –4	justify the wave nature of matter and its experimental study	1,3	Ev
CO –5	apply Bragg’s law for x –ray study	2	Ap
CO –6	distinguish magnetic materials based on susceptibility	1,2	An
CO –7	use magnetic materials in various field	1,2	Ap
CO –8	discuss the synthesis methods of nano materials	2,3	Un

<b>SEMESTER V</b>			
<b>Core VIII</b>		<b>Digital Electronics</b>	
<b>Code : 18UPHC52</b>	<b>Hrs/Week : 5</b>	<b>Hrs/Sem : 75</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO –1	define binary numbers	2	Re
CO –2	explain number system	2	Un
CO –3	construct logic gates	2, 4,6	Cr
CO –4	recall the fundamental concepts and techniques used in digital electronics	2	Re
CO –5	analyze the construction of shift register	2,5	An
CO –6	design registers, interpret logic functions, circuits and truth tables.	2, 4	Cr
CO –7	design counters, understand the concepts of decimal number system.	2,5	Cr
CO –8	differentiate A/D and D/A conversions	2, 4	An

<b>SEMESTER V</b>			
<b>Core IX</b>		<b>Computational Physics</b>	
<b>Code : 18UPHC53</b>	<b>Hrs/Week : 5</b>	<b>Hrs/Sem : 75</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO –1	utilize their knowledge of C++ programming language and write programs for solving various problems in physics	6,8	Ap
CO –2	design a program for operator overloading	6	Cr
CO –3	distinguish between one dimensional and two dimensional arrays	6	An
CO –4	define various types of constructors	6	Re
CO –5	design a simple C++ program for function	6	Cr
CO –6	define a class	6	Re
CO –7	differentiate constructors and destructors	6	An
CO –8	solve the problem in Bisection method	6, 8	An

<b>SEMESTER V</b>			
<b>Core Integral I</b>		<b>Renewable Energy Sources</b>	
<b>Code :18UPHI51</b>	<b>Hrs/Week : 4</b>	<b>Hrs/Sem : 60</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO –1	construct solar ponds for water desalination, solar cookers and solar green houses	7, 5	Cr
CO –2	assess the working of windmills used for power generation	7	Ev
CO –3	list the renewable energy sources available in surplus	7	Re
CO –4	explain different types of solar water heaters	7,5	Un
CO –5	sketch out the classifications of WEC system	7	Ap
CO –6	recall Green house effect	7	Re
CO –7	discuss Energy audit	7	Un
CO –8	design KVIC plants for bio gas generation	7	Cr

<b>SEMESTER V</b>	
<b>Self Study</b>	<b>Bio Physics</b>
<b>Code :18UPHSS3 (Compulsory)</b>	<b>Credits : 2</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO –1	define Poiseuille 's formula	1,2	Re
CO –2	recall polarization	1,2	Re
CO –3	compare transverse and longitudinal waves	1,2	An
CO –4	use of Doppler effect	1,2	Ap
CO –5	diagrammatically show retina and photo receptor	2	An
CO –6	understand the Physiological characteristics of sound	1,2	Un
CO –7	define the terms thermodynamics	1,2	Re
CO –8	identify the non –linearity of human ear response	2	Un

<b>SEMESTER VI</b>			
<b>Core X</b>		<b>Modern Physics</b>	
<b>Code :18UPHC61</b>	<b>Hrs/Week : 5</b>	<b>Hrs/Sem : 75</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO –1	describe Michelson –Morley experiment	2	Un
CO –2	list the Postulates of special theory of relativity	2	Re
CO –3	apply Pauli’s exclusion principle to periodic table	2	Ap
CO –4	illustrate L –S coupling	2	Ap
CO –5	differentiate the Characteristic and continuous X – ray spectrum	2,5	An
CO –6	define Bragg’s law	2,5	Re
CO –7	evaluate Davisson and Germer’s experiment	2	Ev
CO –8	apply Bohr’s quantization of angular momentum to the hydrogen atom	2	Ap

SEMESTER VI			
Core XI		Nuclear and Particle Physics	
Code :18UPHC62	Hrs/Week : 4	Hrs/Sem : 60	Credits : 4

**Vision:** To enrich our students with the knowledge of nuclear and particle physics

**Mission:** To study the properties of  $\alpha, \beta, \gamma$  rays, process of radioactivity and its applications and various detectors

**Course Outcome:**

CO.No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO –1	recall the structure of nuclei	2	Re
CO –2	understand simple nuclear models	2	Un
CO –3	explain properties of $\alpha, \beta, \gamma$ rays and their decay	2	Un
CO –4	analyze the key features of nuclear fission and its applications	2	An
CO –5	analyze the key features of nuclear fusion and its applications	2	An
CO –6	understand the principle and working of particle accelerators	2	Un
CO –7	understand the principle and working of particle detectors	2	Un
CO –8	describe the constituent particles in the electron, proton and neutron	2	Un



<b>SEMESTER VI</b>			
<b>Core XII Opto Electronics &amp; Fibre Optic Communication</b>			
<b>Code :18UPHC63</b>	<b>Hrs/Week : 4</b>	<b>Hrs/Sem : 60</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO –1	recall the basic principles of semiconductors	2	Re
CO –2	understand the formation of energy bands of semiconductors	2	Un
CO –3	list out the optical characteristics of semiconductors	2	Re
CO –4	explain the principle and working of optical sources	2	Un
CO –5	categorise the optical detectors and their principles	2	An
CO –6	analyze and classify the structure of optical fibres, its types and various optical losses	2	An
CO –7	understand the basics of signal propagation through optical fibres	2	Un
CO –8	understand the types and various optical losses	2	Un

<b>SEMESTER VI</b>			
<b>Core Integral II</b>		<b>Advanced Physics</b>	
<b>Code :18UPHI61</b>	<b>Hrs/Week : 4</b>	<b>Hrs/Sem : 60</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO –1	recall laser and its applications in medicine industry	3	Re
CO –2	list out the applications of Holography	3	Re
CO –3	solve arithmetic operations using 8085	5,6	An
CO –4	draw 8085 MPU	5,6	An
CO –5	formulate a program to write two hexadecimal numbers using 8085	5,6	Cr
CO –6	discuss BCS theory	2	Un
CO –7	assess the usage of Superconductors	3	Ev
CO –8	list the materials and its properties for nuclear and space applications	2	Re

<b>SEMESTER VI</b>			
<b>Core Integral III    Microprocessor 8086 and Microcontroller</b>			
<b>Code :18UPHI62</b>	<b>Hrs/Week : 5</b>	<b>Hrs/Sem : 75</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO –1	explain the architecture of 8086 Microprocessor	5,6	Un
CO –2	categorise addressing modes of the 8086 Microprocessor	5,6	An
CO –3	understand instruction set of the 8086 Microprocessor	5,6	Un
CO –4	recall the basic introduction to 8051 microcontroller	5,6	Re
CO –5	understand instruction Set and Programming of the 8051 microcontroller	5,6	Un
CO –6	design the assembly level programs using instruction set	5,6	Cr
CO –7	sketch the architecture of 8051 microcontroller	5,6	Ap
CO –8	compare timers and counters	5,6	An

<b>SEMESTER VI</b>			
<b>Project</b>			
<b>Code :18UPHP61</b>	<b>Hrs/Week : 5</b>	<b>Hrs/Sem : 75</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to:</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	Design, build and assess the working of scientific models individually as well as in groups	5, 6	Cr, Ev
CO –2	Plan research works related to crystal growth	5, 6	Cr
CO –3	Synthesize Nano materials and compile the characteristics	3,5,6	Cr
CO – 4	Assess the output of electronic projects	2,5,6	Ev
CO – 5	Interpret the physical phenomena in theoretical projects	5,6	Ap
CO –6	Analyse the various properties of atmosphere using available software	5,6	An
CO –7	Design solar appliances	5,6,7	Cr
CO –8	Calculate the thickness of different hairs using air wedge apparatus	1,5,6	An

## B.Sc. Chemistry

SEMESTER- I			
Part III	Core I	General Chemistry I	
Code :18UCHC11	Hrs/Week:4	Hrs/ Sem: 60	Credits:4

### Course Outcome :

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	compare Rutherford and Bohr's model of the atom	1, 2	An
CO-2	predict electronic arrangement in orbits	1 , 2 , 3	Ev
CO-3	understand quantum numbers and to Know the rules for filling up of orbitals	1 ,2 ,3,4	Un
CO-4	explain the periodic properties of the different groups of compounds focusing on production methods	1	Un
CO-5	apply methods of balancing redox reactions	1, 2, 3	Ap
CO-6	know the different concepts of acids and bases	1, 3	Re
CO-7	identify different types of bonding in molecules	3, 4	An
CO-8	sketch Molecular orbital diagram and to apply the VSEPR theory to predict the shape of a molecule or polyatomic ion.	3, 4	Ap

SEMESTER- I			
Part III	Core I	General Chemistry II	
Code :18UCHC12	Hrs/Week:4	Hrs/ Sem: 60	Credits:4

**Course Outcome :**

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO 1	know the nomenclature of different class of organic compounds	1	Re
CO 2	associate polarization of a bond with electronegativity	1, 3	Un
CO 3	discuss nucleophilic and electrophilic groups and their properties, Identify Aromatic, antiaromatic & non- aromatic compounds by Huckel's rule	1,3	Re,Un
CO 4	discriminate terminal & non-terminal alkynes, the acidic nature of acetylenic hydrogen	1,3	An,Un
CO 5	predict the mechanism of aromatic substitution reactions and effect of o,m& p directing group	1,6	Cr
CO 6	interpret the reactions and properties of halogen compounds, Distinguish the nuclear and side chain halogen compounds in aromatic ring, Describe the preparation and properties of halogen derivatives such as vinyl chloride, chloroprene	1,2,5,6,7	Un,An,Ap
CO7	classify and compare the types of colloids, Discuss the preparation methods and properties of colloids	1 , 2 , 5	Un
CO 8	enumerate the importance of colloids in day to day life, Know the experimental methods of determining the colligative properties	1, 3,4	Re

<b>SEMESTER - I</b>			
<b>Part III</b>		<b>Allied Mathematics – I</b>	
<b>Code:18UMAA11</b>	<b>Hrs / Week: 3</b>	<b>Hrs / Semester: 45</b>	<b>Credits: 2</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	form the equations from the given roots.	6, 7	C
CO-2	Approximate solutions of equations by applying Horner's method and Newton's method	2	U,E
CO-3	transform equations by increasing, decreasing and multiplying the roots of the equation.	4	A
CO-4	develop and apply concepts of expressions and equations to investigate and describe relationships	5	A
CO-5	demonstrate problem solving skills	2, 8	C
CO-6	evaluate eigen values and eigen vectors of square matrices and make use of the properties of determinants in their calculation.	4	U,E
CO-7	calculate the radius of curvature by differentiation	4, 6, 7	U,E
CO-8	calculate centre and circle of curvature.	4, 6, 7	E

SEMESTER – I			
Part III		Allied Mathematics II	
Code:18UMAA12	Hrs / Week: 3	Hrs / Semester: 45	Credits: 2

**Course Outcome:**

CO.No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	compute the curl and the divergence of vector fields	4	C
CO-2	compute the gradient of a scalar valued function	1, 4	C
CO-3	solve Differential Equations	5	E
CO-4	interpret basic definitions and terminology associated with differential equations and their solutions	6,7,8	U
CO-5	classify the differential equations with respect to their order and linearity	6, 7,8	An
CO-6	Solve linear differential equations	1	Ev
CO-7	find complementary functions	4	R
CO-8	evaluate particular integrals of the form $e^{ax}$ , $\sin ax$ , $\cos ax$ , $x^m$ and $e^{ax}f(x)$	2, 4	A,E



<b>SEMESTER I</b>			
<b>Part III ALLIED BIOCHEMISTRY -I</b>			
<b>Code: 18UBCA11</b>	<b>Hrs/Week : 4</b>	<b>Hrs/ Sem : 60</b>	<b>Credits : 3</b>

### Course Outcomes

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO 1	Explain about the chemical composition and the elements of life. Differentiate direct and indirect method for the determination of energy requirement of man	1,2	Un
CO 2	Express the importance of bioenergetics	7	Un
CO 3	Compare the biological reaction such as exergonic reaction and endergonic reaction	3	An
CO 4	Demonstrate about the various energy rich compounds such as adenosine triphosphate, guanosine triphosphate, uridinetriphosphate, Cytidinetriphosphate and acyl phosphate.	5	Ap
CO 5	Distinguish water soluble and fat soluble vitamins and analyze their composition, functions and deficiency symptoms.	3	An
CO 6	Interpret the hormones producing organs and their functions, Know about the plant as well as animal hormones.	3,5	Cr,Re
CO 7	Identify the antibiotics which are all responsible for affecting cell wall synthesis, cytoplasmic membrane and enzyme systems.	7	Re
CO 8	Develop knowledge about the antibiotics interfering with nucleic acid function and inhibiting protein synthesis.	5	Ev

<b>SEMESTER II</b>			
<b>Part III</b>	<b>Core III</b>	<b>Inorganic Chemistry- I</b>	
<b>Code :18UCHC21</b>	<b>Hrs./Week:4</b>	<b>Hrs/ Sem:60</b>	<b>Credits:4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO 1	Recall the methods of purification of ores	1	R
CO 2	Identify the electronic configurations of the zero, s, p d-and f-block elements	1, 5	An
CO 3	Explain the general characteristics and diagonal relationship of alkali and alkali earth metals and discuss the preparation and uses of their compounds	1	Un
CO 4	Describe the extraction and uses of various lanthanide and actinide compounds.	1, 5, 7	Un
CO 5	Derive equations for reactions of compounds of the zero group elements	1, 3	Ap
CO 6	Compare the different shapes of compounds of noble gases	3, 4	Ap
CO 7	Apply the knowledge about interfering radicals, common ion effect and solubility product	1, 4, 7, 8	Ap
CO 8	Communicate the concepts and results of their laboratory experiments clearly and concisely to both chemists and non-chemists through effective writing and oral communication skills	1, 2 7, 8	Ev

SEMESTER- II			
Part III	Core IV	Organic Chemistry-I	
Code :18UCHC22	Hrs/Week:4	Hrs/ Sem: 60	Credits:4

**Course Outcome:**

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO 1	Prepare alcohols and summarize their properties, Distinguish between 1°, 2° & 3° alcohols, Recognise the differences between the acidities of alcohols and phenols	1,3,6	Ev,An,Re
CO 2	Reframe the alcohol series, Justify the effect of substituent on the acidity of phenols, Know the preparation and uses of thioalcohols	1,2,3,6	Cr,Re
CO 3	Estimate alkoxy group by ziesel's method	1,2	Cr
CO 4	Compare ethers and alcohols, nitroalkanes and alkyl nitrites, Differentiate 1°, 2° & 3° amines by reactions	1,3	An
CO 5	Justify the effect of substituent on the basicity of aromatic amines	1,3	Cr
CO 6	Recall the synthetic importance of organometallic compounds, Recognise Frankland reagent and its significance	1,6,7	Re
CO 7	Illustrate the theory of resonance and tautomerism	1,3	Un
CO 8	Identify the product of rearrangement reactions such as pinacol-pinacolone, Benzil-Benzilic acid, Curtius, Lossen, Favorskii and Fries rearrangement.	1,3	An

<b>SEMESTER - II</b>			
<b>Allied</b>		<b>Allied Mathematics –III</b>	
<b>18UMAA21</b>	<b>Hrs / Week: 3</b>	<b>Hrs / Semester: 45</b>	<b>Credits: 2</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	Identify the difference between partial differential equation and ordinary differential equation	1	An
CO-2	Form the partial differential equation	6	Cr
CO-3	Classify various types of partial differential equations	3	Un
CO-4	Apply Laplace transform on functions	8	Ap
CO-5	Understand inverse Laplace transform	4	Un
CO-6	Solve differential equation using Laplace transform	5	An
CO-7	Identify Beta integrals and Gamma integrals	2	Ap
CO-8	Understand the concept of Beta and Gamma functions.	7	Un

<b>SEMESTER – II</b>			
<b>Part III Allied</b>	<b>Mathematics – IV</b>		
<b>18UMAA22</b>	<b>Hrs / Week: 3</b>	<b>Hrs / Semester: 45</b>	<b>Credits: 2</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	Use the Jacobian to change variables to ease integration	1, 3	Un
CO-2	Evaluate line integrals	3	Ev
CO-3	Set up the regions and integrate double integrals in rectangular and polar coordinates	2	Re, Ev
CO-4	Set up and evaluate triple integrals	3	Re, Ev
CO-5	Use Green's theorem to evaluate line integrals along simple closed contours on the plane.	10	Cr
CO-6	Apply Stokes' theorem to compute line integrals along the boundary of a surface.	7,9	Ap
CO-7	Use Stokes' theorem to give a physical interpretation of the curl of a vector field.	8,9	An
CO-8	Use the divergence theorem to give a physical interpretation of the divergence of a vector field.	8, 9	Ap

<b>SEMESTER II</b>			
<b>Part III</b>		<b>Allied Biochemistry -II</b>	
<b>Code: 18UBCA21</b>	<b>Hrs/Week : 4</b>	<b>Hrs/ Sem : 60</b>	<b>Credits : 3</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO 1	Discuss in detail about the nutritional values of milk, egg, meat, fish, vegetable foods, fruits, tea, coffee, cocoa and alcohol. Analyse the physio-chemical interactions between diet ingredients.	1,3	Un,An
CO 2	Categorize energy yielding foods, body building foods and protective foods. Assess effect of drugs on food intake, body weight, nutrient requirements and growth, vitamins and minerals.	1,5	An,Cr
CO 3	Demonstrate the theories of biological oxidation decarboxylation, electron transport system and oxidative phosphorylation.	6	Ap
CO 4	Describe the functions of blood. Discuss in brief about red blood cells, white blood cells, blood platelets, plasma and plasma protein.	1	Un
CO 5	Identify the variation in structure of hemoglobin with reduced solubility and altered oxygen affinity.	2	Re
CO 6	Formulate how the transport of oxygen by blood and carbon-di-oxide in blood taking place.	1	Ev
CO 7	Interpret the role of kidneys in acid-base balance, Relate the physical and chemical transport of blood,	2,6	Cr,Ap
CO 8	Compare the relation between optical and electron microscope, Identify the separated components using paper as well as gel electrophoresis.	1,2	An,Re

Semester – II			
Environmental Studies			
<b>Code : 18UAEV21</b>	<b>Hrs/ Week : 2</b>	<b>Hrs/Sem:30</b>	<b>Credits : 2</b>

**Course Outcomes:**

**Upon completion of this course, the students will be able to**

- 1 Recognize the biotic and abiotic components of ecosystem and how they function
- 2 Use natural resources more efficiently and know more sustainable ways of living
3. Acquire an attitude of concern for the environment
4. Participate in improvement and protection of environment
5. Manage unpredictable disasters
- 6 Create awareness about environmental issues to the public

<b>SEMESTER- III</b>			
<b>Core V</b>		<b>Physical Chemistry-I</b>	
<b>Code : 18UCHC31</b>	<b>Hrs/Week : 4</b>	<b>Hrs/ Sem : 60</b>	<b>Credits : 4</b>

**Course Outcome :**

<b>CO No.</b>	<b>Upon completion of this course, students should be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO- 1	have an overall knowledge about liquid and gaseous states of matter	1,2 , 3	Re
CO- 2	explain the relationship between kinetic energy and temperature of a gas; between temperature and the velocity of a gas; and between molar mass and the velocity of a gas.	1,3	Un
CO- 3	understand the basis of nuclear forces , nuclear stability , radioactivity and nuclear reactions	1,2,4	Un
CO- 4	interpret phase rule	1,3,4	Ev
CO- 5	prioritise the phenomenon of catalysis in industry and biological systems and learn the basic concepts of adsorption and its applications in various walks of life	1 , 2,5,7,8	Ap
CO- 6	enumerate the general characteristics of catalytic reactions and thorough knowledge of the theory behind homogeneous and heterogeneous catalysis	1 ,2,7	Re
CO- 7	distinguish adsorption/desorption and the kinetics of catalytic reactions on a surface.	3,4,5,7,8	An
CO- 8	justify the significance of Freundlich, Langmuir isotherms and BET isotherm	1,2	Ev



<b>SEMESTER- III</b>			
<b>Allied Physics – Paper I</b>			
<b>Code : 18UPHA31</b>	<b>Hrs/Week : 4</b>	<b>Hrs/ Sem : 60</b>	<b>Credits : 3</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	Define fundamentals of elasticity and discuss concepts of stress and strain and the relationship between both, use the stress-strains equations to solve the problems of elastic modes	1	Re, Un
CO-2	Solve problems related to uniform and non-uniform bending of beams	1	An
CO-3	Define the terms viscosity and surface tension	1	Re
CO-4	Describe the properties of fluids such as viscosity, surface tension and capillary rise and evaluate the value of coefficient of viscosity	1, 2, 6	Un, Ev
CO-5	Estimate the thermal conductivity of a bad conductor	1	Ev
CO-6	Calculate the specific heat capacity of a liquid	1, 6	An
CO-7	Calculate the thickness of a thin wire by forming interference fringes	1, 2, 6	An
CO-8	Assess the dispersive power and resolving power of a grating	1, 2, 6	Ev

<b>SEMESTER III</b>			
<b>Core Skill Based</b>		<b>Agricultural Chemistry and Water Management</b>	
<b>Code :18UCHS31</b>	<b>Hrs./Week:4</b>	<b>Hrs/ Sem : 60</b>	<b>Credits:4</b>

#### **Course Outcome**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO - 1	understand the importance of soil its constituents, fertility and to promote agriculture.	1, 7	Un
CO - 2	know the preparation and importance of fertilizers in agriculture	1, 7	Re
CO - 3	realize the importance of pesticides and insecticides	1, 7	Ap
CO - 4	understand the water quality standards and water quality parameters.	2, 3, 7	Un
CO - 5	aware of the harmful effects of pollutants Produce vermi compost and gobar gas	2, 3, 8	An,Cr
CO - 6	understand the processes used for purification of municipal water	4	Un
CO - 7	treat waste water by using different methods	4, 7, 8	Cr
CO - 8	estimate the amount of carbonate, chloride, nitrate, phosphate, zinc and calcium present in soil.	4, 7	Ap

<b>SEMESTER- III</b>			
<b>NME I</b>		<b>Industrial Chemistry</b>	
<b>Code :18UCHN31</b>	<b>Hrs/Week:2</b>	<b>Hrs/ Sem: 30</b>	<b>Credits:2</b>

#### **Course Outcome**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO - 1	understand the process of refining of petroleum and they can develop knowledge of different refining processes	2	Un
CO -2	aware of the importance as well as the impacts of residual chemicals related with petroleum industry	2, 5	Ap
CO - 3	know the adverse effects of corrosion and study the means to prevent it	1	Re
CO - 4	understand the difference and usage of paints, varnishes and lacquers	2	Un
CO - 5	know the fundamental knowledge about rubbers and fibres.	2, 5	Re
CO - 6	understand and apply the various processing and manufacturing techniques of rayons, nylons and polyesters	2, 5	Un
CO - 7	know the chemistry of oils, fats and waxes and their manufacturing process	1, 2	Re
CO - 8	know the government regulations required for the usage of food additives in food products.	5	Re

<b>Semester – III</b>			
<b>Women's Synergy</b>			
<b>Code : 18UAWS31</b>	<b>Hrs/ Week : 2</b>	<b>Hrs/Sem:30</b>	<b>Credits : 2</b>

#### **Course Outcome**

- To know about Women's health issues including menstruation, pregnancy, child birth etc, thereby taking care of themselves.
- Create awareness about their own biases, fears and comfort levels and encourage to dream and fuel their own growth and self development.
- Engage in promoting social justice and women rights
- Create platforms and facilitate the young women to operate symbiotically towards issues affecting their lives and take self initiatives for growth.
- Identify historic and contemporary women of importance as well as crucial moments in Women's history

<b>SEMESTER III</b>	
<b>Self Study I</b>	<b>Applied Chemistry</b>
<b>Code :18UCHSS1 (Optional)</b>	<b>Credit : +2</b>

#### **Course Outcome**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO - 1	describe the process of manufacture of soaps	1,7	Re
CO - 2	aware of comparison of soaps and detergents.	5	Ap
CO - 3	list out the characteristics of good paint	1,7	Re
CO - 4	understand the constituents of varnishes and their functions	2,7	Un
CO - 5	describe the manufacture of sugar	2,5	Re
CO - 6	understand the manufacture of paper	2, 5,7	Un
CO - 7	know the chemistry of oils, fats and waxes and their manufacturing process	1, 7	Re
CO - 8	know the government regulations required for the usage of food additives in food products.	1,5,7	Re

SEMESTER- IV			
Core VI		Organic Chemistry-II	
Code :18UCHC41	Hrs/Week:4	Hrs/ Sem: 60	Credits:4

**Course Outcome:**

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO - 1	interpret the elements of symmetry, chirality	1	Un
CO - 2	explain the rules of stereochemical configuration to perspective drawings, Newman projections and Fischer projections Apply the Cahn Ingold Prelog rule for ascertaining the geometric configuration (cis or trans and/or E or Z) of disubstituted cycloalkanes	2	Un, Ap
CO - 3	define Sachse Mohr theory – Newman projection ,Sawhorse & Fischer formulae Know about the conformational analysis	1	Re
CO - 4	classify carbohydrates and compare and contrast the reactions and structure of glucose and fructose Illustrate the structure and reactions of carbohydrates	5,6	Un
CO - 5	discuss epimerization and mutarotation	1	Un
CO - 6	demonstrate various Theories of colour and constitution, know the applications of dyes .	1	Ap, Re
CO - 7	synthesize and Characterize acetoacetic ester, malonic ester and cyanoacetic ester	5,7	Cr
CO - 8	recall the preparation of NBS and wilkinsons catalyst Prepare reagents in organic synthesis like Lithium Aluminium hydride, Periodic acid, Sodamide, Selenium dioxide, lead tetra acetate, Osmium tetroxide, Raney nickel, Sodium borohydride	3, 8 4	Re Cr

<b>SEMESTER – IV</b>			
<b>Allied Physics - Paper II</b>			
<b>18UPHA41</b>	<b>Hrs / Week: 4</b>	<b>Hrs / Semester: 60</b>	<b>Credits: 3</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	Apply the Gauss law in calculation of electric fields due to various charge distributions and understand coulomb's law which gives an idea about the electrostatic force between point charges	1	Ap, Un
CO-2	Define and explain self and mutual inductance	1	Re, Un
CO-3	Employ Lenz law and Faraday's law for magnetically coupled circuits	1	An
CO-4	Apply knowledge of electricity and magnetism to explain the nature of physical process and related technological advances	1	Ap
CO-5	Understand the principle of energy release in nuclear reactions and identify the present energy scenario and the need for energy conservation	8	Un
CO-6	Examine the structure of various number system and its application in digital design	6, 8	Un, An
CO-7	Analyse the environmental aspects of renewable energy sources	5	An
CO-8	Acquire the knowledge of solar cells, photovoltaic cells, wind energy and solar energy principles and applications	5	Un

<b>SEMESTER IV</b>			
<b>Core Skill Based</b>		<b>Pharmaceutical Chemistry</b>	
<b>Code :18UCHS41</b>	<b>Hrs/Week: 4</b>	<b>Hrs/ Sem : 60</b>	<b>Credits: 4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO - 1	understand the importance of drugs and their mode of action	4	Un
CO - 2	know the causes of common diseases and their treatment	3, 4, 7	Re
CO - 3	apply Indian medicinal plants for treatment.	3	Ap
CO - 4	aware about first aid rules and first aid box	4, 7	Ap
CO - 5	predict common poisons and their antidotes.	3, 4, 7	Ev
CO - 6	estimate the sugar and cholesterol levels in blood.	4, 5, 7	Ev
CO - 7	describe about the cardiovascular drugs	3, 4, 7	Un
CO - 8	know about diabetics and its treatment	4, 7	Re



<b>SEMESTER- IV</b>			
<b>NME II</b>		<b>Everyday Chemistry</b>	
<b>Code :18UCHN41</b>	<b>Hrs./Week: 2</b>	<b>Hrs/ Sem: 30</b>	<b>Credits: 2</b>

### Course Outcome

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO - 1	differentiate between hard and soft water in terms of origin and content	2	Ap
CO - 2	analyse samples of water to assess their suitability for drinking	5	An
CO - 3	know the importance of some common drugs	5	Un
CO - 4	understand the chemistry behind mouth washes, antacids, analgesics, antipyretics, sedatives and hypnotics	2, 5	Un
CO - 5	correlate the importance of colloids in day to day life	1	Cr
CO - 6	know the preparation of some special milks		Re
CO - 7	understand the basic principles behind the preparation of some useful compounds	1	Un
CO - 8	knowledge on the preparation of commercial products such as candle, Tooth paste, Blackboard chalk, Moth balls, Cleaning powder, Face powder, Lipstick and Eyetex	2, 7	Cr

<b>SEMESTER- IV</b>			
<b>Ability Enhancement Course: Yoga and Meditation</b>			
<b>Code: 18UAYM41</b>	<b>Hrs/Week : 2</b>	<b>Hrs/Semester : 30</b>	<b>Credits: 2</b>

**Course Outcome:**

- To learn and practice various meditation, yoga methods to transform the ordinary life into a healthy, harmonious life leading to holistic wellbeing,
- To create an eco-friendly, loving and compassionate world.
- Acquire knowledge and skill in yoga for youth empowerment.
- Increase their power of concentration
- Learn the causes and ways to overcome fear and sadness.
- Create a ecofriendly, loving and compassionate world

<b>SEMESTER IV</b>	
<b>Self Study II</b>	<b>Informative Chemistry</b>
<b>Code :18UCHSS2 (Optional)</b>	<b>Credits : +2</b>

### Course Outcome

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO - 1	recognize contribution of chemistry to the nation	5	Re
CO - 2	know the national resource centers	1,7	Re
CO - 3	facilitate the structure and types of MOOCs	5	Cr
CO - 4	practice flip class rooms	5	Ap
CO - 5	apply the concepts of Reduce, Reuse and Recycle	7	Ap
CO - 6	know the methods of disposal of Chemical waste	7	Re
CO - 7	recognize the impact of chemical reactions on our planet earth	5	Re
CO - 8	identify the Nobel laureates in Chemistry	4	Re

<b>SEMESTER- V</b>			
<b>Core VII (Common Core) Solid State and Material science</b>			
<b>Code : 18UPCC51</b>	<b>Hrs/Week : 6</b>	<b>Hrs/ Sem : 90</b>	<b>Credits : 4</b>

#### **Course Outcome**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO - 1	understand the basic symmetry elements and operations of crystals.	1, 2	Un
CO - 2	distinguish the types of crystals and enumerate the various crystal imperfections.	3,4	An
CO - 3	get a clear knowledge about metallic glasses, ceramics and biomaterials.	1, 3, 5,7, 8	Re
CO - 4	justify the wave nature of matter and its experimental study.	1,3	Ev
CO - 5	apply Bragg's law for x-ray study.	2	Ap
CO - 6	distinguish magnetic materials based on susceptibility.	2	An
CO - 7	usage of magnetic materials in various field.	2	Ap
CO - 8	discuss the synthesis methods of nano materials.	2	Un

<b>SEMESTER- V</b>			
<b>Core VIII</b>		<b>Organic Chemistry III</b>	
<b>Code :18UCHC52</b>	<b>Hrs./Week:5</b>	<b>Hrs/ Sem: 75</b>	<b>Credits:4</b>

#### Course Outcome

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO - 1	compare the general reactions of aldehydes and ketones	5	Ap
CO - 2	explain the mechanism of Claisen, Benzoin, Perkin, Knoevenagel reaction- Wittig reaction-iodoform reaction  explain the factors influencing strength of acid - effect of substituent in benzene ring	2	Un
CO - 3	generalize the properties of carbonyl and carboxyl compounds	1,6	Cr
CO - 4	classify the polynuclear hydrocarbons  Structure Elucidation of alizarin	1.5	Ap Cr
CO - 5	state synthons and synthetic equivalent- Protection and deprotection of different groups	3	Re
CO - 6	explain Retrosynthesis of 5-hexanoic acid	1,3,6	Un
CO - 7	apply green chemistry in day-to-day life, dry cleaning, versatile bleaching agent	4,7	Ap
CO - 8	implement an awareness about green chemistry and the methods of microwave assisted synthesis	3,8	Ap

SEMESTER V			
Core IX		Physical Chemistry II	
Code :18UCHC53	Hrs/Week : 5	Hrs/ Sem : 75	Credits : 4

### Course Outcome

CO.No.	Upon completion of this course, students should be able to	PSO addressed	CL
CO - 1	understand the kinetics of the reaction and to determine the reaction mechanism	1	Un
CO - 2	apply reaction kinetics to determine the rate of chemical reactions; understand the factors that influence rates of reaction.	2 , 3	Ap
CO - 3	summarize the chemical reactions under light and sound	3	Un
CO - 4	outline the principle behind sonochemical reactions	3	Re
CO - 5	apply the concept of group theory to various molecules	1	Ap
CO - 6	have a thorough knowledge of symmetry elements, symmetry operations and point groups	1, 2	Re
CO - 7	build an Elementary treatment of Debye-Huckel theory of strong electrolytes ,conductometric titrations, hydrolysis and calculation of pH.	1 , 3	An
CO - 8	probe into the importance of electrochemistry and its application	4	Ev

<b>SEMESTER- V</b>			
<b>Core Integral I</b>		<b>Essentials of Inorganic Chemistry</b>	
<b>Code :18UCHI51</b>	<b>Hrs./Week:4</b>	<b>Hrs/ Sem: 60</b>	<b>Credits:4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO - 1	provide knowledge about non-aqueous solvents	1	Un
CO - 2	helps to learn the positions of the zero, d– and f-block elements in the periodic table	1	Ev
CO - 3	explain the general characteristics of non-aqueous solvents d– and f–block elements and the general horizontal and group trends in them	1	Ap
CO - 4	recall relevant oxidation states for the zeros, d and f block elements	1	Re
CO - 5	appreciate the relative stability of various oxidation states in terms of electrode potential values	1, 7	Ev
CO - 6	derive equations for reactions of compounds of the zero , d and f block elements	1, 2, 8	Cr
CO - 7	describe the synthesis of the zeros, d and f block elements	3, 5, 6	Ap
CO - 8	recall the structures, the properties, applications of silicones and silicates	1, 2	Re

<b>SEMESTER V</b>	
<b>Self study</b>	<b>Chemistry For Competitive Examination</b>
<b>Code :18UCHSS3 (Compulsory)</b>	<b>Credits : 2</b>

**Course Outcome :**

<b>CO No.</b>	<b>Upon completion of this course, students should be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO - 1	classify homogeneous and heterogeneous mixtures	1	Re
CO - 2	understand the separation principles used in metallurgy	1, 7	Un
CO - 3	know the Rutherford, J.J Thomson and Bohr's atomic models	1	Re
CO - 4	apply the principles governing the filling up of electrons in the orbitals	1	Ap
CO - 5	classify elements into s, p, d and f block	1, 3	Un
CO - 6	categorise Ionic, Covalent and Coordinate bond	1, 3	An
CO - 7	assess the difference between diamond and graphite.	1, 6	Ev
CO - 8	know the desalination of water using Reverse Osmosis	5, 7	Re



SEMESTER- VI			
Core X		Inorganic Chemistry - II	
Code :18UCHC61	Hrs./Week:4	Hrs/ Sem: 60	Credits:4

**Course Outcome:**

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO - 1	acquire knowledge in the chemistry of coordination compounds and their properties.	1	Un
CO - 2	characterize and synthesize of coordination compounds	1, 5,6	Ap
CO - 3	explain the definition of coordination compounds, naming them and decide isomerism	1	Re
CO - 4	describe the formation and bonding in coordination compounds	1, 6	An
CO - 5	grasp the knowledge of bonding in metal carbonyls	1, 2	Re
CO - 6	identify the structure and bonding in metal carbonyls of mono, bi nuclear and poly nuclear carbonyls	3, 6	Ap
CO - 7	formulate independent research ideas in the field of bioinorganic chemistry	1, 3, 7	Cr
CO – 8	recall the importance of metals in biological systems and the application of metal chelates in various fields	1, 4, 8	Re

<b>SEMESTER- VI</b>			
<b>Core XI</b>		<b>Organic Chemistry-IV</b>	
<b>Code :18UCHC62</b>	<b>Hrs./Week: 4</b>	<b>Hrs/ Sem: 60</b>	<b>Credits: 4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO -1	identify the type of the photochemical and thermal reactions	1,7	Re
CO - 2	understand the important applications of photochemistry in organic compounds	1	Un
CO - 3	illustrate the mechanisms of specific reactions	1	Ap
CO - 4	know about the importance of heterocyclic compounds, alkaloids and terpenes Identify the nature of compounds in heterocyclic compounds	1, 5	Re
CO - 5	apply the methods of extraction of Alkaloids	1, 2,6	Ap
CO - 6	compare quinoline and isoquinoline	1,4	Ap
CO - 7	analyse amino acid spectrophotometrically	1, 2, 8,	An
CO - 8	recall the colour reactions of proteins Classify the structure of DNA and RNA	1, 3 5	Re Un

SEMESTER VI			
Core XII		Physical Chemistry III	
Code :18UCHC62	Hrs/Week : 5	Hrs/ Sem : 75	Credits : 4

### Course Outcome

CO No.	Upon completion of this course, students should be able to	PSO addressed	CL
CO - 1	study various thermodynamic parameters and its applications in different physical states of the systems	1 ,2 , 3	Re
CO - 2	understand the kinetics of the reaction and to determine the reaction mechanism	1,2,4	Re
CO - 3	apply reaction kinetics to determine the rate of chemical reactions; understand the factors that influence rates of reaction.	1,2 , 3,5	Ap
CO - 4	catagorise fundamental uniqueness of the chemical and physical properties of nanomaterials and their potential impact in science, engineering, medicine, and the environment	1,2 , 3,5	An
CO - 5	outline the concepts of top down and bottom up methods of nanomaterials preparation	2, 3,5,6	An
CO - 6	have a thorough Learning of miscible and immiscible liquids	2,3,4	Re
CO - 7	comparison of vapour pressure of partially miscible liquids and mixture of immiscible liquids and understand the theory of fractional distillation and steam distillation and its applications.	2,3	An
CO - 8	outline the statement of Nernst distribution law , its deviations and applications	1, 2,3,4	An

SEMESTER- VI			
Core Integral II		Spectroscopy	
Code : 18UCHI61	Hrs/Week : 4	Hrs/ Sem : 60	Credits : 4

### Course Outcome

CO No.	Upon completion of this course, students should be able to:	PSO addressed	CL
CO - 1	have a basic knowledge of electromagnetic spectrum and various types of spectra	1 , 2 , 3	Re
CO - 2	understand the theory , instrumentation and applications of rotational spectroscopy	1, 2	Un
CO - 3	know the types of electronic transitions and various selection rules	1,3	Re
CO - 4	apply Woodward-Fieser rule for calculation of absorption maxima of dienes and $\alpha$ , $\beta$ unsaturated ketones and enumerate the applications of UV spectroscopy in coordination complexes.	2, 3,6	Ap
CO - 5	generalise the theoretical principle, selection rules and instrumentation of IR and Raman spectroscopy	1, 2,4,6	Cr
CO - 6	categorise IR absorption frequencies and applications of IR and Raman spectroscopy	1 , 2,4	An
CO - 7	assess $C^{13}$ NMR and the principle behind $^{31}P$ , $^{19}F$ and $^{15}N$ NMR , Magnetic Resonance Imaging and applications of NMR spectroscopy.	1 ,2 ,4,6,7,8	Ev
CO - 8	know the basic principles and instrumentation of mass spectrometry	3,7,8	Re

<b>SEMESTER- VI</b>			
<b>Core Integral III</b>		<b>Selected Topics In Chemistry</b>	
<b>Code :18UCHI62</b>	<b>Hrs/Week:5</b>	<b>Hrs/ Sem: 75</b>	<b>Credits: 4</b>

**Course Outcome :**

<b>CO No.</b>	<b>Upon completion of this course, students should be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO - 1	have a basic knowledge about milk and its composition	1 , 2 , 3	Re
CO - 2	understand the theory behind fermented milks	1, 2	Un
CO - 3	know the types of different types of purification techniques	1,3	Re
CO - 4	apply Chromatographic techniques for the recovery of Organic substances	2, 3,6	Ap
CO - 5	generalize the types of corrosion	1, 2,4,6	Cr
CO - 6	categorize the constituents of paint and its uses	1 , 2,4	An
CO - 7	assess the properties of conductive polymers	1 ,2 ,4,6,7,8	Ev
CO - 8	know the preparation of synthetic polymers	3,7,8	Re

## B.Sc. Botany

SEMESTER - I			
Core I		Cell Biology and Genetics	
Code: 18UBOC11	Hrs / Week: 4	Hrs / Sem: 60	Credits: 4

### Course Outcome:

CO.No.	Upon completion of this course, students will be able to	PSO addressed	C L
CO-1	understand the structure and function of basic organelles of plant cells	1	Un
CO-2	describe the structural organization and transport function of the plasma membrane	2	Un
CO-3	identify the non living inclusions and their significance	4	Re
CO-4	reveal morphogenetic events through mitosis and meiosis	2	Re
CO-5	understand theories of heredity through Mendel's hybridization experiment	2,4	Un,Cr
CO-6	draw checker boards and predict the outcome of offspring of hybridization	8	Ap
CO-7	infer inter allelic and inter genic interaction in determination of specific characters including blood groupings in man	4	Re,Un
CO-8	comprehend the polygenic inheritance and mechanism of sex determination in plants	4	An

<b>SEMESTER – I</b>			
<b>Core II</b>		<b>Algae and Bryophytes</b>	
<b>Code:18UBOC12</b>	<b>Hrs / Week: 4</b>	<b>Hrs / Sem: 60</b>	<b>Credits: 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	find out the general characteristics of Algae and Bryophytes and structure of them.	1	An
CO-2	evaluate the importance of algae and Bryophytes and their role in everyday life and environment.	7	Ev
CO-3	distinguish mosses and thallose liverworts	3	An
CO-4	compare and contrast different classes of algae and bryophytes	2	Un
CO-5	identify Algae and Bryophytes samples collected from the field	8	Re
CO-6	distinguish life cycle pattern in different groups of Algae and Bryophytes	7	Ap
CO-7	understand the criteria behind the classification of Algae and Bryophytes	1	Un
CO-8	apply the knowledge for self employability	6	Ap

<b>SEMESTER I</b>			
<b>Allied I Animal Biology</b>			
<b>Code: 18UZOA11</b>	<b>Hrs/Week : 4</b>	<b>Hrs/Sem : 60</b>	<b>Credits : 3</b>

**Course Outcome:**

<b>CO.No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	acquire basic knowledge of animal diversity and its organisation	1	Un
CO-2	compare common and distinctive features of invertebrate phyla	1	Un
CO-3	understand the parasitic adaptations and management of nematodes	1	Un
CO-4	ability to control the insect pests	1	Ap
CO-5	characterize the major classes of subphylum vertebrata	1	Re
CO-6	assess the interaction of organisms with environment and their adaptive mechanism	1, 11	Re
CO-7	distinguish the unique features and evolutionary relationship between each chordate group	1	Cr
CO-8	apply the knowledge of biological diversity to our daily life and conservation of bioresources	1, 11	Ap



<b>SEMESTER - II</b>			
<b>Core III</b>		<b>Fungi, Lichens and Plant pathology</b>	
<b>Code:18UBOC21</b>	<b>Hrs / Week: 4</b>	<b>Hrs / Sem : 60</b>	<b>Credits: 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>C L</b>
CO-1	characterize and identify the diversity of fungal and lichen world and their adaptations	1	Un
CO-2	Identify fungal specimens microscopically	2	Ap
CO-3	Identify major groups of fungi and lichens based on morphology and anatomy	2	Ap
CO-4	understand and explain the ecological roles and trophic modes of major Fungal and Lichen groups	5	Ap
CO-5	evaluate the importance of Fungi and Lichens , their role in everyday life and environment	7	Ev
CO-6	understand the various plant diseases and their impact on agriculture	7	Un
CO-7	identify symptoms and diagnose different plant diseases and methods to control.	6	Ap
CO-8	identify pathogenecity with their specific symptoms	4	Ev

<b>SEMESTER - II</b>			
<b>Core IV</b>		<b>Anatomy and Embryology</b>	
<b>Code:18UBOC21</b>	<b>Hrs / Week: 4</b>	<b>Hrs / Sem: 60</b>	<b>Credits: 4</b>

**Vision:**

To understand the fundamental organization of tissues and developmental events of plants

**Mission:**

To understand the developmental process from flower to fruit

To gain knowledge on the histological architecture of plants

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>C L</b>
CO-1	classify meristems and explain the organization of root apex	2	Ev ,An
CO-2	distinguish meristematic and permanent tissues	8	An
CO-3	compare the secondary growth in dicot stem and root(normal and anomalous)	3 , 7	An
CO-4	describe the structure of a microsporangium and pollengrains and	1 ,3	Un , E
CO-5	Explain the structure and development of male gametophyte.	1	Un
CO-6	explain the structure and development of megasporangium	2 , 3	Ev
CO-7	understand fertilization and double fertilization.	2	Un
CO-8	differentiate dicot embryo from monocot embryo.	2 ,3	An

<b>SEMESTER II</b>			
<b>Allied II Genetics, Developmental Biology and Physiology</b>			
<b>Code: 18UZO A21</b>	<b>Hrs/ Week : 4</b>	<b>Hrs/ Sem : 60</b>	<b>Credits : 3</b>

**Course Outcome :**

<b>CO. No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO - 1	compare and contrast the Mendelian inheritance and its modifications	4	An
CO - 2	highlight the importance of genetics and welfare of human society.	11	Ev
CO – 3	acquire competence skills in developmental process	1	Un
CO – 4	learn the technical skills in developmental biology	3	Re
CO – 5	understand the basic principles of digestion	2	Un
CO – 6	create knowledge about the nervous coordination	7	Cr
CO – 7	analyze the functions of urinary tract of human	9	Ap
CO - 8	comprehend the structure and functions of human reproductive system	9	Ap

<b>Semester – II</b>			
<b>Environmental Studies</b>			
<b>Code : 18UAEV21</b>	<b>Hrs/ Week : 2</b>	<b>Hrs/Sem:30</b>	<b>Credits : 2</b>

**Course Outcomes:**

**Upon completion of this course, the students will be able to**

- 1 Recognize the biotic and abiotic components of ecosystem and how they function
- 2 Use natural resources more efficiently and know more sustainable ways of living
3. Acquire an attitude of concern for the environment
4. Participate in improvement and protection of environment
5. Manage unpredictable disasters
- 6 Create awareness about environmental issues to the public

SEMESTER – III			
Core V		Pteridophytes, Gymnosperms and Paleobotany	
Code: 18UBOC31	Hrs / Week: 4	Hrs / Semester: 60	Credits: 4

### Course Outcome

CO.No.	Upon completion of this programme, students will be able to	PSO addressed	CL
CO-1	summarize the general characters of Pteridophytes and Gymnosperms	1	Cr
CO-2	critically analyse the affinities and differences between Pteridophytes and Gymnosperms and relate them to understand the evolutionary trends	1	Re
CO-3	outline and recall the classification of Gymnosperms and appraise the economic importance of Pteridophytes and Gymnosperms	3	Ev
CO-4	understand the different stages in the life cycle of Pteridophytes and Gymnosperms	2	Un
CO-5	identify the types of fossils and discuss the fossilization process.	2	An
CO-6	relate the geological era with evolution of plants	2	Un
CO-7	learn about some of the fossils of pteridophytes and Gymnosperms	2	Un
CO-8	justify and analyze the evolution of seed plants from pteridophytes	2	Ev

<b>SEMESTER III</b>			
<b>Allied</b>		<b>Allied Chemistry - I</b>	
<b>Code : 18UCHA31</b>	<b>Hrs/Week : 4</b>	<b>Hrs/ Sem : 60</b>	<b>Credit : 3</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO 1	account for the filling of electron in orbitals and to inscribe the electronic configuration of elements	1, 3	Re, Ap
CO 2	recognize conductors, insulators and semiconductors	1, 3	Re
CO 3	adapt a method to purify organic compounds and to estimate the amount of Carbon, Hydrogen and sulphur in a sample	1,2, 3,7	Un
CO 4	evaluate molecular weight of a chemical compound	6	Cr
CO 5	correlate the importance of colloids in day to day life and to develop a basic understanding of emulsions	1, 5	An
CO 6	reframe glucose into fructose and vice versa and to identify protein by their colour reactions	1	Cr, An
CO 7	record the steps involved in Hoffmann's exhaustive Methylation	6	Re
CO 8	explain isoprene rule and its significance	1	Un

<b>Semester III</b>			
<b>Core Skilled Based– Horticulture and Plant breeding</b>			
<b>Code:18UBOS31</b>	<b>Hrs/week:4</b>	<b>Hrs/Semester : 60</b>	<b>Credit : 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO Addressed</b>	<b>CL</b>
CO-1	explain the various divisions of horticulture and importance	1	Un
CO-2	design a landscape and interiorscape project	8	Re
CO-3	apply concept of horticulture science to select, manage and improve plants and their production	7	An
CO-4	demonstrate employability skills in the field of horticulture	6	Re
CO-5	equip the skill in landscaping, gardening and floriculture and enhance sense of beautification and aesthetic values	6	Un
CO-6	demonstrate an understanding of basic plant breeding facts and principles	1	Cr
CO-7	integrate knowledge from different areas into crop improvement problems	1	An
CO-8	describe various selection techniques and methods that can be used in genetic improvement of self and cross pollinated crops	6	Ap

<b>Semester III</b>			
<b>NME I</b>		<b>Plant Resource Utilization</b>	
<b>Code: 18UBON31</b>	<b>Hrs/week:2</b>	<b>Hrs/Semester: 30</b>	<b>Credit: 2</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	acquire knowledge of useful plant parts	3	Re
CO-2	to acquire the knowledge on geographical area of cultivation, production and marketing variable food crops and their finished goods	1	Un
CO-3	able to differentiate importance of tropical and temperate fruits for human well being	3	Ap
CO-4	able to access the value of spices, condiments and beverage crops in international trades and confectionery industries	3	Ev
CO-5	understand the wealth of cash crops in India and their importance in improving trade and industrial growth	3	Ev
CO-6	comment on fibres as an alternative source of plastics	5	Un
CO-7	explain the use of beverages and their production	6	Un
CO-8	able to learn about the cultivation practices and extraction of oil from oil crops	6	Cr



<b>SEMESTER - III</b>	
<b>Self Study (Optional)</b>	<b>Organic Farming</b>
<b>Code: 18UBOSS1</b>	<b>Credits: 2</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	to understand overall perspective on organic farming.	7	Un
CO-2	to realize the advantages of traditional organic farming over modern system of organic farming	4, 7	An
CO-3	to identify and formulate mechanical and biological managements of insects/pests/ weeds.	8	An
CO-4	to prioritize good water management system, fertilizer choices and application	7	Un
CO-5	to recognize the importance of composting and bio fertilizers over chemical fertilizers.	7	Ev
CO-6	to understand and implement crop protection methods of fruits and vegetables	4, 6	Un
CO-7	to follow the certification of their produce	6	Ap
CO-8	to enhance self employability and improve their economy	6	Ap

SEMESTER IV			
Core VI		Taxonomy of Angiosperms	
Coe: 18UBOC41	Hrs/week: 4	Hrs/Semester: 60	Credit: 4

**Course Outcome :**

CO.No.	Upon completion of this programme, students will be able to	PSO addressed	CL
CO-1	describe the general principles of classification	1	Cr
CO-2	Apply binomial nomenclature for species naming	4	Un
CO-3	learn floristic features in technical term and extend an illustrious explanation on floral components of the flower.	6	Ap
CO-4	familiarise and evaluate the economic importance of angiosperms	6	Ev
CO-5	attain field experience and preparation of herbaria	6	An
CO-6	develop skill in plant identification.	6	Ap
CO-7	gain the art of plant collection and preservation.	8	Cr
CO-8	Compare and contrast different families of angiosperms	1	An

SEMESTER IV			
Allied		Allied Chemistry - II	
Code :18UCHA41	Hrs/Week : 4	Hrs/ Sem : 60	Credit : 3

### Course Outcome

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO 1	explain the methods of purification of ores and to differentiate ores and minerals	1	An
CO 2	know the extracting methods , properties and uses of titanium, vanadium ,thorium and their compounds	1	Re,Un
CO 3	synthesise some industrially important organic compounds such as Freon , rayon , polyester , nylon , thiokol Dacron	1, 5	Ev
CO 4	classify fuels and know its industrial uses	1, 4	Ap
CO 5	identify the techniques for sterilising water for domestic use	1, 4	An
CO 6	know the basics of abrasives	1,4	Re
CO 7	describe the role of micro and macro nutrients in plant growth and Identify the implication of biofertilizers on soil	1,5	Un
CO 8	classify fatty acids and analyse Cholesterol and know its biochemical significance	1	Ap, An

<b>SEMESTER IV</b>			
<b>Core Skill Based</b>		<b>Herbal health care products</b>	
<b>Code: 18UBOS41</b>	<b>Hrs/week: 4</b>	<b>Hrs/Semester:60</b>	<b>Credit: 4</b>

### **Course Outcome**

<b>CO.No.</b>	<b>Upon completion of this programme, students will be able to</b>	<b>PSO Addressed</b>	<b>CL</b>
CO-1	recognize and identify the common herbs	1	Un, An
CO-2	perceive knowledge on common herbs and use of herbal products safely.	1, 6	Re
CO-3	know how to integrate knowledge of raw materials to formulate herbal products.	3	Un
CO-4	acquire the skills to establish and maintain an effective herbal practices.	8	Cr
CO-5	formulate and use herbal remedies for personal health and wellness	4,6	Cr
CO-6	develop herbal products for a homespun herbal products business	6,8	Ap
CO-7	to create optimum awareness and interest amongst the common people about medicinal plants	6	Ap
CO-8	to develop awareness for utilization of herbal medicines for home remedies.	6,7	An

<b>SEMESTER IV</b>			
<b>NME II</b>		<b>Food Technology</b>	
<b>Code: 18UBON41</b>	<b>Hrs/week:2</b>	<b>Hrs/Semester:30</b>	<b>Credit: 2</b>

### Course Outcome

<b>CO.No.</b>	<b>Upon completion of this programme, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	discuss basic principles of common food preservation methods.	6,8	Un
CO-2	identify and explain nutrients in foods and the specific functions in maintaining health.	6,8	Re
CO-3	recognize the spoilage and deterioration mechanisms in foods and methods to control deterioration and spoilage.	6,8	An
CO-4	manufacture a range of simple food products	6,8	Ap
CO-5	modify recipe for specific purposes such as nutrient enhancement, quality improvement and ingredient substitution.	4	Ap
CO-6	understand the compositional and technological aspects of milk and fish	6,8	Un
CO-7	bakery technology and quality aspects of bakery products	6,8	
CO-8	apply preservation principles in product design	6	Ap

<b>SEMESTER- IV</b>			
<b>Ability Enhancement Course: Yoga and Meditation</b>			
<b>Code: 18UAYM41</b>	<b>Hrs/Week : 2</b>	<b>Hrs/Semester : 30</b>	<b>Credits: 2</b>

**Course Outcome:**

- To learn and practice various meditation, yoga methods to transform the ordinary life into a healthy, harmonious life leading to holistic wellbeing,
- To create an eco-friendly, loving and compassionate world.
- Acquire knowledge and skill in yoga for youth empowerment.
- Increase their power of concentration
- Learn the causes and ways to overcome fear and sadness.
- Create a ecofriendly, loving and compassionate world

<b>SEMESTER IV</b>	
<b>Self Study (Optional) Botany for Competitive Examinations</b>	
<b>Code: 18UBOSS2</b>	<b>Credit: 2</b>

### Course Outcome

<b>CO. No.</b>	<b>Upon completion of this programme, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	answer questions related to biodiversity, origin and their phylogenetics of plants	8	Un
CO-2	get competency in answering cytological aspects and cellular architecture of plants	3	Un
CO-3	attain skills and answer questions related to biochemical functions of cells	6	Re
CO-4	understand the importance of soil nutrients and their absorption and assimilation by plants that will support them to answer various disciplines associated with botany	3	Un
CO-5	answer question based on knowledge and understanding through learning of soil, water and atmosphere continuum	8	Un
CO-6	get competency in answering questions related to molecular mechanism of photosynthesis	3	Ap
CO-7	understand and answer the energy metabolism in biology	8	Un
CO-8	learn morphogenesis that facilitate them to answer question in professional examinations	6	Ap

<b>SEMESTER V</b>			
<b>Core VII</b>		<b>Biotechnology ( Common Core )</b>	
<b>Code: 18UBCC51</b>	<b>Hrs/Week:4</b>	<b>Hrs/Sem: 60</b>	<b>Credits: 3</b>

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	describe different cloning vehicles and learn the different type of vectors	1	Kn, Un
CO-2	gain knowledge about techniques of biotechnology.	2	Un
CO-3	summarise the different techniques in animal biotechnology	2	Un, An
CO-4	compare the various techniques in plant and animal biotechnology	4	Cr
CO-5	enumerate cell culture, organ culture and stem cell culture and point out implications in health care	6	Kn, An
CO-6	distinguishes methods of alleviating environmental pollution and understand the synthesis of industrial products	5	An
CO-7	relate biotechnology and its benefits to mankind	6	Ap, Ev
CO-8	design, conduct experiments, analyze and interpret data for investigating problems in biotechnology and allied fields	7,8	Ap



<b>SEMESTER V</b>			
<b>Core VIII</b>		<b>Microbiology</b>	
<b>Code: 18UBOC52</b>	<b>Hrs/week: 5</b>	<b>Hrs/semester: 75</b>	<b>Credits: 4</b>

### Course Outcome

<b>CO.No.</b>	<b>Upon completion of this programme, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	realise the history and scope of microbiology	3	Un
CO-2	understand the structure and growth characteristics of microorganism that enabling the learner to identify and classify microorganisms by themselves	4	Cr
CO-3	use various microbiological techniques to isolate, characterize and identify bacterial and viral pathogens of plants.	6	An
CO-4	provide a thorough knowledge about the microbes causing human diseases , their symptoms and preventive measures	4	Ap
CO-5	understand the role of microorganisms in biotechnology, fermentation, medicine and other industries for human well being	4	Ap
CO-6	discuss the role of microorganism in food, milk and water	4	An
CO-7	identify and control food borne disease and food spoilage	4	An
CO-8	test the quality of milk and enumerate microorganisms found in milk and soil	6	Ev

Semester V			
Core IX		Biochemistry	
Code: 18UBOC53	Hrs/week: 5	Hrs/ Semester: 75	Credit: 4

### Course Outcome

CO.No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	understand the types of chemical bonds involved in the structure of biomolecules and basic concepts of acid, base and buffer	2	Un
CO-2	classify carbohydrates of different domain based on their physical and chemical organization	2	An
CO-3	understand the structure and properties of amino acids	2	Un
CO-4	describe the structural details and properties of protein	2	Un
CO-5	explain the nomenclature, mechanism of enzyme activity	2,4	Un
CO-6	discuss the sources of vitamins and symptoms specific to vitamin deficiency in human beings.	4	Re
CO-7	categorize lipids based on their structure	2	Un
CO-8	acquire skill in qualitative and quantitative estimation of the biomolecules	6	Ap

<b>SEMESTER - V</b>			
<b>Core Integral I</b>		<b>Biostatistics and Biological Techniques</b>	
<b>Code: 18UBOI51</b>	<b>Hrs / Week: 4</b>	<b>Hrs / Semester: 60</b>	<b>Credits: 4</b>

### Course Outcome

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the fundamentals of statistical analysis	4	Un
CO-2	apply the learned procedure for collecting data, presenting data and analyze the same.	6	An
CO-3	able to interpret the results and find solution to the problems.	8	Ev
CO-4	understand the principles, working methodology and applications of instruments used in biology	4	Cr
CO-5	apply micro techniques for permanent mounting of biological samples.	8	Cr
CO-6	apply the learned techniques to carry out basic research in biology.	4	Ap
CO-7	understand the importance of data collection and their organization	8	Un
CO-8	communicate the results of statistical analyses accurately and effectively	8	Ev

SEMESTER V			
Core Integral II		Pharmacognosy	
Code:18UBOI52	Hrs/week:4	Hrs/semester: 60	Credit: 4

**Course Outcome:**

CO.No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	define and identify the more valuable medicinal plants based on their pharmaceutically active compounds	3	Ap
CO-2	formulate medicinal product and apply the knowledge for proper storage and distribution	8	Ap
CO-3	assess and evaluate the purity of herbal medicine.	7	Ev
CO-4	elaborate the cultural practices of important medicinal plants.	6	Re
CO-5	assess the trade opportunities of medicinal plants.	6	Ap
CO-6	define, classify and explain the importance of herbal medicine.	6	Re
CO-7	identify the crude drugs by morphological, organoleptic and histological characters.	6	Un
CO-8	know and explain the important phytoconstituents of therapeutic value.	6	Un

Semester V	
Self Study (Compulsory)	Economic Botany
Code: 18UBOSS3	Credit: 2

### Course Outcome

CO.No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	acquire knowledge of useful plants	3	Re
CO-2	describe the distribution, cultural practices and processing of harvested products for commercial purpose of cereals	1	Un
CO-3	know the nutrient potential of legumes	3	Ap
CO-4	discuss the types, production, keeping quality and marketing of tropical and temperate fruits	3	Ev
CO-5	evaluate the medicinal and confectionery value of spices and condiments	3	Ev
CO-6	understand the chemical composition of plant products and their application both as food and medicine	5	Un
CO-7	explain the use of beverages and their production	6	Un
CO-8	Learn about extraction of oil from oil crops	6	Cr

<b>Semester VI</b>			
<b>Core X</b>		<b>Plant Physiology</b>	
<b>Code: 18UBOC61</b>	<b>Hrs/week: 5</b>	<b>Hrs/ Semester: 75</b>	<b>Credit : 4</b>

### Course Outcome

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the water relation and root structure and functions that influence the transfer of inorganic nutrients from the soil into the plants	2,3	Un
CO-2	assess the symptom specific nutritional deficiencies and discuss the need of fertilisers for crop improvement	2	An,Ap
CO-3	analyse the mechanism of their assimilation of inorganic molecules into organic molecular components.	3	Un
CO-4	analyse light enhanced photochemical reactions that culminates in the synthesis of ATP and NADPH and fixation of carbon dioxide into organic compounds	3	Un
CO-5	describe respiration with its associated carbon metabolism and releasing of energy stored in chemical bonds in a controlled manner for cellular use	3	Re,Cr
CO-6	investigate plant's functions and adaptations under altered environmental conditions	2	Cr
CO-7	comment on the hormone controlled and light mediated morphogenetic events in plants	2	An
CO-8	design and conduct scientific experiments and analyse the data critically	4,8	Cr

<b>SEMESTER VI</b>			
<b>Core XI</b>		<b>Marine Botany</b>	
<b>Code:18UBOC62</b>	<b>Hrs/week: 5</b>	<b>Hrs/semester: 75</b>	<b>Credits: 4</b>

### Course Outcome

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	analyze how marine organism adapt to their dynamic environment	5	Un
CO-2	understand the marine environment and classify them	7	Un
CO-3	able to signify the characteristic feature of sandy shore and sand dunes and their economic importance	1	An
CO-4	achieve practical skills in processing, preserving and culturing marine plants	6	Ev
CO-5	evaluate the uses of marine resources and realize the role of marine plants in the economy of the ocean	5	Ap
CO-6	able to signify the characteristic feature of coral reefs and their role in biodiversity conservation	1	An
CO-7	able to identify and understand the role of mangroves in coastal protection and their adaptation to its hostile environment	5	Ap
CO-8	explain the ecological relationship between organisms and their environment	2	An

<b>Semester VI</b>			
<b>Core XII</b>		<b>Ecology and Phytogeography</b>	
<b>Code;18UBOC63</b>	<b>hrs/week:4</b>	<b>Hrs/semester: 60</b>	<b>Credit : 4</b>

### Course Outcome

<b>CO. No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	reveal the range of plant diversity in terms of structure, function and their environmental relationships.	5	Un
CO-2	describe the climatic and edaphic factors and ecological succession	5	Un
CO-3	categorize the plants based on adaptation	3	An
CO-4	address the global environment crisis and the strategies applicable for environmental problem mitigation	7	Ev
CO-5	learn the global level environmental summit organized that focused for sustainable future	7	Cr
CO-6	know the importance of remote sensing in finding the current status of global health	7	Cr
CO-7	recognize the causes of environmental problems	7	Un
CO-8	discuss ecological issues and concept	5	Re



<b>SEMESTER - VI</b>			
<b>Core Integral III</b>		<b>Molecular Biology and Bioinformatics</b>	
<b>Code:18UBOI61</b>	<b>Hrs / Week: 4</b>	<b>Hrs / Semester: 60</b>	<b>Credits: 4</b>

### Course Outcome

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	know chemistry of genetic material and details of its replication at molecular level	2	Un
CO-2	understand the general principles of chromosome organization at different phases of cell cycle	2	Un
CO-3	explain gene regulation mechanisms at various levels by which she can learn how it controls growth and development of an organism	4	Cr
CO-4	know complexity of gene expression in eukaryotes over prokaryotes	3	Un
CO-5	understand vector mediated gene transfer techniques including screening and identification of recombinants	6	Un
CO-6	know the gene cloning tools and their mysteries in success of gene cloning technology	8	Un
CO-7	attain hands on experiences in the techniques associated there of	4	Cr
CO-8	practice the advanced techniques in genetic engineering such as dna sequencing, blotting, dna amplification and fingerprinting	3	Ap

## B.Sc. Zoology

### SEMESTER I

#### Core I

#### Invertebrata I

Code :18UZOC11	Hrs / Week : 4	Hrs/ Sem : 60	Credits: 4
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#### Course Outcomes:

CO.No	Upon completion of this course, students will be able to	PSO addressed	CL
CO - 1	understand the basic concepts of animal taxonomy	1	Un
CO - 2	know the distinctive features of taxonomic classes within the phyla covered	1	Re
CO -3	recognize the common members of each phylum and of selected classes and orders	1	Re
CO - 4	analyze the important concepts in invertebrate body structure and organization, including body symmetry, body cavity, gut formation, Segmentation	2	Un
CO - 5	examine the important biological processes in invertebrates, including locomotion, body support, reproduction, development, feeding, digestion, excretion, osmoregulation, circulation, respiration, sensory perception, behavior etc.	2	Un
CO - 6	impart information on the ecological and economic importance of invertebrates.	1	Un
CO - 7	aware of the importance and diversity of invertebrates.	1	Un
CO - 8	develop basic laboratory skills including microscopy, dissection and careful observation.	8	Cr

**SEMESTER I****Core II****Invertebrata II**

<b>Code:18UZOC12</b>	<b>Hrs / Week : 4</b>	<b>Hrs/ Sem : 60</b>	<b>Credits: 4</b>
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**Course outcome:**

<b>CO.No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	identify common members of each phylum and of selected classes and orders	1	Un
CO- 2	understand the distinctive features of taxonomic classes within the phyla covered.	1	Un
CO -3	acquire knowledge on the importance, and diversity of the invertebrates	1	Un
CO – 4	analyze the important concepts in invertebrate body structure and organization, including body symmetry, cephalization, body cavity, gut formation, segmentation	2	Un
CO – 5	learn important biological processes in invertebrates, including locomotion, body support, reproduction, development, feeding, digestion, excretion, osmoregulation, circulation, respiration, sensory perception, behavior.etc.	2	Re, Kn
CO – 6	aware of the ecological and economic importance of invertebrates	1	Un
CO – 7	develop basic laboratory skills including microscopy, dissection and careful observation.	8	Cr
CO – 8	use knowledge in invertebrates as basic course for further subjects on higher level study.	1	Ap

SEMESTER I			
Allied		Allied Chemistry - I	
Code : 18UCHA11	Hrs/Week : 4	Hrs/ Sem : 60	Credits : 3

### Course Outcomes

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO 1	account for the filling of electron in orbitals and to inscribe the electronic configuration of elements	1, 3	Re, Ap
CO 2	recognize conductors, insulators and semiconductors	1, 3	Re
CO 3	adapt a method to purify organic compounds and to estimate the amount of Carbon, Hydrogen and sulphur in a sample	1,2, 3,7	Un
CO 4	evaluate molecular weight of a chemical compound	6	Cr
CO 5	correlate the importance of colloids in day to day life and to develop a basic understanding of emulsions	1, 5	An
CO 6	reframe glucose into fructose and vice versa and to identify protein by their colour reactions	1	Cr, An
CO 7	record the steps involved in Hoffmann's exhaustive Methylation	6	Re
CO 8	explain isoprene rule and its significance	1	Un

## SEMESTER II

Core III		Chordata - I	
Code: 18UZOC21	Hrs/Week:4	Hrs/Sem: 60	Credits:4

### Course Outcomes:

CO.No	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	acquire knowledge on the fundamental organization of chordates.	1	Un
CO-2	understand the functional organization and taxonomic position of animals	2	Un
CO-3	impart information on the basic concepts of chordate diversity	1	Un
CO-4	analyse the characters of different classes	2	An
CO-5	learn and identify the major groups within the phylum chordate	1	Un
CO-6	reason out the inclusion of different representative animals in particular class	8	An
CO-7	recognize the different structural organizations from evolutionary point of view	8	Ev
CO-8	compare the anatomy of different functional systems in chordate.	2	Ap

**SEMESTER II**

<b>Core IV</b>		<b>Chordata - II</b>	
<b>Code: 18UZOC22</b>	<b>Hrs/Week:4</b>	<b>Hrs/Sem: 60</b>	<b>Credits:4</b>

**Course Outcomes:**

<b>Co.No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	know the chordate diversity	1	Un
CO-2	aware of the origin of chordates	2	Un
CO-3	learn and recognize the major characteristics of chordates	1	Un
CO-4	analyse the morphology of major classes of chordate	2	An
CO-5	understand the various systems in the body of chordates	2	Un
CO-6	analyse the advancement of functional organization of chordates	8	An
CO-7	examine and understand the comparative anatomy of the functional systems in chordates	8	Ev
CO-8	apply the knowledge of representative animals to understand the evolution	2	Ap

SEMESTER II			
Allied II		Allied Chemistry - II	
Code :18UCHA21	Hrs/Week : 4	Hrs/ Sem : 60	Credits : 3

### Course Outcomes

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO 1	explain the methods of purification of ores and to differentiate ores and minerals	1	An
CO 2	know the extracting methods , properties and uses of titanium, vanadium ,thorium and their compounds	1	Re,Un
CO 3	synthesise some industrially important organic compounds such as Freon , rayon , polyester , nylon , thiokol Dacron	1, 5	Ev
CO 4	classify fuels and know its industrial uses	1, 4	Ap
CO 5	identify the techniques for sterilising water for domestic use	1, 4	An
CO 6	know the basics of abrasives	1,4	Re
CO 7	describe the role of micro and macro nutrients in plant growth and Identify the implication of biofertilizers on soil	1,5	Un
CO 8	classify fatty acids and analyse Cholesterol and know its biochemical significance	1	Ap, An

<b>SEMESTER III</b>			
<b>Core V: Developmental Biology and Evolution</b>			
<b>Code: 18UZOC31</b>	<b>Hrs/Week: 4</b>	<b>Hrs / Sem: 60</b>	<b>Credits: 4</b>

### Course Outcome

<b>CO.No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO - 1	acquire knowledge about the developmental process and the sequential changes from cellular grade of organization to organ grade of organization in multi-cellular organisms.	1,2	Un
CO- 2	compare and contrast developmental processes in different model organisms.	8	Un
CO-3	analyse the ultimate and penultimate causes of human female and male sub fertility.	6	Un, An
CO-4	provide an detailed explanations of the theories and processes of evolution.	7	Un
CO-5	examine and apply the major genetic and ecological processes underlying evolution and selection.	3	Un, An
CO-6	list and describe the evidences for evolution and its required corollaries.	1,7	Un
CO-7	recognise and explain the processes driving speciation	1,3	Un
CO-8	outline the evolution of the modern humans of the processes of social and cultural change through time	2,3	Un



<b>SEMESTER - III</b>				
<b>Allied II</b>		<b>Plant Diversity</b>		
<b>18UBOA31</b>	<b>Hrs / Week: 4</b>	<b>Hrs / Semester: 60</b>	<b>Credits: 3</b>	
<b>CO. NO</b>	<b>Upon completion of this course ,students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>	
1.	distinguish between diverse groups of algae, fungi, and bryophytes using their characteristic features	1, 2	An	
2.	discuss different life cycle patterns in different groups	1, 2	Cr	
3.	apply the practical knowledge to identify a particular group from a mixed group in the laboratory or in the field	1, 6	Ap	
4.	know the basic skills and techniques in micropreparation and formulate methods to identify different groups	6	Ap	
5.	understand the status of cryptogams are unique in plant kingdom	1, 2	Un	
6.	infer pteridophytes are pioneer in the evolution of seed habit	1, 2	Re	
7.	compare and contrast the origin and evolution of steles, foliage, seed and seedless plants.	1, 2	An	
8.	understand the phylogenetic relationship between the different groups	1, 2	Un	

<b>SEMESTER – III</b>			
<b>Core Skill Based : Fishery Products</b>			
<b>Code : 18UZOS31</b>	<b>Hrs/Week :4</b>	<b>Hrs/Sem : 60</b>	<b>Credits: 4</b>

### **Course Outcome**

<b>CO.No.</b>	<b>Upon completion of this course, the graduates will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO -1	acquire knowledge on products and by-products of fisheries.	1	Un
CO - 2	interpretation of the various processing and preservation of fisheries products.	7	Ap
CO - 3	attain information on the usage of fish by-products for industrial and domestic purposes.	7	Un
CO - 4	carry out study on seaweeds and their various usages in pharmaceutical and therapeutic industries.	7	Ev
CO - 5	practice the processing and preservation of various fish products.	1	Cr
CO - 6	implementation of sanitation and quality control techniques.	7	Cr
CO - 7	use the knowledge of preservation and processing techniques in day to day life.	7	Ev
CO- 8	comprehend and synthesize advanced knowledge on the outcomes of fisheries.	8	Un

<b>SEMESTER - III</b>			
<b>NME I - Basic Biotechnology</b>			
<b>Code :18UZON31</b>	<b>Hrs /Week: 2</b>	<b>Hrs/ Sem : 30</b>	<b>Credits : 2</b>

### Course Outcome

<b>CO. No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
Co-1	understand the basic principles of Biotechnology	1	Un
CO-2	distinguish between prokaryotic and eukaryotic cells from their structural studies	2	An
CO-3	understand the restriction enzymes and cloning vectors and assess their use in genetic engineering.	4	Un, Ev
CO-4	demonstrate the structure of DNA, its replication, amplification and separation of fragments	4, 5	Un
CO-5	analyse different culture media and techniques to cater the need for cell culture.	6	An
CO-6	evaluate techniques of gene delivery and cloning to adapt in manipulation of genes	5	Ev
CO-7	discuss the preparation and characterization of appropriate nano materials in the field of nanotechnology	7	Cr
CO-8	develop proficiency in aseptic laboratory techniques and standard procedures for cell culture.	8	Cr

<b>SEMESTER – III</b>	
<b>Self-study – Dairy Management</b>	
<b>Code : 18UZOSS1</b>	<b>Credits : +2</b>

### **Course Outcome**

<b>CO No</b>	<b>Upon completion of this course, the students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand general management of dairy animals.	1	Un
CO-2	explain the various management techniques of breeding and lactating cattle and goat.	1,2	Un
CO-3	analyse the different kinds of feed for dairy animals.	7	An
CO-4	aware of the various feeding practices for dairy animals	1, 2	Un
CO-5	identify the various diseases affecting dairy animals.	6	Ap
CO-6	analyse the nutritive value of milk and factors affecting quality of milk	7	An
CO-7	aware of the importance and types of milk products	2	Un
CO-8	develop skills and acquire knowledge for self employment.	6, 8	Ap

<b>SEMESTER - IV</b>			
<b>Core IV - Biochemistry</b>			
<b>Code :18UZOC41</b>	<b>Hrs /Week: 4</b>	<b>Hrs/ Sem : 60</b>	<b>Credits : 4</b>

### **Course Outcome**

<b>CO.No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	demonstrate an understanding of the structure of biomolecules such as carbohydrate, protein and lipids	4	Un
CO-2	evaluate significance of biomolecules in the processes that occur within living cells	4	Ev
CO-3	analyse enzymes as biological catalysts and the mechanism of their action and develop the ability to comprehend life processes	4	An
CO-4	discuss the beneficial effects of vitamins and foods that contain vitamins required for the healthy functioning of the body	2	Cr
CO-5	recall, relate and deploy knowledge in identifying deficiency diseases of vitamins from symptoms and find the remedy	6	Ap
CO-6	understand the principle, working mechanism and application of standard laboratory equipments and modern instruments	6	Un
CO-7	develop proficiency in basic laboratory techniques in biochemistry and maintain records of lab activities	7	Ap
CO-8	apply appropriate biochemical techniques to plan and carryout experiments, test hypotheses and draw conclusions to conduct project works in near future	8	Ap

<b>SEMESTER - IV</b>			
<b>Allied II</b>		<b>Angiosperm Taxonomy and Plant Physiology</b>	
<b>18UBOA41</b>	<b>Hrs / Week: 4</b>	<b>Hrs / Semester: 60</b>	<b>Credits: 3</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	recall the botanical names	1	Un
CO-2	evaluate the distribution, evolution and phylogenetic relationship among plants.	2	Ev
CO-3	study the contribution of taxonomist in plant systematics	1	Un
CO-4	outline and recall the natural systems of classification of angiosperms	2	Re
CO-5	explain the floristic features of families in technical terms	2	An
CO-6	understand the physiological mechanisms involved in the uptake and transfer of water	2,3	Un
CO-7	comment on the major effects and physiological mechanisms of growth hormones in plants	2	An
CO-8	design and conduct scientific experiments and analyse the data critically	4, 8	Cr

<b>SEMESTER - IV</b>			
<b>Core Skill Based: Clinical Laboratory Technology</b>			
<b>Code : 18UZOS41</b>	<b>Hrs / week : 4</b>	<b>Hrs/ Sem : 60</b>	<b>Credits : 4</b>

### **Course Outcome**

<b>CO. No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>C L</b>
CO -1	understand the laboratory practices and know how to maintain the laboratory instruments	1	Un
CO - 2	analyse and distinguish various types of blood cells	2	An
CO - 3	understand the pathological diseases and explain the test for hepatitis, AIDS and intestinal parasite	3	An
CO - 4	evaluate critical thinking of biochemical test	5	Un
CO - 5	demonstrate the proficiency in basic methods of instrumentation and quantitative analytical skills used to conduct biological research	6	Un
CO - 6	develop skills in various lab techniques	7	Cr
CO - 7	acquire knowledge to handle clinical equipments	4	Un
CO - 8	design, carry out and interpret scientific experiments	8	Ap

<b>SEMESTER - IV</b>			
<b>NME II Applied Biotechnology</b>			
<b>Code :18UZON41</b>	<b>Hrs /Week: 2</b>	<b>Hrs/ Sem :30</b>	<b>Credit : 2</b>

### **Course Outcome**

<b>CO.No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the production of different Bio-products	1	Un
CO-2	examine the nature and feature of SCP and aerobic and anaerobic digestion	3,5	An
CO-3	apply the techniques to clean up the environment through various treatment methods	2,6	Ap
CO-4	create awareness to cure cancer	7	Cr
CO-5	understand the importance of biosafety and IPR	2	Un
CO-6	evaluate the synthesis and applications of bio-products	8	Ev
CO-7	adapt appropriate tools and techniques in biotechnological manipulation	7	Cr
CO-8	apply the experimental procedures to the spectrum of fields making use of Biotechnology	8	Ap



<b>SEMESTER IV</b>	
<b>Self Study Course – Aquarium Fish Keeping</b>	
<b>Code: 18UZOSS2</b>	<b>Credits : +2</b>

### **Course Outcome**

<b>CO No</b>	<b>Upon completion of this course, the students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	acquire knowledge about home aquarium	1	Un
CO-2	identify common aquarium fishes	1,2	Un
CO-3	explain the different kinds of instruments used in setting up of an aquarium	6	Un
CO-4	critically analyse the different kinds of fish feed and aquarium plants	5	Un
CO-5	examine the common diseases, symptoms and management of aquarium fishes	7	Ap
CO-6	demonstrate skills in maintenance of water quality parameters	5	An
CO-7	develop the hobby of having an aquarium at home	8	Cr
CO-8	Promote self employment opportunities	8	Ap

<b>SEMESTER V</b>			
<b>Core VII Biotechnology (Common Core)</b>			
<b>Code: 18UBCC51</b>	<b>Hrs/Week:4</b>	<b>Hrs/Sem: 60</b>	<b>Credit: 3</b>

## Course Outcome

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	describe different cloning vehicles and learn the different type of vectors	1	Kn, Un
CO-2	gain knowledge about techniques of biotechnology.	2	Un
CO-3	summarise the different techniques in animal biotechnology	2	Un, An
CO-4	compare the various techniques in plant and animal biotechnology	4	Cr
CO-5	enumerate cell culture, organ culture and stem cell culture and point out implications in health care	6	Kn, An
CO-6	distinguishes methods of alleviating environmental pollution and understand the synthesis of industrial products	5	An
CO-7	relate biotechnology and its benefits to mankind	6	Ap, Ev
CO-8	design, conduct experiments, analyse and interpret data for investigating problems in Biotechnology and allied fields	7,8	Ap

<b>SEMESTER V</b>			
<b>Core VIII: Animal Physiology</b>			
<b>Code: 18UZOC52</b>	<b>Hrs/Week: 5</b>	<b>Hrs/Sem: 75</b>	<b>Credits: 4</b>

### Course outcome

<b>CO.No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	compare the structure and functions and co-ordination of organs and organ systems	1	Un
CO – 2	assess the causes, diagnosis, prevention and treatment of illnesses	2	Ev
CO – 3	develop personal healthy life style	6	Cr
CO – 4	demonstrate the different lab experiments	5	Un
CO – 5	experiential learning, analysis and drawing conclusion	4	Cr
CO-6	find way for scientific investigation	6	Ev
CO-7	develop various skills which will be helpful in expressing ideas and views clearly and effectively	7	Ap
CO-8	imbibe ethical, moral and social values in personal and social life leading to highly cultured and civilized personality	8	Cr

<b>SEMESTER -V</b>			
<b>Core IX Cell Biology and Genetics</b>			
<b>Code: 18UZOC53</b>	<b>Hrs/week : 5</b>	<b>Hrs/Sem: 75</b>	<b>Credits: 4</b>

### Course Outcome

<b>CO.No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the organization of the cell and to differentiate between prokaryotic and eukaryotic cell.	2	Un
CO-2	describe the structure and functioning of cell organelles as a system to carry out cellular processes	2	Un
CO-3	analyse the complexity and harmony of the cell from the acquired knowledge	2	An
CO-4	explain the types of chromosome; composition, structure, and replication of DNA	4	Ev
CO-5	demonstrate the genetic basis of Mendelian and non-Mendelian inheritance	5	Un
CO-6	develop the ability to think critically, analyse and use the information gained to solve problems related to genetics	6	Cr
CO-7	evaluate hereditary patterns for genetic disorders by applying genetic information to innovate solutions for health related issues	6	Ev
CO-8	apply the practical and conceptual knowledge of Cell biology and Genetics to understand other fields of biology	8	Ap

<b>SEMESTER V</b>			
<b>Core Integral I : Marine Biology</b>			
<b>Code: 18UZOI51</b>	<b>Hrs/Week: 4</b>	<b>Hrs/Sem: 60</b>	<b>Credits: 4</b>

### **Course Outcome**

<b>CO.No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO - 1	classify the different ecological zones of marine environment, diversity of marine organisms and their adaptations	1,2	Un
CO - 2	explain the physical and chemical properties of sea water and their significance to marine life	1,4	Un, Ev
CO - 3	appraise the ocean production, characteristics and types of coral reefs, mangroves and estuaries	3	Ev
CO - 4	outline the formation, types and properties of the dynamics of ocean	1,2	Un
CO - 5	analyse various types of marine resources and assess the various environmental concerns related to the use and abuse of marine resources	5,6	An, Cr
CO - 6	gain specialized skills in a range of theoretical and practical applications	8,	Cr
CO - 7	develop awareness of scientific issues in marine biology within the larger social context	6	Ap, Cr
CO - 8	design and implement effective solutions to problems in marine environment	7,8	Cr

<b>SEMESTER – V</b>			
<b>Core Integral II: Commercial Aquaculture</b>			
<b>Code:18UZOI52</b>	<b>Hrs/ Week: 4</b>	<b>Hrs/ Sem:60</b>	<b>Credits: 4</b>

### Course Outcome

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the biology of a variety of commercially important food fishes.	1	Un
CO-2	analyse the different methods of integrated fish farming	7	An
CO-3	understand the conditioning factors and how they can be manipulated	1, 2	Un
CO-4	interpret the basic culture methodologies of commercially important species	8	Ev
CO-5	acquire knowledge on feed organisms and feed formulation	1	Un
CO-6	identify the common aquaculture diseases and apply appropriate measures for fish health management	8	Ap
CO-7	explain the different techniques of fish processing and preservation	4	Un, Ev
CO-8	apply principles and concepts to solve problems that may be encountered in commercial production	7	Ap

<b>SEMESTER V</b>	
<b>Self Study : Vermitechnology</b>	
<b>Code : 18UZOSS3</b>	<b>Credit : 2</b>

### Course Outcome

CO.No	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	classify and choose the suitable species of earthworm for making compost	1	Un
CO-2	examine the suitable physico-chemical parameters required for vermicomposting	2	An
CO-3	explain the different methods of vermicomposting	4	Un
CO-4	understand the preparation, composition and applications of vermiwash	5	Un
CO-5	examine the applications of vermitechnology in various fields	3	Ev
CO-6	describe the use of products of vermiculture	8	Ap
CO-7	demonstrate the vermiculture technique	7	Un
CO-8	develop skills for self employment	6	Cr

<b>SEMESTER –VI</b>			
<b>Core X: Immunology and Microbiology</b>			
<b>Code: 18UZOC61</b>	<b>Hrs/week : 5</b>	<b>Hrs/sem: 75</b>	<b>Credits: 4</b>

### Course outcome

<b>CO. No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the importance of immune system, immune organs and immunoglobulins.	2	Cr
CO -2	identify structure and characteristics of different types of Lymphoid organs	3	Un
CO-3	analyse the structure and functions of immune systems	4	Un
CO-4	narrate and explain antigen and antibody	5	Un
CO-5	analyse the types of immunoglobulins	2	Cr
CO-6	understand the structure, classification and culture techniques of microbes	7	Un
CO-7	analyse and distinguish food poisoning, food spoilage and preservation methods	8	An
CO-8	determine the nature of the microbes and to realize their beneficial and harmful effects	3	Un



<b>SEMESTER - VI</b>			
<b>Core XI : Biostatistics and Bioinformatics</b>			
<b>Code : 18UZOC62</b>	<b>Hrs/Week : 5</b>	<b>Hrs/Sem : 75</b>	<b>Credits : 4</b>

### Course Outcome

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO 1	attain an insight on statistical methods for analysis of biological data	1	Kn
CO 2	acquire knowledge on the bio informatics concepts for analyzing molecular data	1	Kn
CO 3	identify the problems in data analysis and match the appropriate statistical method and corresponding software	4	Un
CO 4	analyse and use the bioinformatics tools for advanced sequence alignment, database searches, genome analysis and protein structure studies	8	Ap
CO 5	undertake statistical operations in biology	7	Ap
CO 6	operate commonly used bioinformatic tools and statistical methods and understand their limitations	8	Ap
CO 7	apply bioinformatics in life science research	8	Ap
CO 8	understand and critically evaluate the data analysis procedures in publications of molecular biology research	2,3	Un

<b>SEMESTER VI</b>			
<b>Core XII Ecology and Biodiversity</b>			
<b>Code: 18UZOC63</b>	<b>Hrs/Week: 4</b>	<b>Hrs/Sem: 60</b>	<b>Credits:4</b>

### Course Outcome

<b>CO.No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	understand and relate the interactions and the interdependence among environmental factors and living organisms.	1,2	Un
CO – 2	compare the adaptations of the organisms in different habitats	2	Un
CO – 3	analyse the mechanisms regulating the dynamics composition and organization of communities	2	Un,An
CO – 4	explore the interactions between organisms, the dynamics of populations and environment	1,3	Un,An
CO –5	explain different levels of biodiversity	1	Un,
CO – 6	discuss the direct and indirect values of biodiversity	1,3	Cr
CO-7	identify key threats to biodiversity evaluate management options for conserving biodiversity	1,3	Ap,Ev
CO-8	develop skills and competencies for career in eco- conservation and Eco- tourism	7	Ap

<b>SEMESTER – VI</b>			
<b>Core Integral III – Sericulture</b>			
<b>Code : 18UZOI61</b>	<b>Hrs/Week : 4</b>	<b>Hrs/Sem : 60</b>	<b>Credits : 4</b>

### **Course Outcome**

<b>CO.No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO - 1	acknowledge various organizations involved in the welfare of sericulture.	7	Un
CO - 2	interpret the practices of Moriculture.	3	Un
CO -3	attain information on the various diseases and pests affecting mulberry and its control measures.	1	Ev
CO - 4	develop skills on various silkworm rearing processes and operations.	8	Ap
CO - 5	use the knowledge of cocoon mounting and harvesting.	7	Ap
CO - 6	enumerate silkworm diseases and its control measures.	7	Un
CO - 7	involve in cocoon stifling, deflossing and reeling.	8	Ap
CO - 8	understand the uses of the products and byproducts of sericulture.	7	Un

## B.Com

SEMESTER –I			
Part III	Core I	Financial Accounting I	
Code:18UCOC11	Hrs/Week: 5	Hrs/Sem: 75	Credits : 4

### Course Outcome :

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO – 1	understand book keeping and accounting concepts, conventions and accounting information.	1,2,5	Un
CO – 2	prepare financial statements in accordance with generally accepted accounting principles.	1,2,5,8	Ap
CO – 3	employ critical thinking skills on the effects of different accounting methods on the financial statements.	1,2,4,5	Ap
CO – 4	understand about the preparation of bank reconciliation statement.	1,5	Ap
CO – 5	know about the differences between bill of exchange and promissory note.	1,5	Ap
CO - 6	demonstrate an understanding of the various methods of providing depreciation.	2,4,5	Ev
CO - 7	apply appropriate judgement derived from knowledge of accounting theory in charging depreciation for various assets.	1,5	Ap
CO - 8	effectively calculate the ‘no profit/ no loss’ date of settlement.	2,4,5	Ev

<b>SEMESTER –I</b>			
<b>Part III Core II</b>		<b>Business Organisation</b>	
<b>Code:18UCOC12</b>	<b>Hrs/Week: 5</b>	<b>Hrs/Sem: 75</b>	<b>Credits : 4</b>

**Course Outcome :**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to:</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	understand the basic concepts of business organization and latest developments in the organization of business.	1,3,4,6	Un
CO – 2	understand the basic forms of business organization.	1,2,3	Un
CO – 3	know about the concepts of business ethics, business values and morals.	1,2,4	An
CO – 4	understand about village and small industry sector, development of VSI under the plans, KVIC and its objectives and MSME.	1,6	Ev
CO – 5	know about the dominance of MNC's globalization and globalization of Indian business.	1,3,6	An
CO - 6	demonstrate women entrepreneurship skills.	2,4,5	Ev
CO -7	gain knowledge on the promotional measures relating to KVIC.	1.2.3	Un
CO - 8	analyse the pros and cons of globalisation in the business world.	4,5	Cr

<b>SEMESTER –I</b>			
<b>Part III</b>	<b>Allied I</b>	<b>Business Economics</b>	
<b>Code:18UCOA11</b>	<b>Hrs/Week: 3</b>	<b>Hrs/Sem: 45</b>	<b>Credits : 3</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to:</b>	<b>PSO addressed</b>	<b>CL</b>
CO - 1	know the various theories of Economics	1,2,3	Re
CO – 2	understand business economics and importance of business economics for managerial decision making.	1,2,4	Un
CO – 3	determine the position of firms using demand and supply conditions.	2,3	Ev
CO – 4	economies of large scale and small scale production.	1,6	Un
CO – 5	analyze Cost Effective Production techniques	5,6	An
CO - 6	determine pricing and costing strategies according to the nature of product and market conditions.	2,4	Ev
CO – 7	use economic theories related with supply and demand	2,7	Ap
CO - 8	make optimal business decisions to minimise cost and maximise profit	7,8	Cr

<b>SEMESTER –I</b>			
<b>Part III</b>	<b>Allied II</b>	<b>Business Information System</b>	
<b>Code:18UCOA12</b>	<b>Hrs/Week: 3</b>	<b>Hrs/Sem: 45</b>	<b>Credits : 3</b>

**Course Outcome :**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	gain thorough knowledge about the principles of management.	1,2,3	Un
CO – 2	understand nature of management and apply the various functions in business.	1,2,3	Ap
CO – 3	know about principles of organization and its forms.	1,4	Ev
CO – 4	understand the motivational theories.	1,2,6	Ap
CO – 5	familiarise with the controlling and co-ordination techniques.	1,4	Ap
CO – 6	exhibit knowledge on importance of controlling and techniques of controlling.	2,7	Ap
CO - 7	analyse the importance of decision making in business.	1,2,6	An
CO - 8	outline the methods of motivation.	7,8	Cr

<b>SEMESTER –II</b>			
<b>Part III Core III</b>		<b>Financial Accounting II</b>	
<b>Code:18UCOC21</b>	<b>Hrs/Week: 5</b>	<b>Hrs/Sem: 75</b>	<b>Credits : 4</b>

**Course Outcome :**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	know the difference between consignment and joint venture.	1,2,4	Ap
CO – 2	prepare various accounts namely accounts of non-trading concerns and professionals, royalties and single entry system.	1,5,8	Ap
CO – 3	understand about the self balancing system and sectional balancing system and its various adjustment accounts.	1,5	Ap
CO – 4	know about the loss of stock and loss of profit under insurance claims.	1,5	Ap
CO – 5	know about the preparation of balance sheet and income and expenditure account.	1,2	Ap
CO - 6	identify the nature of expenses as capital, revenue and deferred for correct presentation in the final accounts of any company.	1,3,6	An
CO - 7	understand the facts related to consignment and joint venture with normal and abnormal losses.	1.2.3	Un
CO - 8	evaluate the process of royalties with minimum rent, short workings and sub lease.	2,4,5	Ev



<b>SEMESTER –II</b>			
<b>Part III</b>	<b>Core-IV</b>	<b>Principles of Marketing</b>	
<b>Code:18UCOC22</b>	<b>Hrs/Week: 5</b>	<b>Hrs/Sem: 75</b>	<b>Credits : 4</b>

**Course Outcome :**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	understand the nature, importance and classification of markets.	1,2	Un
CO – 2	understand the functions of marketing and marketing mix.	1,2	Un
CO – 3	evaluate the life cycle of products.	1,2,3,5	Ev
CO - 4	know the importance of sales promotion, advertising and qualities of successful salesmen.	2,3,4	Ap
CO - 5	understand about the product line and product life cycle through modification.	1,4	Ap
CO - 6	demonstrate the importance of branding and packaging.	2,4,5	Ev
CO - 7	know the objectives and methods of pricing.	1.2.3	Un
CO - 8	analyse the pros and cons of the various channels of distribution.	4,5	Cr

<b>SEMESTER –II</b>			
<b>Part III</b>	<b>Allied III</b>	<b>Business Management</b>	
<b>Code:18UCOA21</b>	<b>Hrs/Week: 3</b>	<b>Hrs/Sem: 45</b>	<b>Credits : 3</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	gain thorough knowledge about the principles of Management.	1,2,3	Un
CO – 2	understand nature of management and apply the various functions in business.	1,2,3	Ap
CO – 3	know about principles of organization and its forms.	1,4	Ev
CO – 4	understand the motivational theories.	1,2,6	Ap
CO - 5	familiarise with the controlling and co-ordination techniques.	1,4	Ap
CO - 6	exhibit knowledge on importance of controlling and techniques of controlling.	2,4,5	Ev
CO - 7	analyse the importance of decision making in business.	1.2.3	Un
CO - 8	outline the methods of motivation.	4,5	Cr

**Course outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	know the Indian Market System	1,2	Re
CO – 2	understand the Concept of Life Insurance	1,2	Un
CO – 3	effectively calculate premium and bonus for various kinds of policies	1,2,3	Ap
CO – 4	have an insight into the different types of life insurance plans	1,2,4	Ap
CO-5	acquire knowledge about LIC products, and its variations.	1,2,3	Ap
CO - 6	demonstrate knowledge on the different types of annuity plans, group insurance plans etc.	5,6	An
CO - 7	organisational structure at various level	1,8	Ev
CO - 8	take up Licentiate Examination with confidence	5,6,7	Cr

<b>SEMESTER –III</b>			
<b>Part III    Core V</b>		<b>Advanced Financial Accounting</b>	
<b>Code:18UCOC31</b>	<b>Hrs/Week: 6</b>	<b>Hrs/Sem: 90</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>On completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	understand the basic accounting issues.	1,2	Ap
CO – 2	gain knowledge regarding the maintenance of partnership accounts in case of admission.	1,2, 5	Ap
CO – 3	have practical knowledge regarding the maintenance of partnership accounts in case of retirement.	1,2, 5	Ap
CO - 4	understand the maintenance of partnership accounts in case of dissolution of a firm.	1,2, 5	Ap
CO – 5	know about the maintenance of accounts relating to branch accounts.	1,2,5	Un
CO – 6	understand the calculation of profit involved in sending goods at invoice price.	1,5,8	Ap
CO – 7	understand about the hire purchase system.	1,5,6	Ap
CO - 8	understand about instalment system.	1,8	Ap

<b>SEMESTER –III</b>			
<b>Part III</b>	<b>Core-VI</b>	<b>Modern Banking</b>	
<b>Code:18UCOC32</b>	<b>Hrs/Week: 6</b>	<b>Hrs/Sem: 90</b>	<b>Credits : 4</b>

**Course outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to:</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO-1	know about banker, customer relationship.	1,2,3	Un
CO- 2	understand the various types and features of negotiable instruments like promissory note, bill of exchange and cheque.	1,2,3	Un
CO-3	know the constitution, management and functions of RBI and commercial banks.	1,2,5	Ev
CO-4	understand the present banking system of e-banking, its' merits and constraints.	1,2,5,6	An
CO-5	understand the duties, responsibilities and negligence of collecting banker.	1,2	Ev
CO-6	know about the pros and cons of e-banking.	1,8	An
CO-7	understand e- banking transactions.	1,8	An
CO-8	understand the mode of operation of mobile banking.	1,2,5	Ev

<b>SEMESTER –III</b>			
<b>Part III</b>	<b>Core-VII</b>	<b>E – Accounting</b>	
<b>Code:18UCOC33</b>	<b>Hrs/Week: 6</b>	<b>Hrs/Sem: 90</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO-1	develop the computerized knowledge in accounting	1,2,3	Un
CO-2	impart the basic principles and concepts of computerized accounting	1,2	Un
CO-3	gain knowledge on the use and application of Tally	1,2	Ev
CO-4	learn about the concept of vouchers	2,4	Un
CO-5	create company in Tally	5,8	Ap
CO-6	create knowledge of inventory accounting	1,5,8	Ev
CO-7	create knowledge of budget control	1,4	An
CO-8	make use of cost category and cost centres in voucher	1,5	Ap

<b>SEMESTER –III</b>			
<b>Part III</b>	<b>Allied V</b>	<b>Business Communication</b>	
<b>Code:18UCOA31</b>	<b>Hrs/Week: 3</b>	<b>Hrs/Sem: 45</b>	<b>Credits : 3</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	gain knowledge on the basic concepts of business communication and help them to understand basic techniques of business.	1,2	Un
CO – 2	understand the basic principle of effective communication and barriers of communication.	1,2,3	Un
CO – 3	help the students write letters on enquiries, offers and quotations, orders and execution.	2,3,4	Ap
CO – 4	know about the collection letters and sales letters.	2,3,5	Ap
CO – 5	understand about bank correspondence.	3,4	Ap
CO – 6	understand about Insurance correspondence	3,4	Ap
CO – 7	know about the written public grievance letters.	3,4,5	Ap
CO – 8	know about the letters to the editor and through email.	3,4,5	Ap

<b>SEMESTER –III</b>			
<b>Part III Allied VI Customer Relationship Management</b>			
<b>Code:18UCOA32</b>	<b>Hrs/Week: 3</b>	<b>Hrs/Sem: 45</b>	<b>Credits : 3</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the concept of customer relationship management	2,3	Un
CO-2	know the emerging trends in CRM	2,4,6	Un
CO-3	analyze the customer relationship management issues and problems	2,3	An
CO-4	gain the knowledge about the e- CRM	1,2	Ev
CO-5	understand the customer relationship management process	1,2,3	An
CO-6	analyze the technology of integrating CRM with ERP	5,6	An
CO-7	integration of CRM with data warehouse	4,8	Ev
CO-8	learn the concept of Market Basket Analysis	3	Un



<b>SEMESTER –III</b>			
<b>Part III Core SB</b>		<b>Business Mathematics</b>	
<b>Code:18UCOS31</b>	<b>Hrs/Week: 4</b>	<b>Hrs/Sem: 60</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	understand the basic principles and techniques of mathematics.	1,2	Un
CO – 2	understand how quadratic equations are solved.	2,5	Ap
CO – 3	understand how simultaneous equations are solved with two or more variables.	2,5	Ap
CO – 4	understand indices	1,2	Ap
CO – 5	understand the theory of logarithms.	1,2	Ap
CO – 6	apply matrix rule.	1,2,4,5	Ap
CO – 7	understand how linear equations are solved using matrices.	2,5	Ap
CO – 8	understand calculation of interests (simple, compound), discounts both for cash and credit transactions. (trade, cash, true , banker's discount).	1,2,4,5	Ap

<b>SEMESTER –III</b>			
<b>Part III Non Major Elective I Principles of Accountancy</b>			
<b>Code:18UCON31</b>	<b>Hrs/Week: 2</b>	<b>Hrs/Sem: 30</b>	<b>Credits : 2</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	have a fundamental knowledge on basic rules of Accounting.	1,2,5	Un
CO – 2	prepare the Trial balance.	1,2,3,8	Ap
CO – 3	prepare the various subsidiary books	1,2	Ap
CO – 4	prepare the various Types of cashbook	2,8	Ap
CO – 5	prepare the petty cash book.	2,8	Ap
CO – 6	prepare the Trading account.	2,5	Ap
CO – 7	prepare the profit and loss account	2,5	Ap
CO – 8	prepare the balance sheet	2,5	Ap

<b>SEMESTER – III</b>			
<b>Part IV</b>	<b>Self Study Course</b>	<b>Advertising</b>	
<b>Code : 18UCOSS1</b>		<b>Credit : 2</b>	

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	exposed to basic marketing tools.	1,2	Un
CO – 2	gain knowledge regarding AIDA Model.	1,2, 5	Ap
CO – 3	learn ethics in Advertising.	1,2, 5	Un
CO – 4	know the role of advertising on consumers.	1,2, 5	Ap
CO – 5	gain knowledge about the role of Advertising standards Council of India	1,2,5	Un
CO – 6	understand about the social media and its impact.	1,5,	Un
CO – 7	familiarise with the advertisement copy preparation.	1,5,6	Ap
CO – 8	establish an appeal towards advertising project.	1,2	Ap

<b>SEMESTER –IV</b>			
<b>Part III      Core VIII      Corporate Accounting</b>			
<b>Code:18UCOC41</b>	<b>Hrs/Week: 6</b>	<b>Hrs / Sem: 90</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	understand about the issue of shares.	1,2	Un
CO – 2	understand about the redemption of preference shares.	1,4,5	Ap
CO – 3	understand about the issue of shares and debentures.	5,8	Ap
CO – 4	understand the calculation of profit prior to incorporation.	2,5,8	Ap
CO – 5	Practice the maintenance of company final accounts as per revised accounting standards.	1,2	Ap
CO – 6	understand the accounting for amalgamation and external reconstruction.	2,5,8	Ap
CO – 7	analyse the various schemes for capital reduction.	2,5,8	Ap
CO – 8	evaluate the preparation of liquidator's financial statements.	2,5,8	Ap

<b>SEMESTER –IV</b>			
<b>Part III</b>	<b>Core IX</b>	<b>Company Law</b>	
<b>Code:18UCOC42</b>	<b>Hrs/Week: 6</b>	<b>Hrs/ Sem: 90</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	understand the various provisions of Companies Act 2013.	1,2	Un
CO – 2	know the provisions related to the formation of different types of companies.	1,2	Un
CO – 3	differentiate private and public companies.	2,3	An
CO – 4	understand the statutory requirements of Incorporation of a company like registration of memorandum, articles, issue of prospectus etc.	3,4	Un
CO – 5	know the difference between shares and debentures and the procedure for declaration and payment of dividend.	2,5	An
CO – 6	understand the role of administrative executives in a company and the procedure for conducting meetings.	1,5	Un
CO – 7	know the various requisites for conducting a valid meeting under the Companies Act , 2013.	2,5	Un
CO – 8	analyse the statutory procedure for the winding up of the company	2, 7	An

<b>SEMESTER –IV</b>			
<b>Part III      Core X      Logistics in Shipping Industries</b>			
<b>Code:18UCOC43</b>	<b>Hrs/Week: 6</b>	<b>Hrs/Sem: 90</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	introduce basic concepts in logistics with special emphasis on maritime shipping.	1,2	Ap
CO - 2	understand multimodal transport concept and ports of India.	1,2,5	Un
CO – 3	evaluate the role and functions of service providers in shipping industry.	4	Ev
CO – 4	familiarize with multi model transport and containerisation.	1,4	Ev
CO – 5	identify the role of intermediaries with their functions.	1	An
CO – 6	identify the career opportunities available in the Shipping sector.	6	An
CO – 7	familiarise the import and export procedures.	6	Ev
CO – 8	study the activities of various liners in the maritime trade.	4	Un

<b>SEMESTER -IV</b>			
<b>Part III</b>	<b>Allied VII</b>	<b>Auditing</b>	
<b>Code:18UCOA41</b>	<b>Hrs/Week: 3</b>	<b>Hrs/Sem: 45</b>	<b>Credits : 3</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	understand the meaning and objectives of audit and vouchers.	1,2	Un
CO – 2	know the features of E- auditing	1,2	Un
CO – 3	understand the constraints of audit and vouchers.	1,2	Un
CO – 4	know the features and differences between internal control and internal audit.	1,2	Ev
CO – 5	understand the differences between verification of assets and liabilities.	2,4	Un
CO – 6	know the rules for appointment of company auditor and contents of auditor's report.	5,8	Un,An
CO – 7	know the types of auditor's report	5,8	Un,Re
CO – 8	analyse the classification and differences between investigation and auditing.	2	An

<b>SEMESTER –IV</b>			
<b>Part III Allied VIII</b>		<b>Career Skills</b>	
<b>Code:18UCOA42</b>	<b>Hrs/Week: 3</b>	<b>Hrs/Sem: 45</b>	<b>Credits : 3</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	understand the content of application and resume	1,2	Un
CO – 2	know the essentials of a good speech and qualities of a good speaker	2,5	Ap
CO – 3	understand the features of group discussion.	1,4,5	Ap
CO – 4	understand the various roles to be played by a group leader.	1,4,5	Ap
CO – 5	evaluate the types, features and steps in writing a good report	3,4	Ev
CO – 6	know the types and significance of Interview technique.	2,3	Ap
CO – 7	face an interview	1,2,7	Re, Ap
CO – 8	work out problems on mathematical skills	2,4,5	An, Ap



<b>SEMESTER –IV</b>			
<b>Part III</b>	<b>Core SB</b>	<b>Business Statistics</b>	
<b>Code:18UCOS41</b>	<b>Hrs/Week: 4</b>	<b>Hrs/Sem: 60</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	understand the basic concepts of statistics and statistical tools.	2,5	Un
CO – 2	understand how statistical tools are applied for doing the project work.	2,5	Un
CO – 3	know the measures of central tendency and apply to measure averages.	2,3	Ev
CO – 4	apply the tools on measures of dispersion that are useful for estimating variations.	2,4,5,8	Ap
CO – 5	evaluate whether there is correlation between two variables or not.	2,3	Ev
CO – 6	apply the various methods for calculating correlation coefficient.	2,4,5,8	Ap
CO – 7	apply regression analysis for estimating values for future period.	2,4,5,8	Ap
CO – 8	apply the various methods for calculating regression coefficient.	2,4,5,8	Ap

Semester IV			
Part III Non Major Elective II Introduction To Cost Accounting			
Code:18UCON41	Hrs/Week: 2	Hrs/Sem 30	Credits : 2

**Course Outcome:**

CO No.	Upon completion of this course, students will be able to	PSO addressed	Cognitive Level
CO – 1	understand the objectives of cost accounting	1	Un
CO – 2	understand the functions of cost accounting	1	Un
CO – 3	understand the various classifications of cost	1	Un
CO – 4	understand the preparation of cost sheet.	1,2,8	Un,Ap
CO – 5	determine the elements of materials and its types	3,4	Re,Ap
CO – 6	know the various methods of remuneration.	1,8	An
CO – 7	understand the overhead absorption methods.	1,3	Un,Ap
CO – 8	understand overhead allocation and apportionment.	1,3	Un,Ap

<b>SEMESTER – IV</b>	
<b>Part IV</b>	<b>Self Study Course      Online Marketing</b>
<b>Code : 18UCOSS2</b>	<b>Credit : 2</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	understand the functions of online marketing.	1,3	Un
CO – 2	understand the significance of online marketing.	1,3	Un
CO – 3	understand the strategy and planning for internet marketing.	1,3,4	Un,Ap
CO – 4	learn the role of the Internet and its technological development	1,3,4	Un,Ap
CO- 5	know E-mail marketing and creating email ID for personal and business use.	- 1,7	Ap
CO – 6	understand ethical and legal issues in internet marketing.	1,2,5	Un
CO – 7	understand the importance of Global Internet Marketing	1, 6	Un
CO – 8	analyse and evaluate the significance of “Customerisation” in internet marketing.	1,5,6	An,Ev

<b>SEMESTER – V</b>			
<b>Part III Core XI (Common Core) Human Resource Management</b>			
<b>Code:18UMCC51</b>	<b>Hrs/Week: 6</b>	<b>Hrs/Sem: 90</b>	<b>Credit : 4</b>

**Vision:**

To enable students to understand the basic concepts in Human Resource Management.

**Mission:**

To familiarize students on the various aspects of Human Resource Management.

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	gain knowledge on the basic concepts of planning human resource and help them to understand basic techniques of business.	1,2	Un
CO – 2	understand the basic selection process in human resource management.	1,2,3	Un
CO – 3	know the importance of training and development in human resource management.	2,3,4	Ap
CO – 4	know about the transfer policies.	2,3,5	Un, Re
CO – 5	gain knowledge on compensation methods.	3,4	Un, An
CO – 6	understand the promotional policies in business.	3,4	Un, Re
CO – 7	know and apply the significance and problems in performance appraisal.	3,4,5	Ap
CO – 8	know and apply the methods of performance appraisal	3,4,5	Ap

<b>SEMESTER –V</b>			
<b>Part III    Core XII            Income Tax Law &amp; Practice I</b>			
<b>Code:18UCOC52</b>	<b>Hrs/Week: 6</b>	<b>Hrs/Sem: 90</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	understand and apply basic concept and provisions of the Income Tax Act 1961.	1,2,3	Un
CO – 2	understand the various exempted income and residential status.	2,5	Ap
CO – 3	understand and compute Salary income	4,5	Ap
CO – 4	understand and compute Income from House property.	2,5	Ap
CO – 5	compute Capital gains	5,8	Ap
CO – 6	compute Profits and gains	5,8	Ap
CO -7	compute Income from other sources.	5,8	Ap
CO -8	compute different heads of income.	2,5	Ap

<b>SEMESTER –V</b>			
<b>Part III Core XIII</b>		<b>Business Law</b>	
<b>Code:18UCOC53</b>	<b>Hrs/Week: 6</b>	<b>Hrs/Sem: 90</b>	<b>Credits : 4</b>

**Vision:**

To expose students to various business laws.

**Mission:**

To enable students to have adequate knowledge on rules and regulations of commercial laws.

**Course Outcome:**

<b>Co.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the essentials and steps to enter into a contract.	1,2	Un
CO-2	familiarize with the terminology used in contract Act	1,4	Un
CO-3	know about the remedies of breach of contract.	1,2,3	An
CO-4	understand the contract of indemnity and its kinds.	1, 2,5	Un
CO-5	know the performance of Contract	1,4,5	Ap
CO-6	understand the contract of Contract of Guarantee	1,2,8	Un
CO- 7	understand the types of bailment, rights and its duties.	1,4	Un
CO-8	know the rights of buyers and sellers, its conditions and warranties regarding Sale of Goods Act.	6,7	Ap

<b>SEMESTER –V</b>			
<b>Part III    Core Integral I        Special Accounts</b>			
<b>Code:18UCOI51</b>	<b>Hrs/Week: 5</b>	<b>Hrs/Sem: 75</b>	<b>Credits : 4</b>

**Course outcome:**

<b>Co.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	gain in-depth knowledge in corporate accounting	2,4,5	Un
CO-2	know the format of final accounts of Banking, Insurance and Holding companies	4,5	Ap
CO-3	prepare the accounts for public limited companies	1,2,5	Ev, Ap
CO-4	understand investment accounts, fixed interest securities and variable income securities.	5,8	An
CO-5	understand and prepare voyage accounts	5,8	Un
CO-6	know about statutory laws relating to banking companies accounts	1,3,8	Un, Ap
CO-7	know about statutory laws relating to insurance company accounts.	1,2,5	Un, Ap
CO-8	understand and prepare accounts of holding companies.	1,8	Un, Ap

<b>SEMESTER –V</b>			
<b>Part III Core Integral II Cost Accounting</b>			
<b>Code:18UCOI52</b>	<b>Hrs/Week: 5</b>	<b>Hrs/Sem: 75</b>	<b>Credits : 4</b>

**Course Outcome :**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	understand the objectives and functions of cost accounting	1,5	Un
CO – 2	understand the preparation of cost sheet.	1,5,8	Ap
CO – 3	determine the elements of material and the techniques of material control	4,5	Un,Ap
CO - 4	know the concepts of labour cost computation and control.	1,5,8	Un,Ap
CO – 5	understand the overhead allocation and apportionment.	1,5	Un,Ap
CO - 6	gain knowledge on absorption of overheads	1,7,8	Un,Ap
CO – 7	understand the techniques of Contract costing	5,8	Un,Ap
CO – 8	gain knowledge on the techniques of Process costing and prepare process accounts.	5,8	Un,Ap



<b>SEMESTER –V</b>	
<b>Part IV Self Study Course</b>	<b>Salesmanship</b>
<b>Code:18UCOSS3</b>	<b>Credit : 2</b>

**Course outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	understand the characteristics of salesmanship..	1,3	Un
CO – 2	understand the importance of salesmanship..	1,3	Un
CO – 3	understand the basic qualities of a successful salesman.	1,2	Un
CO – 4	help the students to inculcate personal selling skills.	1	Ap
CO – 5	know about the procedure for handling objections.	1	Ap
CO – 6	expose the students for making sales and managing customer.	1	Ap
CO – 7	identify the essentials of a good sales talk	3,4,8	Ap
CO – 8	know the essentials of closing the sales.	3,4,8	Ap

<b>SEMESTER –VI</b>			
<b>Part III Core XIV Management Accounting</b>			
<b>Code:18UCOC61</b>	<b>Hrs/Week: 6</b>	<b>Hrs/Sem : 90</b>	<b>Credits : 4</b>

**Course Outcome :**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	understand the basic concepts of management accounting and differentiate management accounting from financial accounting and cost accounting.	1,2	Un
CO – 2	understand the contexts where types of ratios can be applied for evaluating the performance and financial position of a firm.	2,5	Un,Ap
CO – 3	evaluate the performance of a firm using fund flow statement.	5,8	Ev,Ap
CO – 4	evaluate the performance of a firm using cash flow statement.	5,8	Ev,Ap
CO - 5	use marginal costing techniques for optimising cost and profit.	2,3,5	Un,Ap
CO - 6	understand the features and importance of budgets and budgetary control	1,5	Un,Ap
CO - 7	prepare various budgets	5,8	An,Ap
CO - 8	identify the significance of standard costing, budgeting and budgetary control in managerial decision making.	2,5	An,Ap

<b>SEMESTER –VI</b>			
<b>Part III</b>	<b>Core XV</b>	<b>Income Tax Law and Practice-II</b>	
<b>Code:18UCOC62</b>	<b>Hrs/Week: 6</b>	<b>Hrs/Sem: 90</b>	<b>Credits : 4</b>

**Course outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	understand and apply the concept of clubbing of income	1,2,3	Un
CO – 2	set off and carry forward losses	2,5	Ap
CO – 3	understand and apply deductions U/S 80 C to 80 U	2,5	Ap
CO -4	understand the various assessment procedures	5,8	Ap
CO -5	understand and compute advance tax and TDS	5,8	Ap
CO – 6	understand and apply the tax rate and deductions.	4,5	Ap
CO – 7	compute income of individuals and firms.	2,5	Ap
CO – 8	prepare Income Tax returns of individuals and firms	5,8	Ap

<b>SEMESTER –VI</b>			
<b>Part III    Core XVI</b>		<b>Industrial Law</b>	
<b>Code:18UCOC63</b>	<b>Hrs/Week: 6</b>	<b>Hrs/Sem: 90</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the disputes of strike, lock out, retrenchment, lay off and compensation	1,2	Un
CO-2	know about the welfare, safety and health of workers.	2,5,8	Ap
CO-3	analyse Women and Factories Act	4,5,8	Ap
CO-4	understand the various act relating to payments.	5,8	Ap
CO-5	understand the rules regarding workmen's compensation.	2,5	Un
CO-6	know the Minimum Wages Act	1,3	An
CO-7	understand the Trade Union Act	1,4	Un
CO-8	know the rights and duties of Employee State Insurance Act.	7,8	Ev

<b>SEMESTER –VI</b>			
<b>Part III    Core Integral III    Financial Services</b>			
<b>Code:18UCOI61</b>	<b>Hrs/Week: 5</b>	<b>Hrs/Sem: 75</b>	<b>Credits : 4</b>

**Course outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	know the framework of Financial Markets in India.	1,3	Un
CO-2	be familiar with the functions of Financial Services.	2,4	An
CO-3	gain knowledge on the avenues of financial services	3,6	Un
CO-4	be an expertise in various Financial markets and its Services	1,8	Ev
CO-5	understand the term Merchant Banking	1,8	Ap
CO-6	know Lease Financing	4,6	Un
CO-7	understand the activities and scope of venture capital and also the functions of credit rating	5,7	Ap
CO-8	understand Mutual Funds and its application	1,7	An

<b>SEMESTER –VI</b>			
<b>Part IV Core Integral IV Investment Management</b>			
<b>Code:18UCOI62</b>	<b>Hrs/Week: 7</b>	<b>Hrs/Sem: 105</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the sources of investments.	1,3	Un
CO-2	know of various level of risks.	2,4	An
CO-3	adapt with primary market procedures.	3,6	Un
CO-4	be familiarised with various stock exchanges and their functions.	1,8	Ev
CO-5	analyse the securities according to industry.	1,8	Ap
CO-6	analyse the securities technically.	4,6	Un
CO-7	apply the tools to understand the overall marketing.	5,7	Ap
CO-8	know the investment pattern.	1,7	An

## B.Sc. Computer Science

SEMESTER- I			
Core – I		C Programming	
Code: 18UCSC11	Hrs / week : 4	Hrs / Semester: 60	Credits : 4

### Course outcome:

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	draw the flow chart for the given problem and algorithm	1	Un
CO-2	describe the various operators and library functions and to define I/O functions	3	Un
CO-3	compare and contrast loops	4	An
CO-4	implement recursion	8	Ap
CO-5	understand the concept of storage classes	9	Un
CO-6	implement different operations on arrays	3	Ap
CO-7	develop an application using pointer.	5	Cr
CO-8	develop application using structure and pointers	10	Cr

<b>SEMESTER- I</b>			
<b>Allied – I</b>		<b>Discrete Mathematics</b>	
<b>Code: 18UCSA11</b>	<b>Hrs / week : 4</b>	<b>Hrs / Semester: 60</b>	<b>Credits :3</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	define basic principles of sets and operations in sets	4	Re
CO-2	demonstrate relations	4	Ap
CO-3	apply counting principles	8	Ap
CO-4	compute the shortest path	8	Cr
CO-5	create an argument using logical notation and evaluate if it is valid or not.	1	Cr
CO-6	apply logical reasoning to solve a variety of problems.	8	Ap
CO-7	model problems in computer science using graphs and trees and traverse them depending on the problem.	8	Ap
CO-8	construct spanning tree and traverse trees and graphs.	5	Cr



<b>SEMESTER- II</b>			
<b>Core II</b>		<b>C++ Programming</b>	
<b>Code: 18UCSC21</b>	<b>Hrs / week : 4</b>	<b>Hrs / Semester: 60</b>	<b>Credits : 4</b>

**Course outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	know about object oriented features.	8	Un
CO-2	understand the various operators and i/o functions	3	Re
CO-3	write program using inline and friend function and to implement overloading constructor	3	Cr, AP
CO-4	understand array of objects and to demonstrate operator overloading	8,9	Un, AP
CO-5	compare different inheritance methods	3	An
CO-6	develop linked list	5	Cr
CO-7	understand virtual function	8	Un
CO-8	create an application using file operations	10	Cr

<b>SEMESTER- II</b>			
<b>Allied II</b>		<b>Digital Principles</b>	
<b>Code: 18UCSA21</b>	<b>Hrs / week : 4</b>	<b>Hrs / Semester: 60</b>	<b>Credits : 3</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand various number systems and boolean functions.	9	Un
CO-2	apply various methods to simplify boolean function.	4	Cr
CO-3	construct digital circuits for boolean functions with logic gates.	6	Cr
CO-4	design combinational circuits with logic gates.	6	Cr
CO-5	apply classical techniques for the logical design of combinational and sequential circuits	6	Ap
CO-6	define sequential logic circuits.	6	Re
CO-7	understand the basic operation of flip-flops.	2	Re
CO-8	understand the various registers-transfer methods .	2	Re

<b>SEMESTER- III</b>			
<b>Core – III</b>		<b>Java Programming</b>	
<b>Code: 18UCSC31</b>	<b>Hrs / week : 5</b>	<b>Hrs / Semester: 75</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	know the various operators , Class and Methods of Java	1	Re
CO-2	analyze the concept of Exception -Handling	2	An
CO-3	describe multi threading	4	Un
CO-4	discuss the Basics of Applet Concept	1	Re
CO-5	apply Event Handling Mechanisms	4	Ap
CO-6	implement AWT Controls	4	Ap
CO-7	design JDBC Package	4	Cr
CO-8	create an application using RMI	10	Cr

<b>SEMESTER- III</b>			
<b>Core – IV</b>		<b>Computer Architecture</b>	
<b>Code:18UCSC32</b>	<b>Hrs / week : 6</b>	<b>Hrs / Semester: 90</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	discuss the organization of basic computer	1	Un
CO-2	explain various types of instructions.	2	Un
CO-3	define interrupts.	1	Un
CO-4	explain general register organization and stack organization.	2	Un
CO-5	discuss various addressing modes.	2	Ap
CO-6	discuss various types of instructions depends on the operation performed and parallel processing.	2	Un
CO-7	explain algorithms for arithmetic operations of various number systems , input /output organization and dma	1	Un
CO-8	discuss memory hierarchy with different types of memories.	1	Un

<b>SEMESTER- III</b>			
<b>Allied III</b>		<b>Data Structures</b>	
<b>Code: 18UCSA31</b>	<b>Hrs / week : 4</b>	<b>Hrs / Semester: 60</b>	<b>Credits : 3</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	analyze efficiency of algorithms	1	An
CO-2	compare various search methods	4	An
CO-3	choose the appropriate data structure needed to solve the problem.	4	Ap
CO-4	design stacks and queues	4	Cr
CO-5	discuss applications of stack and queue	6	Un
CO-6	create an expression tree for an expression and evaluate it.	3	Cr
CO-7	implement graph traversals	3	Ap
CO-8	compare and contrast sorting methods	4	An

<b>SEMESTER- III</b>			
<b>Core Skill Based</b>		<b>Microprocessors</b>	
<b>Code: 18UCSS31</b>	<b>Hrs / week : 4</b>	<b>Hrs / Semester: 60</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO Mapped</b>	<b>CL</b>
CO-1	explain basic components and structure of Microprocessor and Microcomputers	1	Un
CO-2	describe 8085 Microprocessor and Memory Interfacing.	2	Un
CO-3	explain 8085 Microprocessor Programming model.	3	Un
CO-4	explain various categories of 8085 Microprocessor instruction set.	2	Un
CO-5	execute simple Assembly language Programs.	3	Ap
CO-6	explain various Assembly language programming techniques .	3	Un
CO-7	develop Assembly language Programs.	4	Cr
CO-8	explain interrupts in 8085 Microprocessor and high performance Processors.	1	Un

<b>SEMESTER-III</b>	
<b>Self Study I</b>	<b>Web Designing With HTML</b>
<b>Code: 18UCSSS1 (Optional)</b>	<b>Credits: 2</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	differentiate web browsers and search engines	2	An
CO-2	create email id.	5	Ap
CO-3	add absolute URLs, relative URLs, and named anchors to the Web pages.	7	Ap
CO-4	create web pages with images and image map	7	Cr
CO-5	apply styles to web pages with CSS	7	Ap
CO-6	create websites with multimedia content	7	Cr
CO-7	create websites with frames	7	Cr
CO-8	create websites with inline frames	7	Cr

<b>SEMESTER- IV</b>			
<b>Core V</b>		<b>Python Programming</b>	
<b>Code: 18UCSC41</b>	<b>Hrs / week :5</b>	<b>Hrs / Semester: 75</b>	<b>Credits :4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	explain what is python and why it is a powerful	2	Un
CO-2	distinguish various python objects	1	An
CO-3	apply decision and repetition structures in program design.	1	An
CO-4	demonstrate the use of Python lists and dictionaries	1	Ap
CO-5	demonstrate how to read and write files Programs in Python	2	Ap
CO-6	develop Python programs using files.	5	Cr
CO-7	identify the errors in csv files using and rectify.	6	Ap
CO-8	write python programs to solve problems	10	Cr



<b>SEMESTER- IV</b>			
<b>Core – VI</b>		<b>RDBMS</b>	
<b>Code: 18UCSC42</b>	<b>Hrs / week :6</b>	<b>Hrs / Semester: 90</b>	<b>Credits :4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand database concepts and database management system software	5	Un
CO-2	apply Formal Relational Query Languages	5	Ap
CO-3	demonstrate an application's data requirements using conceptual modeling tools like ER diagrams and Database Design	5	An
CO-4	implement normalization techniques	6	Ap
CO-5	compare the various storage media and Implement the file structures	6	Ap
CO-6	apply transaction and concurrency control	6	Ap
CO-7	implement Database System Architectures	10	Ap
CO-8	design databases for different databases	10	Cr

<b>SEMESTER- IV</b>			
<b>Allied – IV</b>		<b>Resource Management Techniques</b>	
<b>Code: 18UCSA41</b>	<b>Hrs / week :4</b>	<b>Hrs / Semester: 60</b>	<b>Credits :3</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	define operation research	1	Re
CO-2	formulate optimization problems	1	Cr
CO-3	identify the best technique to solve a game	3	An
CO-4	estimate the replacement age of a machine	3	Ap
CO-5	describe the functions and costs of an inventory	3	Un
CO-6	draw the network diagram and estimate completion time for a project	3	Cr
CO-7	describe project scheduling	3	Un
CO-8	implement various disciplines of queue	3	Ap

<b>SEMESTER IV</b>			
<b>Core Skill Based</b>		<b>Web Technology</b>	
<b>Code: 18UCSS41</b>	<b>Hrs / week :4</b>	<b>Hrs / Semester: 60</b>	<b>Credits :4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand Internet standard and Internet protocols	5	Un
CO-2	demonstrate sockets, RMI in JAVA networking	2	Ap
CO-3	develop dynamic web pages using JavaScript (client side programming).	7	Cr
CO-4	design dynamic web pages using VBScript	7	Cr
CO-5	design interactive web pages using DHTML	7	Cr
CO-6	discuss how XML DTDs differ from XML schemas	6	An
CO-7	identify and correct problems related to concurrency in server-side programs	10	Un
CO-8	create dynamic webpages using Server side scripting servlet and JSP	7	Cr

<b>SEMESTER –IV</b>	
<b>Self Study Course II</b>	<b>Mathematical Reasoning</b>
<b>Code: 18UCSSS2 (Optional)</b>	<b>Credits: 2</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	Simplify various expressions	3	Ev
CO-2	Determine Averages of various calculations	3	Ap
CO-3	Compare and Proportion	3	An
CO-4	Evaluate Partnership in enterprises	3	Ev
CO-5	Analyse Percentage computation	3	An
CO-6	Evaluate profit and loss.	3	Ev
CO-7	Apply Simple interest and Compound interest calculation	3	Ap
CO-8	Apply Time and work , Time and distance evaluation in real world problems	3	Ap

<b>Semester - V</b>			
<b>Common Core</b>		<b>Computer Oriented Numerical Methods</b>	
<b>Code: 18UCCC51</b>	<b>Hrs/Week: 6</b>	<b>Hrs/Sem: 90</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	find numerical solution of a problem in all aspects and apply these methods to practical implementation as reliable and efficient.	3	Re
CO-2	recognize and apply appropriate principles and concept relevant to Numerical Analysis.	3	Ap
CO-3	discover the most appropriate estimate for the missing data.	3	Cr
CO-4	analyze the errors obtained in the numerical solutions of problems.	3	An
CO-5	use appropriate numerical methods, determine the solutions to given problems.	3	Ap
CO-6	demonstrate the method of interpolation and find the solution for the data.	3	Un
CO-7	develop their calculation skills.	3	Cr
CO-8	differentiate Gauss Jacobi iteration and Gauss Seidal Iteration method.	3	An

<b>SEMESTER- V</b>			
<b>Core – VIII</b>		<b>Operating Systems</b>	
<b>Code: 18UCSC52</b>	<b>Hrs / week :4</b>	<b>Hrs / Semester: 60</b>	<b>Credits :4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	define Operating System Structure and the various operations , process of operating system	1	Re
CO-2	analyze the Various Scheduling Algorithms of Process Management	6	An
CO-3	explain the concept of Deadlock.	6	Re
CO-4	implement the various allocation methods of Memory Management	6	Ap
CO-5	access Methods and File allocation Methods	6	Re
CO-6	compare the scheduling algorithms of disk	6	An
CO-7	discuss about open source software	9	Un
CO-8	compare Linux with other operating system	6	An

<b>SEMESTER- V</b>			
<b>Core – IX</b>		<b>Programming With PHP and MySQL</b>	
<b>Code: 18UCSC53</b>	<b>Hrs / week :4</b>	<b>Hrs / Semester: 60</b>	<b>Credits :4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	explain the variable usage in PHP	1	Un
CO-2	creating forms with conditional statements	1	Cr
CO-3	describe about arrays, files, cookies and functions.	2	Un
CO-4	create an application using file operation	4	Cr
CO-5	implement the concept of oracle in Mysql query	7	Ap
CO-6	explain the concept Grouping data, filtering, Aggregate function	7	Un
CO-7	explain the concept of the sub queries, joining tables,set operator and full text searching	7	Ap
CO-8	develop PHP program with database connectivity .	7	Cr

<b>SEMESTER- V</b>			
<b>Core – Integral I</b>		<b>Data Mining</b>	
<b>Code: 18UCSI51</b>	<b>Hrs / week : 4</b>	<b>Hrs / Semester: 60</b>	<b>Credits :4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	define data mining process and the various data mining techniques	1	Re
CO-2	apply market basket analysis	7	Ap
CO-3	compare different classification methods	7	An
CO-4	implement cluster analysis	7	Ap
CO-5	create an ODS	7	Cr
CO-6	discuss about data warehousing	6	Re
CO-7	compare and contrast OLAP AND OLTP	7	An
CO-8	describe various search engines .	10	Un



<b>SEMESTER- V</b>	
<b>Self Study Course III</b>	<b>ASP.NET</b>
<b>Code: 18UCSSS3</b>	<b>Credits :2</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the Microsoft .NET Framework and ASP.NET page structure	2	Un
CO-2	compare C# and VB programming Languages	5	An
CO-3	build and debug well-formed Web Forms with ASP.NET Controls.	6	Cr
CO-4	understand the Visual studio .NET environment	6	Un
CO-5	create and Use Viewstate, Query String and cookies	7	Cr
CO-6	implement appropriate data transfer between pages	7	Ev
CO-7	use Microsoft ADO.NET to access data in web Application	10	Ap
CO-8	develop dynamic Websites	10	Cr

<b>SEMESTER VI</b>			
<b>Core – X</b>		<b>Android Programming</b>	
<b>Code: 18UCSC61</b>	<b>Hrs / week :5</b>	<b>Hrs / Semester: 75</b>	<b>Credits :4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	distinguish different mobile techniques	2	Re
CO-2	install Android SDK	5	Ap
CO-3	design User Interface	5	Cr
CO-4	modify app to include multimedia content	10	An
CO-5	create app to access SD card	10	Cr
CO-6	create app with Google Maps	10	Cr
CO-7	design app with SQLite database	10	Cr
CO-8	deploy Mobile app	10	Ap

<b>SEMESTER VI</b>			
<b>Core – XI</b>		<b>Software Engineering</b>	
<b>Code: 18UCSC62</b>	<b>Hrs / week :4</b>	<b>Hrs / Semester: 60</b>	<b>Credits :4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	describe the concepts of Software Engineering.	1	Un
CO-2	describe Software Life Cycle Model	1	Un
CO-3	discuss Project Management	2	Ap
CO-4	discuss software Requirement and specification	2	Ap
CO-5	explain Software Design Process	3	Un
CO-6	describe User Interface Designing	3	Un
CO-7	explain software Testing and Software Reliability	3	Un
CO-8	Discuss Software Quality Management System	3	Un

<b>SEMESTER VI</b>			
<b>Core – XII</b>		<b>Computer Networks</b>	
<b>Code: 18UCSC63</b>	<b>Hrs / week :5</b>	<b>Hrs / Semester:75</b>	<b>Credits :4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	define Network and the various types of Network	1	Re
CO-2	demonstrate the model of Network	1	An
CO-3	analyze the structure of Switch and the Protocols.	2	An
CO-4	discuss Connection devices by using Wired LANs	2	Ap
CO-5	discuss the Network layer and Transport Layer in routing and TELNET	6	Re
CO-6	describe the various routing algorithms in network layer	8	Un
CO-7	define Network Security and other aspects of Security	5	Re
CO-8	acquire the basic knowledge of layers of OSI model	5	Re

<b>SEMESTER VI</b>			
<b>Core – Integral II</b>		<b>Cloud Computing</b>	
<b>Code: 18UCSI61</b>	<b>Hrs / week :4</b>	<b>Hrs / Semester: 60</b>	<b>Credits :4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	define cloud computing	1	Re
CO-2	describe the characteristics of cloud	2	Un
CO-3	identify the technical foundations of cloud system architecture	2	An
CO-4	characterize the distinction between infrastructure , platform, software and service	7	An
CO-5	illustrate the use of load balancing techniques	7	Ap
CO-6	attempt to generate new ideas and innovations in cloud computing	7	Cr
CO-7	compare and contrast the various web services	10	An
CO-8	demonstrate the usage of mail services	10	An

## **B.Com (Corporate)**

<b>SEMESTER –I</b>			
<b>Part III</b>	<b>Core I</b>	<b>Financial Accounting I</b>	
<b>Code:18UCOC11</b>	<b>Hrs/Week: 5</b>	<b>Hrs/Sem: 75</b>	<b>Credits : 4</b>

### **Course Outcome :**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	understand book keeping and accounting concepts, conventions and accounting information.	1,2,5	Un
CO – 2	prepare financial statements in accordance with generally accepted accounting principles.	1,2,5,8	Ap
CO – 3	employ critical thinking skills on the effects of different accounting methods on the financial statements.	1,2,4,5	Ap
CO – 4	understand about the preparation of bank reconciliation statement.	1,5	Ap
CO – 5	know about the differences between bill of exchange and promissory note.	1,5	Ap
CO - 6	demonstrate an understanding of the various methods of providing depreciation.	2,4,5	Ev
CO - 7	apply appropriate judgement derived from knowledge of accounting theory in charging depreciation for various assets.	1,5	Ap
CO - 8	effectively calculate the ‘no profit/ no loss’ date of settlement.	2,4,5	Ev

<b>SEMESTER –I</b>			
<b>Part III</b>	<b>Core II</b>	<b>Business Organisation</b>	
<b>Code:18UCOC12</b>	<b>Hrs/Week: 5</b>	<b>Hrs/Sem: 75</b>	<b>Credits : 4</b>

**Course Outcome :**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to:</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	understand the basic concepts of business organization and latest developments in the organization of business.	1,3,4,6	Un
CO – 2	understand the basic forms of business organization.	1,2,3	Un
CO – 3	know about the concepts of business ethics, business values and morals.	1,2,4	An
CO – 4	understand about village and small industry sector, development of VSI under the plans, KVIC and its objectives and MSME.	1,6	Ev
CO – 5	know about the dominance of MNC's globalization and globalization of Indian business.	1,3,6	An
CO - 6	demonstrate women entrepreneurship skills.	2,4,5	Ev
CO -7	gain knowledge on the promotional measures relating to KVIC.	1.2.3	Un
CO - 8	analyse the pros and cons of globalisation in the business world.	4,5	Cr

<b>SEMESTER –I</b>			
<b>Part III</b>	<b>Allied I</b>	<b>Business Economics</b>	
<b>Code:18UCOA11</b>	<b>Hrs/Week: 3</b>	<b>Hrs/Sem: 45</b>	<b>Credits : 3</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	know the various theories of Economics	1,2,3	Re
CO – 2	understand business economics and importance of business economics for managerial decision making.	1,2,4	Un
CO – 3	determine the position of firms using demand and supply conditions.	2,3	Ev
CO – 4	economies of large scale and small scale production.	1,6	Un
CO – 5	analyze Cost Effective Production techniques	5,6	An
CO- 6	determine pricing and costing strategies according to the nature of product and market conditions.	2,4	Ev
CO – 7	use economic theories related with supply and demand	2,7	Ap
CO-8	make optimal business decisions to minimise cost and maximise profit	7,8	Cr



<b>SEMESTER –I</b>			
<b>Part III Allied II</b>		<b>Business Information System</b>	
<b>Code:18UCOA12</b>	<b>Hrs/Week: 3</b>	<b>Hrs/Sem: 45</b>	<b>Credits : 3</b>

**Course Outcome :**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to:</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	gain thorough knowledge about the principles of Management.	1,2,3	Un
CO – 2	understand nature of management and apply the various functions in business.	1,2,3	Ap
CO – 3	know about principles of organization and its forms.	1,4	Ev
CO – 4	understand the motivational theories.	1,2,6	Ap
CO – 5	familiarise with the controlling and co-ordination techniques.	1,4	Ap
CO – 6	exhibit knowledge on importance of controlling and techniques of controlling.	2,7	Ap
CO - 7	analyse the importance of decision making in business.	1,2,6	An
CO - 8	outline the methods of motivation.	7,8	Cr

<b>SEMESTER –II</b>			
<b>Part III</b>	<b>Core III</b>	<b>Financial Accounting II</b>	
<b>Code:18UCOC21</b>	<b>Hrs/Week: 5</b>	<b>Hrs/Sem: 75</b>	<b>Credits : 4</b>

**Course Outcome :**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to:</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	know the difference between consignment and joint venture.	1,2,4	Ap
CO – 2	prepare various accounts namely accounts of non-trading concerns and professionals, royalties and single entry system.	1,5,8	Ap
CO – 3	understand about the self balancing system and sectional balancing system and its various adjustment accounts.	1,5	Ap
CO – 4	know about the loss of stock and loss of profit under insurance claims.	1,5	Ap
CO – 5	know about the preparation of balance sheet in income and expenditure account.	1,2	Ap
CO - 6	identify the nature of expenses as capital, revenue and deferred for correct presentation in the final accounts of any company.	1,3,6	An
CO - 7	understand the facts related to consignment and joint venture with normal and abnormal losses.	1.2.3	Un
CO - 8	evaluate the process of royalties with minimum rent, short workings and sub lease.	2,4,5	Ev

<b>SEMESTER –II</b>			
<b>Part III</b>	<b>Core IV</b>	<b>Principles of Marketing</b>	
<b>Code:18UCOC22</b>	<b>Hrs/Week: 5</b>	<b>Hrs/Sem: 75</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to:</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	understand the nature, importance and classification of markets.	1,2	Un
CO – 2	understand the functions of marketing and marketing mix.	1,2	Un
CO – 3	evaluate the life cycle of products.	1,2,3,5	Ev
CO - 4	know the importance of sales promotion, advertising and qualities of successful salesmen.	2,3,4	Ap
CO - 5	understand about the product line and product life cycle through modification.	1,4	Ap
CO - 6	demonstrate the importance of branding and packaging.	2,4,5	Ev
CO - 7	know the objectives and methods of pricing.	1.2.3	Un
CO - 8	analyse the pros and cons of the various channels of distribution.	4,5	Cr

<b>SEMESTER –II</b>			
<b>Part III</b>	<b>Allied III</b>	<b>Business Management</b>	
<b>Code:18UCOA21</b>	<b>Hrs/Week: 3</b>	<b>Hrs/Sem: 45</b>	<b>Credits : 3</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to:</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	gain thorough knowledge about the principles of Management.	1,2,3	Un
CO – 2	understand nature of management and apply the various functions in business.	1,2,3	Ap
CO – 3	know about principles of organization and its forms.	1,4	Ev
CO – 4	understand the motivational theories.	1,2,6	Ap
CO - 5	familiarise with the controlling and co-ordination techniques.	1,4	Ap
CO - 6	exhibit knowledge on importance of controlling and techniques of controlling.	2,4,5	Ev
CO - 7	analyse the importance of decision making in business.	1.2.3	Un
CO - 8	outline the methods of motivation.	4,5	Cr

<b>SEMESTER –II</b>			
<b>Part III</b>	<b>Allied IV</b>	<b>Principles of Life Insurance</b>	
<b>Code:18UCOA22</b>	<b>Hrs/Week: 3</b>	<b>Hrs/Sem: 45</b>	<b>Credits : 3</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to:</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	know the Indian Market System	1,2	Re
CO – 2	understand the Concept of Life Insurance	1,2	Un
CO – 3	effectively calculate premium and bonus for various kinds of policies	1,2,3	Ap
CO – 4	have an insight into the different types of life insurance plans	1,2,4	Ap
CO-5	acquire knowledge about LIC products, and its variations.	1,2,3	Ap
CO - 6	demonstrate knowledge on the different types of annuity plans, group insurance plans etc.	5,6	An
CO - 7	organisational structure at various level	1,8	Ev
CO - 8	take up Licentiate Examination with confidence	5,6,7	Cr

<b>SEMESTER –III</b>			
<b>Part III</b>	<b>Core V</b>	<b>Advanced Financial Accounting</b>	
<b>Code:18UCOC31</b>	<b>Hrs/Week: 6</b>	<b>Hrs/Sem: 90</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>On completion of this course, students will be able to</b>	<b>PSO Addressed</b>	<b>Cognitive Level</b>
CO – 1	understand the basic accounting issues.	1,2	Ap
CO – 2	gain knowledge regarding the maintenance of partnership accounts in case of admission.	1,2, 5	Ap
CO – 3	have practical knowledge regarding the maintenance of partnership accounts in case of retirement.	1,2, 5	Ap
CO - 4	understand the maintenance of partnership accounts in case of dissolution of a firm.	1,2, 5	Ap
CO – 5	know about the maintenance of accounts relating to branch accounts.	1,2,5	Un
CO – 6	understand the calculation of profit involved in sending goods at invoice price.	1,5,8	Ap
CO – 7	understand about the hire purchase system.	1,5,6	Ap
CO - 8	understand about installment system.	1,8	Ap

<b>SEMESTER –III</b>			
<b>Part III Core-VI Corporate Law And Secretarial Practice-I</b>			
<b>Code:18UCCC32</b>	<b>Hrs/Week: 5</b>	<b>Hrs/Sem: 75</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO.No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the concepts and principles of Company law	1,2	Ap
CO -2	understand the secretarial duties regarding the formation of company	1,2, 5	Ap
CO-3	gain knowledge through different documents in the company	1,2, 5	Ap
CO-4	familiarize with the doctrine of memorandum	1,2, 5	Ap
CO-5	develop the knowledge about shares, share certificate and warrant	1,2,5	Un
CO-6	state the relevant law, and discuss the secretarial duties	1,5,8	Ap
CO-7	discuss the Secretarial duties related to surrender and forfeiture of shares	1,5,6	Ap
CO-8	analyze different types of companies	1,8	Ap

<b>SEMESTER –III</b>			
<b>Part III</b>	<b>Core-VII</b>	<b>E - Accounting</b>	
<b>Code:18UCOC33</b>	<b>Hrs/Week: 6</b>	<b>Hrs/Sem: 90</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO Addressed</b>	<b>Cognitive Level</b>
CO-1	develop the computerized knowledge in accounting	1,2,3	Un
CO-2	impart the students with the basic principles and concepts of computerized accounting	1,2	Un
CO-3	provide knowledge on the use and application of Tally	1,2	Ev
CO-4	learn about the concept of vouchers	2,4	Un
CO-5	create company in Tally	5,8	Ap
CO-6	create knowledge of inventory accounting	1,5,8	Ev
CO-7	create knowledge of budget control	1,4	An
CO-8	make use of cost category and cost centers in voucher	1,5	Ap



<b>SEMESTER –III</b>			
<b>Part III</b>	<b>Allied V</b>	<b>Business Communication</b>	
<b>Code:18UCOA31</b>	<b>Hrs/Week: 3</b>	<b>Hrs/Sem: 45</b>	<b>Credits : 3</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	gain knowledge on the basic concepts of business communication and help them to understand basic techniques of business.	1,2	Un
CO – 2	understand the basic principle of effective communication and barriers of communication.	1,2,3	Un
CO – 3	help the students write letters on enquiries, offers and quotations, orders and execution.	2,3,4	Ap
CO – 4	know about the collection letters and sales letters.	2,3,5	Ap
CO – 5	understand about bank correspondence.	3,4	Ap
CO – 6	understand about Insurance correspondence	3,4	Ap
CO – 7	know about the public grievance letters.	3,4,5	Ap
CO – 8	know about the letters to the editor and through email.	3,4,5	Ap

<b>SEMESTER –III</b>			
<b>Part III Allied VI Customer Relationship Management</b>			
<b>Code:18UCOA32</b>	<b>Hrs/Week: 3</b>	<b>Hrs/Sem: 45</b>	<b>Credits : 3</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the concept of customer relationship management	2,3	Un
CO-2	know the emerging trends in CRM	2,4,6	Un
CO-3	analyze the customer relationship management issues and problems	2,3	An
CO-4	gain the knowledge about the e- CRM	1,2	Ev
CO-5	understand the customer relationship management process	1,2,3	An
CO-6	analyze the technology of integrating CRM with ERP	5,6	An
CO-7	integration of CRM with data warehouse	4,8	Ev
CO-8	learn the concept of Market Basket Analysis	3	Un

<b>SEMESTER –III</b>			
<b>Part III      Core SB              Business Mathematics</b>			
<b>Code:18UCOS31</b>	<b>Hrs/Week: 4</b>	<b>Hrs/Sem: 60</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	understand the basic principles and techniques of mathematics.	1,2	Un
CO – 2	understand how quadratic equations are solved.	2,5	Ap
CO – 3	understand how simultaneous equations are solved with two or more variables.	2,5	Ap
CO – 4	understand indices	1,2	Ap
CO – 5	understand the theory of logarithms.	1,2	Ap
CO – 6	apply matrix rule.	1,2,4,5	Ap
CO – 7	understand how linear equations are solved using matrices.	2,5	Ap
CO – 8	understand calculation of interests (simple, compound), discounts both for cash and credit transactions. (trade, cash, true , banker's discount).	1,2,4,5	Ap

<b>SEMESTER –III</b>			
<b>Part III Non Major Elective I Principles of Accountancy</b>			
<b>Code:18UCON31</b>	<b>Hrs/Week: 2</b>	<b>Hrs/Sem: 30</b>	<b>Credits : 2</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to:</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	have a fundamental knowledge on basic rules of Accounting.	1,2,5	Un
CO – 2	prepare the Trial balance.	1,2,3,8	Ap
CO – 3	prepare the various subsidiary books	1,2	Ap
CO – 4	prepare the Types of cashbook	2,8	Ap
CO – 5	prepare the petty cash book.	2,8	Ap
CO – 6	prepare the Trading account.	2,5	Ap
CO – 7	prepare the profit and loss account	2,5	Ap
CO – 8	prepare the balance sheet	2,5	Ap

<b>SEMESTER – III</b>			
<b>Part IV</b>	<b>Self Study Course</b>	<b>Advertising</b>	
<b>Code : 18UCOSS1</b>		<b>Credit : 2</b>	

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	students are exposed to basic marketing tools.	1,2	Un
CO – 2	gain knowledge regarding AIDA Model.	1,2, 5	Ap
CO – 3	learn ethics in Advertising.	1,2, 5	Un
CO – 4	know the role of advertising on consumers.	1,2, 5	Ap
CO – 5	gain knowledge about the role of Advertising standards Council of India	1,2,5	Un
CO – 6	understand about the social media and its impact.	1,5,	Un
CO – 7	familiarise with the advertisement copy preparation.	1,5,6	Ap
CO – 8	establish an appeal towards advertising project.	1,2	Ap

<b>SEMESTER –IV</b>			
<b>Part III      Core VIII      Corporate Accounting</b>			
<b>Code:18UCOC41</b>	<b>Hrs/Week: 6</b>	<b>Hrs / Sem: 90</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	understand about the issue of shares.	1,2	Un
CO – 2	understand about the redemption of preference shares.	1,4,5	Ap
CO – 3	understand about the issue of shares and debentures.	5,8	Ap
CO – 4	understand the calculation of profit prior to incorporation.	2,5,8	Ap
CO – 5	Practice the maintenance of company final accounts as per revised accounting standards.	1,2	Ap
CO – 6	understand the accounting for amalgamation and external reconstruction.	2,5,8	Ap
CO – 7	analyse the various schemes for capital reduction.	2,5,8	Ap
CO – 8	evaluate the preparation of liquidator's financial statements.	2,5,8	Ap

<b>SEMESTER –IV</b>			
<b>Part III Core IX Corporate Law and Secretarial Practice - II</b>			
<b>Code:18UCCC42</b>	<b>Hrs/Week: 5</b>	<b>Hrs/ Sem: 75</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO.No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	gain knowledge about the borrowing power of the company.	1,2	Un
CO-2	understand the concept of mortgages and debentures.	1,4,5	Ap
CO-3	demonstrate the secretarial duties in connection with resolution, agenda and minutes	2,5,8	Ap
CO-4	evaluate the importance, function of secretary along with the qualification, rights and duties.	2,5,8	Ap
CO-5	analyse the various modes of winding up of company.	1,2	Ap
CO-6	know the secretarial duties connected with reports and meetings.	2,5,8	Ap
CO-7	gain knowledge about the powers, rights and duties of company directors.	2,5,8	Ap
CO-8	understand the scope of secretarial work.	2,5,8	Ap

<b>SEMESTER –IV</b>			
<b>Part III</b>	<b>Core X</b>	<b>Logistics in Shipping Industries</b>	
<b>Code:18UCOC43</b>	<b>Hrs/Week: 5</b>	<b>Hrs/Sem: 75</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	introduce basic concepts in logistics with special emphasis on maritime shipping.	1,2	Ap
CO - 2	understand multimodal transport concept and ports of India.	1,2,5	Un
CO – 3	evaluate the role and functions of service providers in shipping industry.	4	Ev
CO – 4	familiarize with multi model transport and containerisation.	1,4	Ev
CO – 5	identify the role of intermediaries with their functions.	1	An
CO – 6	identify the career opportunities available in the Shipping sector.	6	An
CO – 7	familiarise the import and export procedures.	6	Ev
CO – 8	study the activities of various liners in the maritime trade.	4	Un



<b>SEMESTER -IV</b>			
<b>Part III</b>	<b>Allied VII</b>	<b>Auditing</b>	
<b>Code:18UCOA41</b>	<b>Hrs/Week: 3</b>	<b>Hrs/Sem: 45</b>	<b>Credits : 3</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	understand the meaning and objectives of audit and vouchers.	1,2	Un
CO – 2	know the features of E- auditing	1,2	Un
CO – 3	understand the constraints of audit and vouchers.	1,2	Un
CO – 4	know the features and differences between internal control and internal audit.	1,2	Ev
CO – 5	understand the differences between verification of assets and liabilities.	2,4	Un
CO – 6	know the rules for appointment of company auditor and contents of auditor's report.	5,8	Un,An
CO – 7	know the types of auditor's report	5,8	Un,Re
CO – 8	analyse the classification and differences between investigation and auditing.	2	An

<b>SEMESTER –IV</b>			
<b>Part III Allied VIII</b>		<b>Career Skills</b>	
<b>Code:18UCOA42</b>	<b>Hrs/Week: 3</b>	<b>Hrs/Sem: 45</b>	<b>Credits : 3</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to:</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	understand the content of application & resume	1,2	Un
CO – 2	know the essentials of a good speech & qualities of a good speaker	2,5	Ap
CO – 3	understand the features of group discussion.	1,4,5	Ap
CO – 4	understand the various roles to be played by a group leader.	1,4,5	Ap
CO – 5	evaluate the types, features and steps in writing a good report	3,4	Ev
CO – 6	know the types and significance of Interview technique.	2,3	Ap
CO – 7	face an interview	1,2,7	Re, Ap
CO – 8	work out problems on mathematical skills	2,4,5	An, Ap

<b>SEMESTER –IV</b>			
<b>Part III</b>	<b>Core SB</b>	<b>Business Statistics</b>	
<b>Code:18UCOS41</b>	<b>Hrs/Week: 4</b>	<b>Hrs/Sem: 60</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	understand the basic concepts of statistics and statistical tools.	2,5	Un
CO – 2	understand how statistical tools are applied for doing the project work.	2,5	Un
CO – 3	know the measures of central tendency and apply to measure averages.	2,3	Ev
CO – 4	apply the tools (measures of dispersion) that are useful for estimating variations.	2,4,5,8	Ap
CO – 5	evaluate whether there is correlation between two variables or not.	2,3	Ev
CO – 6	apply the various methods for calculating correlation coefficient.	2,4,5,8	Ap
CO – 7	apply regression analysis for estimating values for future period.	2,4,5,8	Ap
CO – 8	apply the various methods for calculating regression coefficient.	2,4,5,8	Ap

<b>Semester IV</b>			
<b>Part III Non Major Elective II Introduction To Cost Accounting</b>			
<b>Code:18UCON41</b>	<b>Hrs/Week: 2</b>	<b>Hrs/Sem 30</b>	<b>Credits : 2</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	understand the objectives of cost accounting	1	Un
CO – 2	understand the functions of cost accounting	1	Un
CO – 3	understand the various classifications of cost	1	Un
CO – 4	understand the preparation of cost sheet.	1,2,8	Un,Ap
CO – 5	determine the elements of material and its types	3,4	Re,Ap
CO – 6	know the various methods of remuneration.	1,8	An
CO – 7	understand the overhead absorption methods.	1,3	Un,Ap
CO – 8	understand overhead allocation and apportionment.	1,3	Un,Ap

SEMESTER – IV			
Part IV	Self Study Course	Online Marketing	
Code : 18UCOSS2		Credit : 2	

**Course Outcome:**

CO No.	Upon completion of this course, students will be able to	PSO addressed	Cognitive Level
CO – 1	understand the functions of online marketing.	1,3	Un
CO – 2	understand the significance of online marketing.	1,3	Un
CO – 3	understand the strategy and planning for internet Marketing.	1,3,4	Un,Ap
CO – 4	learn the role of the Internet and its technological development	1,3,4	Un,Ap
CO- 5	know E-mail marketing and creating email ID for personal and business use.	- 1,7	Ap
CO – 6	understand ethical and legal issues in internet marketing.	1,2,5	Un
CO – 7	understand the importance of Global Internet Marketing	1, 6	Un
CO – 8	analyse and evaluate the significance of “Customerisation” in internet marketing.	1,5,6	An,Ev

<b>SEMESTER – V</b>			
<b>Part III Core XI (Common Core) Human Resource Management</b>			
<b>Code:18UMCC51</b>	<b>Hrs/Week: 6</b>	<b>Hrs/Sem: 90</b>	<b>Credit : 4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	gain knowledge on the basic concepts of planning human resource and help them to understand basic techniques of business.	1,2	Un
CO – 2	understand the basic selection process in human resource management.	1,2,3	Un
CO – 3	know the importance of training and development in human resource management.	2,3,4	Ap
CO – 4	know about the transfer policies.	2,3,5	Un, Re
CO – 5	gain knowledge on compensation methods.	3,4	Un, An
CO – 6	understand the promotional policies in business.	3,4	Un, Re
CO – 7	know and apply the significance and problems in performance appraisal.	3,4,5	Ap
CO – 8	know and apply the methods of performance appraisal	3,4,5	Ap

<b>SEMESTER –V</b>			
<b>Part III    Core XII        Income Tax Law &amp; Practice I</b>			
<b>Code:18UCOC52</b>	<b>Hrs/Week: 6</b>	<b>Hrs/Sem: 90</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	understand and apply basic concept and provisions of the Income Tax Act 1961.	1,2,3	Un
CO – 2	understand the various exempted income and residential status.	2,5	Ap
CO – 3	understand and compute Salary income	4,5	Ap
CO – 4	understand and compute Income from House property.	2,5	Ap
CO – 5	compute Capital gains	5,8	Ap
CO – 6	compute Profits and gains	5,8	Ap
CO -7	compute Income from other sources.	5,8	Ap
CO -8	compute different heads of income.	2,5	Ap

<b>SEMESTER –V</b>			
<b>Part III Core XIII</b>		<b>Business Law</b>	
<b>Code:18UCOC53</b>	<b>Hrs/Week: 6</b>	<b>Hrs/Sem: 90</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>Co.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the essentials, classification and steps to enter into a contract.	1,2	Un
CO-2	familiarize with the terminology used in contract Act	1,4	Un
CO-3	know about the remedies of breach of contract.	1,2,3	An
CO-4	understand the contract of indemnity and its kinds.	1, 2,5	Un
CO-5	know the performance of Contract	1,4,5	Ap
CO-6	understand the contract of Contract of Guarantee	1,2,8	Un
CO- 7	understand the types of bailment, rights and its duties.	1,4	Un
CO-8	know the rights of buyers and sellers, its conditions and warranties regarding Sale of Goods Act.	6,7	Ap



<b>SEMESTER –V</b>			
<b>Part III Core Integral I Corporate Governance</b>			
<b>Code:18UCCI51</b>	<b>Hrs/Week: 5</b>	<b>Hrs/Sem: 75</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	understand the corporate social responsibility.	1,2	Un
CO – 2	understand the legal framework.	1,2	Un
CO – 3	know about the auditing and social accounting.	1,2,3	Un
CO - 4	understand the corporate legislation.	2,5	Un
CO – 5	understand the contribution of NGO.	2,5	Un
CO – 6	understand the powers and responsibilities of corporate board.	2,5	Un
CO – 7	understand the schemes of government.	4,5	Un
CO - 8	know about stakeholders responsibilities.	1,4,5	An

<b>SEMESTER –V</b>			
<b>Part III Core Integral II Cost Accounting</b>			
<b>Code:18UCOI52</b>	<b>Hrs/Week: 5</b>	<b>Hrs/Sem: 75</b>	<b>Credits : 4</b>

**Course Outcome :**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	understand the objectives and functions of cost accounting	1,5	Un
CO – 2	understand the preparation of cost sheet.	1,5,8	Ap
CO – 3	determine the elements of material and the techniques of material control	4,5	Un,Ap
CO - 4	know the concepts of labour cost computation and control.	1,5,8	Un,Ap
CO – 5	understand the overhead allocation and apportionment.	1,5	Un,Ap
CO - 6	gain knowledge on absorption of overheads	1,7,8	Un,Ap
CO – 7	understand the techniques of Contract costing	5,8	Un,Ap
CO – 8	gain knowledge on the techniques of Process costing and prepare process accounts.	5,8	Un,Ap

<b>SEMESTER –V</b>	
<b>Part IV Self Study Course</b>	<b>Salesmanship</b>
<b>Code: 18UCOSS3</b>	<b>Credit : 2</b>

**Course outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	understand the characteristics of salesmanship..	1,3	Un
CO – 2	understand the importance of salesmanship..	1,3	Un
CO – 3	understand the basic qualities of a successful salesman.	1,2	Un
CO – 4	help the students to inculcate personal selling skills.	1	Ap
CO – 5	know about the procedure for handling objections.	1	Ap
CO – 6	expose the students for making sales and managing customer.	1	Ap
CO – 7	identify the essentials of a good sales talk	3,4,8	Ap
CO – 8	know the essentials of closing the sales.	3,4,8	Ap

<b>SEMESTER –VI</b>			
<b>Part III</b>	<b>Core XIV</b>	<b>Management Accounting</b>	
<b>Code:18UCOC61</b>	<b>Hrs/Week: 6</b>	<b>Hrs/Sem : 90</b>	<b>Credits : 4</b>

**Course Outcome :**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	understand the basic concepts of management accounting and differentiate management accounting from financial accounting and cost accounting.	1,2	Un
CO – 2	understand the contexts where types of ratios can be applied for evaluating the performance and financial position of a firm.	2,5	Un,Ap
CO – 3	evaluate the performance of a firm using fund flow statement.	5,8	Ev,Ap
CO – 4	evaluate the performance of a firm using cash flow statement.	5,8	Ev,Ap
CO - 5	use marginal costing techniques for optimising cost and profit.	2,3,5	Un,Ap
CO - 6	understand the features and importance of budgets and budgetary control	1,5	Un,Ap
CO - 7	prepare various budgets	5,8	An,Ap
CO - 8	identify the significance of standard costing, budgeting and budgetary control in managerial decision making.	2,5	An,Ap

<b>SEMESTER –VI</b>			
<b>Part III Core XV Income Tax Law and Practice-II</b>			
<b>Code:18UCOC62</b>	<b>Hrs/Week: 6</b>	<b>Hrs/Sem: 90</b>	<b>Credits : 4</b>

**Course outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO – 1	understand and apply the concept of clubbing of income	1,2,3	Un
CO – 2	set off and carry forward losses	2,5	Ap
CO – 3	understand and apply deductions U/S 80 C to 80 U	2,5	Ap
CO -4	understand the various assessment procedures	5,8	Ap
CO -5	understand and compute advance tax and TDS	5,8	Ap
CO – 6	understand and apply the tax rate and deductions.	4,5	Ap
CO – 7	compute income of individuals and firms.	2,5	Ap
CO – 8	prepare Income Tax returns of individuals and firms	5,8	Ap

<b>SEMESTER –VI</b>			
<b>Part III Core XVI</b>		<b>Industrial Law</b>	
<b>Code:18UCOC63</b>	<b>Hrs/Week: 6</b>	<b>Hrs/Sem: 90</b>	<b>Credits : 4</b>

**Course outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the disputes of strike, lock out, retrenchment, lay off and compensation	1,2	Un
CO-2	know about the welfare safety and health of workers.	2,5,8	Ap
CO-3	analyse Women and Factories Act	4,5,8	Ap
CO-4	understand the various act relating to payments.	5,8	Ap
CO-5	understand the rules regarding workmen's compensation.	2,5	Un
CO-6	know the Minimum Wages Act	1,3	An
CO-7	understand the Trade Union Act	1,4	Un
CO-8	know the rights and duties of Employee State Insurance Act.	7,8	Ev

<b>SEMESTER –VI</b>			
<b>Part III Core Integral III Securities Law and Financial Markets</b>			
<b>Code:18UCCI61</b>	<b>Hrs/Week: 5</b>	<b>Hrs/Sem: 75</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO.No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	know the various theories of security law and types of financial market.	1,2	Un
CO-2	enhance their analytical skills through extensive and in-depth discussion of the financial markets.	2,5,8	An
CO-3	demonstrate in-depth knowledge of the legal rules on mutual fund and shares.	2,5,8	Ap
CO-4	display a thorough understanding of the various Financial Markets Act.	4,5,8	Un
CO-5	analyse to what extent a financial market satisfies the conditions of an efficient market.	5,8	An
CO-6	possess the ability to discuss and write about the theory of financial markets.	5,8	Un
CO-7	know the various risks involved in trading derivative instruments.	2,5	Un
CO-8	understand the roles and power of SEBI.	2,5	Un

<b>SEMESTER –VI</b>			
<b>Part IV Core Integral IV Investment Management</b>			
<b>Code:18UCOI62</b>	<b>Hrs/Week: 7</b>	<b>Hrs/Sem: 105</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the sources of investments.	1,3	Un
CO-2	know of various level of risks.	2,4	An
CO-3	adapt with primary market procedures.	3,6	Un
CO-4	be familiarised with various stock exchanges and their functions.	1,8	Ev
CO-5	analyse the securities according to industry.	1,8	Ap
CO-6	analyse the securities technically.	4,6	Un
CO-7	apply the tools to understand the overall marketing.	5,7	Ap
CO-8	know the investment pattern.	1,7	An



<b>SEMESTER –VI</b>			
<b>Part IV / Core Integral IV</b>		<b>Project</b>	
<b>Code:18UCOP61</b>	<b>Hrs/Week: 7</b>	<b>Hrs/Sem: 105</b>	<b>Credits : 4</b>

1. It is a Group project and each group consists of not more than five students.
2. The project report should be in English.
3. A project report shall consist about 50 pages minimum.
4. Marks for the project report will be 100 divided as internal 50 marks and external 50 marks.
5. Project report evaluation and viva – voce will be conducted by both External examiner and the Guide.
6. Allocation of marks for the VI semester subject project is given below.

	<b>Marks</b>
<b>Internal Evaluation</b>	
Data Collection & Experimental work	10
Relevance, Objective & Focus of Project	15
Team Work	5
Originality, Innovation & Creativity	10
Oral Presentation	10
<b>Total</b>	<b>50</b>
<b>External Evaluation</b>	
Relevance to the theme	15
Design of the Project	10
Mode of presentation (Models / Charts / Graph / Power Point Presentation)	15
Response to questions & Criticisms	10
<b>Total</b>	<b>50</b>

## B.Sc. Microbiology

SEMESTER - I			
Core – I - Introduction to Microbiology			
Code:18UMIC11	Hrs/ Week: 4	Hrs/ Sem: 60	Credits: 4

### Course Outcome :

CO No	Upon completion of this course, students will be able to	PSO addressed	C L
CO-1	get an idea about the historical events in microbiology.	1	Un
CO -2	understand the diversity in microbiology.	1	Un
CO-3	know the scope of microbiology	4	An
CO-4	know parts of microscope, type and its principle	1, 2	An
CO-5	get the theoretical concepts of related stain	2	Un
CO-6	distinguish different methods of staining techniques	2	Ev
CO-7	analyse nutritional requirements of microbes.	2	An
CO-8	understand the techniques involved in culturing microorganisms.	2	Un

<b>SEMESTER - I</b>			
<b>Core – II Microbial Diversity</b>			
<b>Code : 18UMIC12</b>	<b>Hrs/ Week: 4</b>	<b>Hrs/ Sem: 60</b>	<b>Credits: 4</b>

**Course Outcome :**

<b>CO .No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	list out the general classification of microbes.	1,5	Kn
CO -2	distinguish the taxonomic ranks of micro organisms	2	An
CO-3	illustrate the Bergey's manual classification about bacteria	2,4	Co
CO-4	know the Alexopoulous classification of fungi and their general features	1	Kn
CO-5	interpret the general morphological characteristics and the algal diversity	1,2	Co
CO-6	demonstrates the morphology and genetic material of viruses	2	Co
CO-7	know about diversification of microbes	2	Kn
CO-8	analyse the classification, replication, cytotoxic effects of plant and animal viruses	2,5	An

<b>SEMESTER - I</b>			
<b>Core Practical –I</b>		<b>Laboratory in Introduction to Microbiology &amp; Microbial Diversity</b>	
<b>Code : 18UMICR1</b>	<b>Hrs/ Week: 2</b>	<b>Hrs/ Sem: 30</b>	<b>Credit: 1</b>

**Course Outcome:**

<b>CO No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	know bio-safety procedures in microbiology.	1, 2	Un
CO -2	develop basic skill in aseptic techniques	2	Un
CO-3	perform various staining techniques.	2	Ap
CO-4	cultivate bacteria with different cultivation techniques.	1,2	Ap
CO-5	be acquainted with various sterilization techniques.	2	Ap
CO-6	understand various specialized techniques such as pasteurization.	2	Un
CO-7	isolate bacteria on solid media	2 ,3,4	Ev
CO-8	isolate and characterize bacteria by steak plate method.	2, 3,4	Ev

<b>SEMESTER - I</b>			
<b>Allied – I - Dairy Technology</b>			
<b>Code -18UMIA11</b>	<b>Hrs/ Week: 4</b>	<b>Hrs/ Sem: 60</b>	<b>Credits: 3</b>

**Course Outcome :**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>C L</b>
CO-1	understand the process involved in production of milk and milk products	1,2	Un
CO -2	classify and explain the different types of milk products	2	Un
CO-3	understand purpose and functions of hygiene in dairy industry	2	Un
CO-4	produce flow chart for the production processes of various milk products	1, 2	Ap
CO-5	explain organization and operations involved in milk processing units	2	Co
CO-6	outline precautions when processing milk and dairy products	2	An
CO-7	organize students to processing of milk and its products	2 ,3,4	Sy
CO-8	analyse the importance of quality control in dairy science	2 ,3,4	An

<b>SEMESTER - I</b>			
<b>Allied Practical– I - Laboratory in Dairy Technology</b>			
<b>Code - 18UMIAR1</b>	<b>Hrs/ Week: 2</b>	<b>Hrs/ Sem: 30</b>	<b>Credit: 1</b>

**Course Outcome:**

<b>CO No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>C L</b>
CO-1	prepare students to scientifically undertake all operations of dairy technology	1, 2	Ap
CO -2	create entrepreneur in dairying and dairy associated activities	2	Sy
CO-3	organize students to processing of milk and its products	2, 3, 4	Sy
CO-4	develop skill, instill confidence by enhancing life skill	1, 2	Ap
CO-5	establish nutritional status of community through dairy farming.	2	Ap
CO-6	establish income of community through dairy farming.	2	Ap
CO-7	develop organizational capabilities among youth in dairy industry.	2 ,3,4	Ap
CO-8	examine the production in small and large scale production.	2,3,4	An

<b>SEMESTER - II</b>			
<b>Core– III - Microbial metabolism and Physiology</b>			
<b>Code -18UMIC21</b>	<b>Hrs/ Week: 4</b>	<b>Hrs/ Sem: 60</b>	<b>Credits: 4</b>

**Course Outcome:**

<b>CO No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>C L</b>
CO- 1	know the basic knowledge about Microbial metabolism	2	Kn
CO- 2	know the applications of the various culture and their pathways	4	Kn
CO- 3	know the process of reporting the reportable disease	5	Kn
CO- 4	interpret the techniques used in Clinical Microbiology	2	Co
CO- 5	determine the mechanism of nitrogen fixation by microbes	4	An
CO- 6	demonstrate the mechanism involved in bio-luminescence	1	Co
CO- 7	demonstrate the growth and sporulation process of microbes	4	Co
CO- 8	compare the mechanism of photosystem I & II	2	An

<b>SEMESTER - II</b>			
<b>Core – IV - Bioinstrumentation</b>			
<b>Code -18UMIC22</b>	<b>Hrs/ Week: 4</b>	<b>Hrs/ Sem: 60</b>	<b>Credits: 4</b>

**Course Outcome:**

<b>CO No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO Addressed</b>	<b>CL</b>
CO-1	Understand the concept about the basic instrumentation.	2	Un
CO -2	Know about pH measurements and important of buffer.	2,3	Un
CO-3	Grasp the principles and applications of various instruments.	2,3	Co
CO-4	Develop a basic principles and application of spectrophotometer.	2	Un
CO-5	Demonstrate an understanding of Electrophoresis.	2	Sy
CO-6	Grasp the knowledge about advanced instrumentation.	2, 4	Co
CO-7	Develop a basic principles and application of colorimetry	2	Un
CO-8	Develop a basic principles and application of centrifuge.	2	Un



<b>SEMESTER – II</b>			
<b>Core Practical-II Laboratory in Microbial Metabolism, Physiology and Bioinstrumentation</b>			
<b>Code -18UMICR2</b>	<b>Hrs/ Week: 2</b>	<b>Hrs/ Sem: 30</b>	<b>Credits: 2</b>

**Course Outcome:**

<b>CO No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	perform IMViC test and identify bacteria of enterobacteriaceae.	1	Sy
CO -2	perform various biochemical test.	1	Sy
CO-3	know the effect of various environmental factors.	1	Kn
CO-4	prepare buffer and determine the pH.	1	Sy
CO-5	perform various hydrolysis for the production of extracellular enzymes.	1	Sy
CO-6	explain the concept of microbial growth, its measurement and growth curve	1	Co
CO-7	know the working principle of spectrophotometer and be able to handle	1	Kn
CO-8	demonstrate the working principle of SDS-PAGE and Agarose gel electrophoresis.	1	Kn

<b>SEMESTER - II</b>			
<b>Allied-II Biochemistry</b>			
<b>Code -18UMIA21</b>	<b>Hrs/ Week: 4</b>	<b>Hrs/ Sem: 60</b>	<b>Credits: 3</b>

**Course Outcome:**

<b>CO No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	develop fundamental knowledge about various bio-molecules.	2	Un
CO -2	learn the element present in biomolecules	2	Sy
CO-3	differentiate between monomers and polymers	2	Un
CO-4	compare and contrast the structure and function of the carbohydrates, protein, and lipid.	2	Ap
CO-5	summarize the functions of carbohydrates, proteins, lipids, enzymes and vitamins	2	Sy
CO-6	compare and contrast saturated, mono-saturated and poly-saturated fatty acids.	2	Un
CO-7	recognize the importance of the three dimensional shape of a protein on its function and its role.	2	An
CO-8	know the working principle of spectrophotometer and able to handle.	2 ,3	Kn

<b>SEMESTER – II</b>			
<b>Allied Practical-II</b>		<b>Laboratory in Biochemistry</b>	
<b>Code 18UMIAR2</b>	<b>Hrs/ Week: 2</b>	<b>Hrs/ Sem: 30</b>	<b>Credit: 1</b>

**Course Outcome:**

<b>CO No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	know hazards and safety measure in laboratory.	2	Kn
CO -2	perform normality, molarity, percent solution.	2	Sy
CO-3	perform qualitative tests for carbohydrates, lipids, and amino acid.	2	Sy
CO-4	determine saponification and acid values of fats.	2, 4	An
CO-5	identify the effect of various factors on enzymes.	2	An
CO-6	know and separate the amino acids by paper chromatography technique	2,4	Kn
CO-7	estimate proteins, carbohydrates, and amino acids.	2	Ev
CO-8	know the working principle of spectrophotometer and able to handle.	2 ,3	Kn

<b>Semester – II</b>			
<b>Environmental Studies</b>			
<b>Code : 18UAEV21</b>	<b>Hrs/ Week : 2</b>	<b>Hrs/Sem:30</b>	<b>Credits : 2</b>

**Course Outcomes:**

**Upon completion of this course, the students will be able to**

- 1 Recognize the biotic and abiotic components of ecosystem and how they function
- 2 Use natural resources more efficiently and know more sustainable ways of living
3. Acquire an attitude of concern for the environment
4. Participate in improvement and protection of environment
5. Manage unpredictable disasters
- 6 Create awareness about environmental issues to the public

<b>SEMESTER – III</b>			
<b>Core – V– Molecular Biology and Microbial Genetics</b>			
<b>Code : 18UMIC31</b>	<b>Hrs/Week- 4</b>	<b>Hrs/Sem 60</b>	<b>Credit 4</b>

**Course Outcome:**

<b>CO. No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	explain the basic knowledge about the microbial genetic material and its functions.	6	U n
CO-2	compare various types of bacterial plasmids, their types, and its functions.	5	U n
CO-3	interpret the role and properties of transposons and IS elements.	7	U n
CO-4	illustrate various mechanisms involved in bacteriophage cycle.	5	U n
CO-5	improve the knowledge about structure and classification of bacteriophage and their mode of replication.	6	Cr
CO-6	classify various mutations takes place in microbial genetics.	8	Un
CO-7	compare various gene transfer mechanisms	7	Un
CO- 8	recall transformation and transduction and their classification	5	Re

SEMESTER III			
Core Practical III - Laboratory in Molecular Biology and Microbial Genetics			
Code : 18UMICR3	Hrs/Week: 2	Hrs/Sem : 30	Credit : 1

**Course Outcome:**

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	examine spontaneous mutants.	4	An
CO-2	examine induced mutant by UV	5	An
CO-3	analyze antibiotic resistant mutant by gradient plate technique.	6	An
CO-4	examine UV induced auxotrophic mutants by replica plate technique.	4,5	An
CO-5	demonstrate plasmid DNA from <i>E.coli</i>	8	Un
CO-6	demonstrate AGE	7	Un
CO-7	demonstrate conjugation in bacteria by genetic recombination.	8	Un
CO-8	demonstrate PCR.	7,8	Un

<b>SEMESTER – III</b>			
<b>Allied – III – Genetic Engineering</b>			
<b>Code:18UMIA31</b>	<b>Hrs/ Week: 4</b>	<b>Hrs/ Sem: 60</b>	<b>Credit: 3</b>

**Course Outcome:**

<b>CO NO</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO Addressed</b>	<b>CL</b>
CO - 1	infer basic knowledge about cloning	2	Un
CO- 2	identify the applications of genetic engineering in various fields	4	Ap
CO -3	explain cloning vectors	2	Un
CO-4	interpret the techniques used in genetic engineering	2	Un
CO -5	compare different types of vectors	4	An
CO- 6	explain Genetically modified food	2	Un
CO- 7	demonstrate the hazardous and potential risk in releasing transgenic into environment	6	Un
CO -8	make use of DNA Libraries	4	Ap

<b>SEMESTER- III</b>			
<b>Allied practical III – Laboratory in Genetic Engineering</b>			
<b>Code : 18UMIAR3</b>	<b>Hrs/Week: 2</b>	<b>Hrs/Sem: 30</b>	<b>Credit: 1</b>

**Course Outcome:**

<b>CO NO</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	illustrate the principle behind any genetic engineering practical	2	Un
CO-2	develop basic handling skill in genetic engineering practical	2	Ap
CO-3	experiment with isolation of Nucleic acids from different sources	4	Ap
CO-4	interpret Transformation	1	Un
CO -5	test for the quantification of nucleic acids	2	An
CO-6	distinguish the quantification of DNA and RNA	2	An
CO-7	distinguish the isolation of DNA and RNA	4	An
CO-8	compare the theory with the protocol of PCR	2	An



<b>SEMESTER – III</b>			
<b>Core Skill Based- Practicals in Medical Laboratory Technology</b>			
<b>Code: 18UMIS31</b>	<b>Hrs/week : 4</b>	<b>Hrs/Sem : 60</b>	<b>Credit: 4</b>

**Course Outcome:**

<b>CO NO.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the laboratory practices and know how to maintain the laboratory instruments	1,2	Un
CO-2	analyze and distinguish various types of blood groups	2,3,4	An
CO-3	evaluate the culture tests and understand the pathological diseases of humans	2,4	An
CO-4	analyze the physical, chemical and microscopic analysis of culture samples	2,3	An
CO-5	perform various techniques on isolation of micro-organisms for various sources	2	Ap
CO-6	understand the ESR and CRP tests for analysis	1,2	Un
CO-7	perform the qualitative tests for carbohydrates and proteins	2	Ap
CO-8	analyze and isolate the microbes from blood	3,4	An

<b>SEMESTER-III</b>			
<b>NME I - Food Microbiology</b>			
<b>Code : 18UMIN31</b>	<b>Hrs/Week: 2</b>	<b>Hrs/Sem:30</b>	<b>Credit: 2</b>

**Course Outcome:**

<b>CO. N o</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	to provide knowledge on the importance of food microbiology	1,4	Un, An
CO-2	acquire a brief knowledge on food microbes and their importance.	1	Un
CO-3	acquire knowledge on various types of preservation.	6	Co
CO-4	provide information about the principles of preservation.	1,6	Un
CO-5	acquire knowledge on contamination and spoilage problems	1,6	Un
CO-6	provide interpretation of laboratory tests in the diagnosis of infectious diseases.	2	Co
CO-7	to understand the mode of transmission of food poisoning and food infections	6	Co
CO-8	provide information about the quality control principles and importance.	1,2	Un

<b>Semester – III</b>			
<b>Women's Synergy</b>			
<b>Code : 18UAWS31</b>	<b>Hrs/ Week : 2</b>	<b>Hrs/Sem:30</b>	<b>Credits : 2</b>

### **Course Outcome**

- To know about Women's health issues including menstruation, pregnancy, child birth etc, thereby taking care of themselves.
- Create awareness about their own biases, fears and comfort levels and encourage to dream and fuel their own growth and self development.
- Engage in promoting social justice and women rights
- Create platforms and facilitate the young women to operate symbiotically towards issues affecting their lives and take self initiatives for growth.
- Identify historic and contemporary women of importance as well as crucial moments in Women's history

<b>SEMESTER – III</b>	
<b>Self Study (Optional)</b>	
<b>Food Preservation Technology</b>	
<b>Code : 18UMISS1</b>	<b>Credit : +2</b>

**Course Outcome:**

<b>CO NO</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	explain the process involved in preservation of food and food products	1,2	Un
CO-2	classify and explain the different types preservation of food based on temperature	2	Un
CO-3	understand purpose of drying in food preservation technology	2	Un
CO-4	explain the process of food preservation	5	Un
CO-5	interpret the techniques used in food preservation by irradiation	2	Un
CO-6	estimate the importance of food additives in preservation	2	Ev
CO-7	explain the importance of dryers in food preservation	2	Un
CO-8	explain the process of preservation of fruits and vegetables.	2	Un

<b>SEMESTER- IV</b>			
<b>Core VI - Agricultural Microbiology</b>			
<b>Code : 18UMIC41</b>	<b>Hrs/week: 4</b>	<b>Hrs/Sem: 60</b>	<b>Credit:4</b>

**Course Outcome:**

<b>CO No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO -1	analyze the soil microorganism and their properties.	1	An
CO- 2	determine the role of microbes on environment.	1	Ev
CO -3	distinguish positive and negative interactions	1	An
CO- 4	outline the interaction between microbes and soil.	4	Un
CO- 5	discuss about the plant diseases such as bacterial, fungal and viral disease.	6	Cr
CO- 6	summarize the causative agents and control measures of the plant disease.	6	Un
CO -7	determine the Biopesticide and Biofertilizer development	2	Ev
CO -8	evaluate the microbes used as Biopesticide and Biofertilizer	4	Ev

1.

<b>SEMESTER- IV</b>			
<b>Core practical IV – Laboratory in Agricultural Microbiology</b>			
<b>Code : 18UMICR4</b>	<b>Hrs/week: 2</b>	<b>Hrs/Sem: 30</b>	<b>Credit: 1</b>

**Course Outcome:**

<b>CO NO</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO -1	test for isolation of various soil microbes	5	An
CO- 2	experiment with isolation of microbes from various agro samples.	5	Ap
CO -3	interpret the preparation of Bio fertilizer and its assay	4	Un
CO -4	infer quantitative assay of microbes from various agro samples	2	Un
CO- 5	interpret staining of VAM	5	Un
CO -6	analyse antagonism between microorganisms	2	An
CO -7	demonstrate the isolation of Phosphate solubilizing bacteria	5	Un
CO- 8	identify nitrogen fixing bacteria	5	Ap

<b>SEMESTER – IV</b>			
<b>Allied – IV – Mushroom Technology</b>			
<b>Code : 18UMIA41</b>	<b>Hrs/Week : 4</b>	<b>Hrs/Sem : 60</b>	<b>Credit : 3</b>

**Course Outcome:**

<b>CO No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	explain about the detailed information of edible and non – edible mushroom.	4	Un
CO-2	compare the cultivation of various types of mushrooms.	5	Un
CO-3	construct the mushroom house.	6	Cr
CO-4	compare different types of mushroom cultivation techniques and pure culture preparation.	7	An
CO-5	explain about economics of mushroom cultivation and their precaution.	6	Un
CO-6	interpret about the different modes of storage of mushroom.	5	Un
CO-7	illustrate about the various nutrition content present in mushroom.	4	Un
CO-8	make use of various types of foods prepared from mushroom.	6	Ap

<b>SEMESTER – IV</b>			
<b>Allied Practical – IV –Laboratory In Mushroom Technology</b>			
<b>Code : 18UMIAR2</b>	<b>Hrs/Week : 2</b>	<b>Hrs/Sem : 30</b>	<b>Credit : 1</b>

**Course Outcome:**

<b>CO No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	give outline about the field of mushroom technology	1	Un
CO -2	explain the cultural characteristics of mushroom	1	Un
CO-3	develop the basic requirements for the high production of mushroom	4	Cr
CO-4	interpret the laboratrical concept of mushroom technology	2	Un
CO-5	to develop the mushroom cultivation skill	2	Cr
CO-6	analyze the nutritional significance of mushroom in our day to day life	2,3,4	An
CO-7	explain the purpose of mushroom of cultivation	1	Un
CO-8	organize students to develop mushroom cultivation farms to encourage their entrepreneurship.	2,3,4	Ap



<b>SEMESTER – IV</b>			
<b>Core Skill Based - Biostatistics</b>			
<b>Code: 18UMIS41</b>	<b>Hrs/Week - 4</b>	<b>Hrs/Sem - 60</b>	<b>Credit: 4</b>

**Course Outcome:**

<b>CO No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO- 1	develop an understanding of the basic concepts of biostatistics	2	Cr
CO -2	explain the statistical methods	4	Un
CO - 3	recall the collection, processing and presentation of data	2	Re
CO -4	explain measures of central tendency	4	Un
CO- 5	examine measures of dispersion	2	An
CO -6	determine the types and measures of correlation	2	Ev
CO- 7	define regression	4	Re
CO -8	interpret statistical inference	4	Ev

<b>SEMESTER-IV</b>			
<b>NME II - Clinical Microbiology</b>			
<b>Code:18UMIN41</b>	<b>Hrs/Week: 2</b>	<b>Hrs/Sem:30</b>	<b>Credit: 2</b>

**Course Outcome:**

<b>CO No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>C L</b>
CO- 1	provide knowledge on the importance of clinical microbiology	1,4	Un, An
CO -2	acquire knowledge on normal flora on human body.	1	Un
CO- 3	acquire knowledge on various types of diseases.	6	Co
CO- 4	provide information about the mechanisms of infectious disease transmission	1,6	Un
CO- 5	acquire knowledge on causative agent, treatment , prevention and control measures.	1,6	Un
CO- 6	provide interpretation of laboratory tests in the diagnosis of infectious diseases.	2	Co
CO- 7	understand the importance of pathogenic bacteria in human disease with respect to infections of the respiratory tract, gastrointestinal tract, urinary tract, skin and soft tissue.	6	Co
CO- 8	develop basic skills necessary to work in the microbiology laboratory.	1,2	Un

<b>SEMESTER-IV</b>	
<b>Self Study (Optional) -Probiotics</b>	
<b>Code:18UMISS2</b>	<b>Credits: +2</b>

**Course Outcome:**

<b>CO. No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	recall the basic knowledge on probiotics	3	Re
CO -2	acquaint with characteristics of probiotics	1,2	Kn
CO-3	analyse the aware the probiotics organisms.	2	Ev
CO-4	interpret the knowledge on the roles of probiotics.	1,2	Ap
CO-5	differentiate the probiotics and prebiotics	1,2	Co
CO-6	explain the concept of mechanisms of probiotics	2	Un, Ap
CO-7	grasp the knowledge about prebiotics.	2,3	An
CO-8	know the wealth of the probiotics and prebioticsm	2	Kn

<b>SEMESTER- V</b>			
<b>Common Core VII</b>		<b>Psychology and Microbiology for Health care</b>	
<b>Code: 18UBCS51</b>	<b>Hrs/Week: 6</b>	<b>Hrs/Sem: 90</b>	<b>Credit: 4</b>

**Course Outcome:**

<b>CO. No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	learn the nature of psychology and microbiology	1	Re
CO-2	understand the importance of human system	1	Re
CO-3	gain knowledge about the acute stressors.	2	Un
CO-4	analyze the various problems in menstrual cycle	5	An
CO-5	develop a proper lifestyle	3	Cr
CO-6	understand about sleep related disorders	6	Un
CO-7	create a depth knowledge about the warning and health risk	2	Un
CO-8	evaluate the concept of health care.	4	Ev

<b>SEMESTER – V</b>			
<b>Core – VIII - Immunology</b>			
<b>Code : 18UMIC52</b>	<b>Hrs/Week-5</b>	<b>Hrs/Sem– 75</b>	<b>Credit – 4</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	explain the structural features of the components of the immune system and functions.	4	Un
CO-2	compare humoral and cellular immunity and their relative significance.	4	Un
CO-3	interpret the characteristics of antigen and antibody reactions.	4	Ev
CO-4	influence of the roles of the immune system in both maintaining health and contributing disease.	4	Ev
CO-5	influence the immunological response and how it is triggered and regulated.	4	Ev
CO-6	analyze about the pathogenesis of disease, effect, treatment and maintenance to prevent disease.	4	An
CO-7	compare types of lymphoid organs	5	Un
CO-8	compare various types of hypersensitivity	5	Un

<b>SEMESTER-V</b>			
<b>Core - IX- Clinical Microbiology</b>			
<b>Code:18UMIC53</b>	<b>Hrs/Week: 5</b>	<b>Hrs/Sem: 75</b>	<b>Credit: 4</b>

**Course Outcome:**

<b>CO No</b>	<b>Upon completion of this course, students will able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the laboratory practices and know how to maintain the laboratory instruments	4	An
CO-2	analyze and distinguish various types of blood cells	2	Un
CO-3	understand the pathological diseases and explain the test for hepatitis, aids, and intestinal parasites.	6	Ev
CO-4	evaluate critical thinking of biochemical test	5	Un
CO-5	demonstrate the proficiency in basic methods of instrumentation and quantitative analytical skills used to conduct biological research.	4	An
CO-6	determines the applied microbiology aspects of clinical technique	1	An
CO-7	interpret different classes of microbes.	3	Cr
CO-8	analyze the level information in the subject of medical microbiology.	6	Ev

<b>SEMESTER –V</b>			
<b>Core Integral - I – Microbial Nanotechnology</b>			
<b>Code: 18UMII51</b>	<b>Hrs/Week: 4</b>	<b>Hrs/Sem: 60</b>	<b>Credit: 4</b>

**Course Outcome:**

<b>CO No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO- 1	acquire basic knowledge on nanotechnology	4	Un
CO -2	explain the basics of microbial applications of nanotechnology.	4	Un
CO -3	appreciate the structural and functional principles of nanomaterials.	4	An
CO- 4	grasp the fundamental knowledge about synthesis of nanomaterials.	4	Un
CO- 5	acquire basic knowledge about biosensors and types.	2	Ap
CO- 6	get knowledge about analysis of biomolecular nanostructures.	4,2	Un
CO -7	acquire knowledge on cancer diagnosis and treatment.	2,4	Ap
CO- 8	get knowledge about drug designing and delivery	2,4	Ap

<b>SEMESTER – V</b>			
<b>Core Integral – II- Vermitechnology</b>			
<b>Code:18UMII52</b>	<b>Hrs/ Week: 4</b>	<b>Hrs/ Sem: 60</b>	<b>Credit:4</b>

**Course Outcome:**

<b>CO No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO- 1	select from, use and interpret results of descriptive vermi technology methods effectively.	6	Ev
CO -2	demonstrate an understanding the scientific and technological benefits to the rural sector by equipping them with the latest technology and to create the model for the nation	6	Ev
CO- 3	gain knowledge about the various morphology of earthworms	1	An
CO -4	communicate the awareness of field sampling using vermi compost	5	Un
CO- 5	make appropriate awareness of parasites and predators in vermi composting	5	Un
CO- 6	understand the awareness among the present status and importance of composting methods and vermi composting	4	An
CO- 7	understand the waste reduction in vermi composting	4	Un
CO -8	explain the nutrient availability in the vermi compost	6	Ev



<b>SEMESTER V</b>			
<b>Core Practical V - Laboratory in Immunology and Clinical Microbiology</b>			
<b>Code : 18UMICR5</b>	<b>Hrs/Week :4</b>	<b>Hrs/Sem : 60</b>	<b>Credit : 2</b>

**Course Outcome:**

<b>CO No</b>	<b>Upon completion of this course students will be able to</b>	<b>PSO addressed</b>	<b>C L</b>
CO-1	demonstrate various immuno diffusion test.	1,2	Re
CO-2	develop their ability to perform qualitative and quantitative assay of widal test.	2	Un
CO-3	improve their ability to perform rpr test for syphilis	3	Un
CO-4	analyze how to perform latex agglutination and blood grouping techniques.	3	An
CO-5	examine various types of bacterial pathogens	5	Un
CO-6	demonstrate antibiotic susceptibility test	6	An
CO-7	test urine samples	6	An
CO-8	examine stool sample	4,6	An

<b>SEMESTER –V</b>	
<b>Self Study – Sea Food Processing</b>	
<b>Code: 18UMISS3</b>	<b>Credits:2</b>

**Course Outcome:**

<b>CO No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO- 1	build an idea about the sea environmental science.	3,4	Ap
CO -2	elaborate the nutritional benefits of marine resources	3	Cr
CO -3	importance of food processing.	3	Ev
CO- 4	explain the preservation methods- canning, smoking, drying, chilling and freezing.	1	Un
CO -5	demonstrate to handle and store the fish products	3	Un
CO -6	design the fish products	4	Cr
CO- 7	explain packaging and labelling techniques.	3	Un
CO -8	evaluate the methods to extend shelf life.	4	Ev

<b>SEMESTER- VI</b>			
<b>Core X - Food Microbiology</b>			
<b>Code :18UMIC61</b>	<b>Hrs/Week: 5</b>	<b>Hrs/Sem: 75</b>	<b>Credits: 4</b>

**Course Outcome:**

<b>CO No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	explain food microbiology	1	Un
CO-2	classify food.	1	Un
CO-3	explain food as a substrate for microorganisms.	3	Ev
CO-4	determines microbial contamination of food	3	Ev
CO-5	explain food preservation- physical and chemical methods.	1	Ev
CO-6	evaluate the causes of food spoilage-fruits, vegetables, dairy products, meat and fish.	3	An
CO-7	determine food borne disease and food spoilage.	4	Ev
CO-8	importance of food laws and regulations.	3, 4 ,5	Ev

<b>SEMESTER-VI</b>			
<b>Core XI- Industrial Microbiology</b>			
<b>Code:18UMIC62</b>	<b>Hrs/Week:5</b>	<b>Hrs/Sem: 75</b>	<b>Credits:4</b>

### Course Outcome

<b>CO No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO -1	revise the idea about the usage of microorganisms in the field of industrial microbiology	3	Ap
CO- 2	analyse the knowledge of various industrial products and its impacts on the society.	4	Un
CO- 3	acquire knowledge in industrial fermentation	3	An
CO -4	have an insight on industrial microbiological techniques	2	Cr
CO- 5	understands the in the field of industrial microbiology	1	Un
CO-6	acquire knowledge of basics and applied microbiological aspects of food industries.	1	Un
CO-7	have knowledge on antibiotic production	2,4	Cr
CO-8	get knowledge about analysis of industrial waste and sewage treatment and disposal	2,4	Cr

<b>SEMESTER –VI</b>			
<b>Core - XII - Microbial Biotechnology</b>			
<b>Code: 18UMIC63</b>	<b>Hrs/Week: 4</b>	<b>Hrs/Sem: 60</b>	<b>Credits: 4</b>

**Course Outcome:**

<b>CO No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	define the history & concepts of biotechnology.	2	Re
CO-2	assess the intellectual property right & protection.	2	Ev
CO-3	illustrate the knowledge on the production of biotechnological products.	3	Un
CO-4	interpret about the concepts and applications in enzyme biotechnology.	3	Un
CO-5	assume the mechanisms involved in biodegradation of pollutants.	6	An
CO-6	illustrate the cloning process	2	Un
CO-7	analyse the production of biotechnological products	2,3	An
CO-8	recall the concept of biogas, bioleaching, biodegradation of petroleum.	4	Re

<b>SEMESTER-VI</b>			
<b>Core Integral–III- Cosmetic Microbiology</b>			
<b>Code :18UMII61</b>	<b>Hrs/Week:4</b>	<b>Hrs/Sem: 60</b>	<b>Credit:4</b>

**Course Outcome:**

<b>CO No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO- 1	recall the history of cosmetic microbiology.	1	Re
CO- 2	explain about sanitary manufacturing in cosmetic manufacturing	2,5	Un
CO -3	infer practical knowledge about the microbiological targets of preservation	1,2,4	Un
CO- 4	explain the recent techniques on good manufacturing techniques in cosmetic microbiology	3,4,6	Un
CO- 5	demonstrate the quality and safety assurance in cosmetic industry and the hazard analysis and critical control point.	2,4,5,6	Un
CO- 6	apply the techniques in preservation of cosmetics	2,4,5,6	Ap
CO-7	have knowledge on cosmetic production	2,4	Cr
CO-8	get knowledge about analysis of cosmetic production	2,4	Cr

<b>SEMESTER –VI</b>			
<b>Core Practical – VI - Laboratory in Food Microbiology, Industrial Microbiology and Microbial Biotechnology</b>			
<b>Code : 18UMICR6</b>	<b>Hrs/Week: 4</b>	<b>Hrs/Sem: 60</b>	<b>Credits: 2</b>

**Course Outcome:**

<b>CO No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	explain the importance of food and industrial microbiology	1	Un
CO-2	understand different food microbes and their role.	1	Un
CO-3	explain food as a substrate for microorganisms.	3	Ev
CO-4	exploit microbes in the production of food	3	Ev
CO-5	explain food preservation- physical and chemical methods.	1	Ev
CO-6	evaluate the causes of food spoilage-fruits, vegetables, dairy products, meat and fish.	3	An
CO-7	recall the techniques involved in industries.	1	Re
CO-8	explain the quality and safety assurance in food industry.	2, 4 ,5	Un

## B.Sc. Psychology

SEMESTER - I			
Core I		General Psychology I	
Code : 18UPSC11	Hrs / Week: 4	Hrs / Sem.: 60	Credits: 4

### Course Outcome:

CO.No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	learn the basic concepts in psychology in historical outline.	1	Re
CO-2	gain knowledge in the various principles of psychology.	1	Re
CO-3	compare and contrast the various areas of psychology.	1,4	Un
CO-4	understand the various biological basis of behaviour.	5	Un
CO-5	apply knowledge about the sensory processes of the body in life	5	Ap
CO-6	analyze the concepts of attention.	4	An
CO-7	evaluate the concepts of perception.	4	Ev
CO-8	create new theories and concepts of emotions.	4	Cr



<b>SEMESTER – I</b>			
<b>Core II</b>		<b>Developmental Psychology I</b>	
<b>Code : 18UPSC12</b>	<b>Hrs / Week: 4</b>	<b>Hrs / Sem.: 60</b>	<b>Credits: 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the various developmental stages of man.	3	Un
CO-2	know the various developmental tasks.	3	Re
CO-3	acquire competence in the various skills of relevant stages.	3	Un
CO-4	learn the various hazards of each stage.	3	Un
CO-5	understand the basic principles of play interests in the various stages.	3	Un, Ap
CO-6	analyze the various problems of each developmental stage.	3	An
CO-7	evaluate the knowledge on the developmental processes.	3,4	Ev
CO-8	understand and create the need for knowledge on the developmental stages.	3	Cr

<b>SEMESTER – I</b>			
<b>Allied 1</b>		<b>Elements of Sociology</b>	
<b>Code: 18UPSA11</b>	<b>Hrs / Week: 4</b>	<b>Hrs / Semester: 60</b>	<b>Credits: 3</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	know the nature, scope and subject matter of sociology	2	Re
CO-2	understand the primary concepts	2	Un
CO-3	understand about the social institutions	2	Un
CO-4	apply the concept of 'total environment', geographical environment and its impact on social life	2, 8	Ap
CO-5	know about the individual and the society	2,8	Un, Ap
CO-6	evaluate the social differentiation and stratification	2,8	An, Ev
CO-7	evaluate the basic social processes	8	Ev
CO-8	create a universal concept of culture	8	Cr

<b>SEMESTER – II</b>			
<b>Core III</b>		<b>General Psychology II</b>	
<b>Code: 18UPSC21</b>	<b>Hrs / Week: 4</b>	<b>Hrs / Semester: 60</b>	<b>Credits: 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO Addressed</b>	<b>CL</b>
CO-1	introduce the processes of memory and causes of forgetting.	4	Un
CO-2	know the meaning and types of thinking, learning, motivation and emotions.	4	Un
CO-3	acquire knowledge about forgetting and thinking processes.	4	Re
CO-4	learn the basics of intelligence.	4	Un
CO-5	analyze the theories of motivation.	4	An
CO-6	create an in depth knowledge about memory processes.	4,6	Cr
CO-7	understand the concepts of personality.	1, 3,4	Ev
CO-8	create new memory techniques.	4	Cr

<b>SEMESTER – II</b>			
<b>Core IV</b>		<b>Developmental Psychology II</b>	
<b>Code : 18UPSC22</b>	<b>Hrs / Week: 4</b>	<b>Hrs / Semester: 60</b>	<b>Credits: 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the various developmental stages of man.	3	Un
CO-2	know the various developmental tasks.	3	Un
CO-3	acquire competence in the various skills of relevant stages.	3	Un
CO-4	learn the various hazards of each stage.	3, 4	Un , Re
CO-5	understand the basic principles of play interests in the various stages.	3,4	Un , Ap
CO-6	analyze the various problems of each developmental stage.	3,8	An
CO-7	create an in depth knowledge of the developmental processes.	3,4	Cr
CO-8	understand and create the need for knowledge on the developmental stages.	3	Cr

<b>SEMESTER – II</b>			
<b>Allied II</b>		<b>Biological basis of Behaviour</b>	
<b>Code : 18UPSA21</b>	<b>Hrs / Week: 4</b>	<b>Hrs / Semester: 60</b>	<b>Credits: 3</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	Develop an awareness about hormones.	5	Un
CO-2	Gain knowledge about internal regulation.	5	Re
CO-3	Acquire competence on the sensory motor systems.	5,6	Un
CO-4	Learn about the internal regulatory systems.	5, 6	An
CO-5	Analyze the reproductive behaviours in human beings.	3, 4, 5	An
CO-6	Create an in depth understanding about emotional behaviours.	3, 4	Ev
CO-7	Understand the various biological origins of behaviour.	3, 5	An
CO-8	Create an in depth understanding of the subject	3	Cr



<b>SEMESTER III</b>			
<b>Allied III</b>		<b>Psychological Statistics - I</b>	
<b>Code:18UPSA31</b>	<b>Hrs/Week:4</b>	<b>Hrs/Sem: 60</b>	<b>Credits: 3</b>

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	learn the basic concepts and principles of statistics in psychology	7	Re
CO-2	compare and contrast the various measurements of statistics	7	Un
CO-3	apply knowledge about variability and correlation in statistics in psychology	7	Ap
CO-4	analyze the need of knowledge of inferential and descriptive statistics	7	An
CO-5	evaluate the means of developing an understanding about sampling and probability	7	Ev
CO-6	create new theories and concepts of statistics in psychology	7	Cr
CO-7	develop a good knowledge about the research field by understanding statistics.	7	Cr
CO-8	develop a good research aptitude among students.	7	Cr

<b>SEMESTER - III</b>			
<b>Skill Based Elective - Social Skills Development</b>			
<b>Code : 18UPSS31</b>	<b>Hrs/week : 2</b>	<b>Hrs/Sem:30</b>	<b>Credits : 2</b>

#### **Course Outcome**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	learn the basic concepts and principles of social skills	3	Re
CO-2	compare and contrast the various social skill training methods	2	Un
CO-3	apply knowledge about the processes of problem solving	2, 8	Ap
CO-4	analyze the various problem solving methods	8	An
CO-5	evaluate the means of developing assertiveness	1,8	Ev
CO-6	create new theories and concepts of social skills	8	Cr
CO-7	create personalities with good social skills	1, 8	Cr
CO-8	create an awareness among the students about developing good social skills	1, 8	Cr



<b>SEMESTER - III</b>			
<b>Non Major Elective I - Psychology for Life</b>			
<b>Code : 18UPSN31</b>	<b>Hrs/week : 2</b>	<b>Hrs/Sem:30</b>	<b>Credits: 2</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	learn the basic concepts and principles of psychology	1	Re
CO-2	compare and learn the various branches of psychology	1	Un
CO-3	apply knowledge about concepts of memory and forgetting	1 , 4	Ap
CO-4	analyze the need of psychology in daily life	1 , 8	An
CO-5	evaluate the means of developing an understanding about human behavior	3 , 4	Ev
CO-6	create new theories and concepts of intelligence	4	Cr
CO-7	create a good understanding about psychological aptitude among students	1 , 8	Cr
CO-8	develop and create psychological interest among other major students.	8	Cr

<b>Semester - III</b>	
<b>Self Study Course</b>	<b>Colour Psychology</b>
<b>Code : 18UPSSS1</b>	<b>Credits : 2</b>

### Course Outcome

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	learn the basic concepts and principles of colours in life	1	Re
CO-2	compare and contrast the various impacts of colours	1,4	Un
CO-3	apply knowledge about colours in daily life	1, 4	Ap
CO-4	analyze the need of knowledge of colour psychology in daily life	4	An
CO-5	evaluate the means of developing an understanding about meanings of various colours	4	Ev
CO-6	create new theories and concepts of colours	4	Cr
CO-7	create students with colour intelligence	4	Cr
CO-8	make our environment beautiful by the wise choice of colours.	4,8	Cr

<b>SEMESTER IV</b>			
<b>Core VI</b>		<b>Abnormal Psychology - II</b>	
<b>Code:18UPSC41</b>	<b>Hrs/Week: 4</b>	<b>Hrs/Sem: 60</b>	<b>Credits: 4</b>

### Course Outcome

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	learn the basic concepts of various disorders in life	6	Re
CO-2	compare and understand the various impacts of disorders	5, 6	Un
CO-3	apply knowledge about handling disorders in daily life	6,8	Ap
CO-4	analyze the need of knowledge of prevention of disorders in daily life	6	An
CO-5	evaluate the means of developing an understanding about mental retardation	5,6	Ev
CO-6	create new theories and concepts of handling disorders	6,8	Cr
CO-7	develop an awareness among students regarding discipline.	4	Cr
CO-8	creating disorder free society	8	Cr

SEMESTER IV			
Allied IV		Psychological Statistics II	
Code:18UPSA41	Hrs/Week:4	Hrs/Sem: 60	Credits: 4

### Course Outcome

CO.No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	learn the basic concepts and principles of statistics in psychology	7	Re
CO-2	compare and contrast the various measurements of statistics	7	Un
CO-3	apply knowledge about variability and correlation in statistics in psychology	7	Ap
CO-4	analyze the need of knowledge of inferential and descriptive statistics	7	An
CO-5	evaluate the means of developing an understanding about sampling and probability	7	Ev
CO-6	create new theories and concepts of statistics in psychology	7	Cr
CO-7	develop a scientific society	7	Cr
CO-8	develop a knowledge that makes them true researchers and solve society's problems	7, 8	Cr

<b>SEMESTER IV</b>			
<b>Skill Based Elective Inner Child Healing</b>			
<b>Code:18UPSS41</b>	<b>Hrs/Week: 4</b>	<b>Hrs/Sem: 60</b>	<b>Credits: 4</b>

### Course Outcome

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	learn the basic concepts and principles of inner child journey	3	Re
CO-2	compare and contrast the various issues related to inner child	3,4	Un
CO-3	apply knowledge about Inner Child Work	3	Ap
CO-4	analyze the need of knowledge of Early Child Experiences	3	An
CO-5	evaluate the means of developing a Positive Belief System	3	Ev
CO-6	create new theories and Concepts of Healing the Inner Child	3, 8	Cr
CO-7	inner child healing as a psychological therapy.	3	Cr
CO-8	developing new therapy	3	Cr

<b>SEMESTER IV</b>			
<b>Non Major Elective II</b>		<b>Self Development Skills</b>	
<b>Code:18UPSN41</b>	<b>Hrs/Week:2</b>	<b>Hrs/Sem: 30</b>	<b>Credits: 2</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	learn the basic concepts and principles of self development skills	8	Re
CO-2	compare and contrast the various skills of life management	8	Un
CO-3	apply knowledge about self enhancement in daily life	7	Ap
CO-4	analyze the need of knowledge of time and anger management in daily life	4	An
CO-5	evaluate the means of developing self awareness and motivation	4	Ev
CO-6	create new theories and concepts of self development	4	Cr
CO-7	create methods of self development.	8	Cr
CO-8	create a feeling of one with the society	8	Cr

<b>SEMESTER IV</b>	
<b>Self-Study Course</b>	<b>Human Rights</b>
<b>Code:18UPSSS2</b>	<b>Credits: 2</b>

### Course Outcome

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	learn the basic concepts and principles of Human Rights	8	Re
CO-2	compare and contrast the various impacts of laws on women and children	8	Un
CO-3	apply knowledge about conceptual human rights in daily life	8	Ap
CO-4	analyze the need of knowledge of Human Rights in daily life	8	An
CO-5	evaluate the means of developing an understanding about the various laws for women	8	Ev
CO-6	create new laws and awareness about the laws among people	8	Cr
CO-7	create a flawless society	8	Cr
CO-8	create a nation with law abiding citizens	8	Cr

<b>SEMESTER- V</b>			
<b>Common Core VII</b>		<b>Psychology and Microbiology for Health Care</b>	
<b>Code: 18UBCS51</b>	<b>Hrs/Week: 6</b>	<b>Hrs/Sem: 90</b>	<b>Credits: 4</b>

### **Course Outcome**

CO. NO	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	learn the nature of psychology and microbiology	1	Re
CO-2	understand the importance of human system	1	Re
CO-3	to gain knowledge about the acute stressors.	2	Un
CO-4	analyze the various problems in menstrual cycle	5	An
CO-5	to develop a proper lifestyle	3	Cr
CO-6	understand about sleep related disorders	6	Un
CO-7	create an indepth knowledge about the health risk factors	2	Un
CO-8	evaluate the concept of health care.	4	Ev



<b>SEMESTER V</b>			
<b>Core VIII</b>		<b>Social Psychology I</b>	
<b>Code:18UPSC52</b>	<b>Hrs/Week: 5</b>	<b>Hrs/Sem: 75</b>	<b>Credits: 4</b>

### Course Outcome

<b>CO.No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	learn the nature of social psychology and other social sciences.	1	Re
CO-2	understand the importance of the social perception and other theories.	3	Re
CO-3	to gain knowledge about the prejudice and discrimination.	2	Un
CO-4	analyze the various problems in group formation and in decision making process.	5	An
CO-5	develop the leadership quality in the young mind.	3	Cr
CO-6	understand the meaning and perspectives of aggression.	4	Un
CO-7	create a depth knowledge of in theoretical explanations of socio-cultural determinants	3	Cr
CO-8	evaluate the concepts of social learning.	4	Ev

<b>SEMESTER V</b>			
<b>Core:IX</b>		<b>Counselling Psychology</b>	
<b>Code:18UPSC53</b>	<b>Hrs/Week:5</b>	<b>Hrs/Sem: 60</b>	<b>Credits:4</b>

**Course Outcome:**

<b>CO.No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	explain the process of counselling and the Ethics in counselling.	5	Un
CO-2	analyse the counselling process and its various stages.	5	An
CO-3	understand the concepts and theories in counselling.	5	Un
CO-4	know the meaning, person centered counselling and behavioural counselling.	5	Un
CO-5	use the theories of counselling in a practical way.	5	Ap
CO-6	understand the concept applications of counselling.	5	Cr
CO-7	evaluate the knowledge on counselling skills.	3,4	Ev
CO-8	analyze the various crisis in counselling.	5	An

<b>SEMESTER - V</b>			
<b>Core Integral I - Health Psychology</b>			
<b>Code : 18UPSI51</b>	<b>Hrs/week : 5</b>	<b>Hrs/Sem : 75</b>	<b>Credits: 4</b>

**Course Outcome:**

<b>CO.No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	to introduce students to the various field of health psychology.	1	Re
CO-2	to know the various health beliefs and health promotions.	5	Un
CO-3	analyze the various theoretical contributions to stress.	5	An
CO-4	evaluate the pain and coping outcomes.	5	Ev
CO-5	create a knowledge about behavioural factors in chronic disease.	3,5	Cr
CO-6	understand the problems of living with chronic illness.	5	Cr
CO-7	apply the healthy practices in daily life.	5	Ap
CO-8	acquire knowledge about the eating disorders.	3	Un, Ap

<b>SEMESTER V</b>			
<b>Core Integral II</b>		<b>Psychology of Women</b>	
<b>Code:18UPSI52</b>	<b>Hrs/Week:4</b>	<b>Hrs/Sem: 60</b>	<b>Credits: 4</b>

**Course Outcome:**

<b>CO.No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	to introduce the meaning and determinants of women's mental health.	5	Re
CO-2	addressing the issue of mental health of today's women.	5	Un
CO-3	analyze the mortality rate, literacy rate and sex ratio among women who in India.	5	An
CO-4	know the challenges faced by women in their life.	5	Un
CO-5	knowledge about Factors responsible for violence against women.	2	Un
CO-6	create a knowledge about health related issues and health care facilities.	3,5	Ev
CO-7	empowering women community, national and global leadership.	7	Cr, Ev
CO-8	understand the various factors relating to prejudice and discrimination.	5	Un

<b>SEMESTER - V</b>	
<b>Self study Course</b>	<b>Psychology for happy living</b>
<b>Code : 18UPSSS3</b>	<b>Credits: 2</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	learn the aspects of a happy living	1	Re
CO-2	compare and understand the various aspects of self analysis	1	Un
CO-3	apply knowledge about handling emotions and cognitions positively	1 & 4	Ap
CO-4	analyze the need of knowledge of methods of a happy personality development.	1	An
CO-5	evaluate the means of developing motivational strategies.	1	Ev
CO-6	create new theories and concepts of a happy life.	1	Cr
CO-7	create an indepth knowledge about stress management	1,8	Cr
CO-8	develop a better understanding about time management.	1,8	Cr

<b>SEMESTER – VI</b>			
<b>Core X</b>		<b>Social Psychology II</b>	
<b>Code : 18UPSC61</b>	<b>Hrs / Week: 5</b>	<b>Hrs / Sem.: 75</b>	<b>Credits: 4</b>

### Course Outcome

<b>CO. NO.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	learn the aspects of self and identity	2,4	Re
CO-2	compare and understand the various aspects of interpersonal attraction	2	Un
CO-3	apply knowledge about handling others in daily life	2,8	Ap
CO-4	analyze the need of knowledge of changing other's behavior.	2,8	An
CO-5	evaluate the means of developing an understanding about social interaction	2,8	Ev
CO-6	create new theories and concepts of handling others	2,8	Cr
CO-7	create a society devoid of aggression	2,8	Cr
CO-8	develop a better understanding about people.	2,8	Cr

<b>SEMESTER - VI</b>			
<b>Core XI</b>		<b>Positive Psychology</b>	
<b>Code : 18UPSC62</b>	<b>Hrs / Week: 5</b>	<b>Hrs / Sem.: 75</b>	<b>Credits: 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	learn the aspects of positive psychology	1	Re
CO-2	compare and understand the various aspects of positive psychology	1	Un
CO-3	apply knowledge about handling others in daily life in a positive way	1, 2 , 8	Ap
CO-4	analyze the need of knowledge of positivity	1,8	An
CO-5	evaluate the means of developing an understanding about positive social interaction	1, 2 , 8	Ev
CO-6	create new theories and concepts of positive psychology	1 , 8	Cr
CO-7	create a society devoid of negativity	1, 2 , 8	Cr
CO-8	develop a better understanding about people through positive psychology	1, 2 , 8	Cr

SEMESTER - VI			
Core XII		Industrial Psychology	
Code : 18UPSC63	Hrs / Week: 5	Hrs / Sem.: 75	Credits: 4

**Course Outcome:**

CO.No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	learn the aspects of positive psychology	1	Re
CO-2	compare and understand the various aspects of positive psychology	1	Un
CO-3	apply knowledge about handling others in daily life in a positive way	1, 2 , 8	Ap
CO-4	analyze the need of knowledge of positivity	1 , 8	An
CO-5	evaluate the means of developing an understanding about positive social interaction	1, 2 , 8	Ev
CO-6	create new theories and concepts of positive psychology	1 , 8	Cr
CO-7	create a society devoid of negativity	1, 2 , 8	Cr
CO-8	develop a better understanding about people through positive psychology	1, 2 , 8	Cr



<b>SEMESTER - VI</b>			
<b>Core Integral III</b>		<b>Psychology of life management</b>	
<b>Code : 18UPSI61</b>	<b>Hrs / Week: 4</b>	<b>Hrs / Sem.: 60</b>	<b>Credits: 4</b>

### Course Outcome

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	learn the aspects of life management	1	Re
CO-2	compare and understand the various aspects of managing life situations.	1,8	Un
CO-3	apply knowledge about handling others in daily life	1, 2 , 8	Ap
CO-4	analyze the need of knowledge of occupational hazards	1 , 8	An
CO-5	evaluate the means of developing an understanding about positive social interactions in marriage	1, 2 , 8	Ev
CO-6	create new theories and concepts of interpersonal relationships.	1 , 8	Cr
CO-7	create a society devoid of interpersonal problems.	1, 2 , 8	Cr
CO-8	develop a better understanding about people and management of life.	1, 2 , 8	Cr

## BBA

Semester I			
Core I – Foundations of Business			
Code:18UBAC11	Hrs/Week:5	Hrs/Sem.:75	Credits:4

### Course Outcome :

CO.No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	understand the meaning, nature and purpose of business.	1	Un
CO-2	compare business, profession and employment.	1,3,5	Un
CO-3	understand the different forms of business.	1,3,5	Un
CO-4	apply the principles of sole trading and Partnership.	1,4,5	Ap
CO-5	evaluate the functions performed by Government Institutions.	1,2,3	Ev
CO-6	understand the concept of Private and Public sector Institutions.	1	Un
CO-7	analyse the difference between Private and Public corporations.	1,3	An
CO-8	expose the role of Government in business environment.	2,3	Ap

<b>Semester I</b>			
<b>Core II - Financial Accounting</b>			
<b>Code:18UBAC12</b>	<b>Hrs/Week:5</b>	<b>Hrs/Sem.:75</b>	<b>Credits:4</b>

**Course Outcome :**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>C L</b>
CO-1	apply appropriate judgment derived from the knowledge of accounting theory.	1	Un
CO-2	gain knowledge in the preparation of books of accounts.	6	Cr
CO-3	have an effective understanding of analysis of depreciation.	1, 9	An
CO-4	apply the knowledge to prepare the final accounts of sole trader.	9	Cr, Ap
CO-5	evaluate the financial position of a company at the end of every year.	2, 4	Ev
CO-6	employ critical thinking and skills to analyze financial data.	9	Re
CO-7	prepare subsidiary books of accounts.	1, 9	Ap, Ev
CO-8	prepare financial statements in accordance with generally accepted accounting principles.(GAAP)	1, 8 , 9	Cr, Ev & Ap

<b>Semester I</b>			
<b>Allied I – Communication Skills</b>			
<b>Code:18UBAA11</b>	<b>Hrs/Week:3</b>	<b>Hrs/Semester: 45</b>	<b>Credits:3</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	know the basic communication skills.	2	Un
CO-2	understand the basic principles and concepts of communication.	3	Un
CO-3	understand the concept of communication media.	8	Un
CO-4	know the types of communication.	4,6	Cr
CO-5	understand the barriers to communication.	6	Un
CO-6	know what is non-verbal communication.	4	An
CO-7	develop their soft skills.	4	Ap
CO-8	evaluate their interpersonal communication skills.	7	Ev

<b>Semester-I</b>			
<b>Allied-II IT for Managers</b>			
<b>Code:18UBAA12</b>	<b>Hrs/Week:3</b>	<b>Hrs/Sem.: 45</b>	<b>Credit:3</b>

**Course Outcome :**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the history and basic concepts of computers	1	Un
CO-2	know about the input devices of a computer	1,5	Un
CO-3	know about the output devices of a computer	1,5	Un
CO-4	create word documents with formatting features	3,5	Cr
CO-5	apply spell and grammar check in MS Office	4	Ev
CO-6	know about MS Excel in detail for calculations	5	Cr
CO-7	know about MS Power point for presenting company data	5	An
CO-8	create multimedia presentation	1,5	Cr

<b>Semester II</b>			
<b>Core – III Principles of Management</b>			
<b>Code:18UBAC21</b>	<b>Hrs/Week:5</b>	<b>Hrs/Semester:75</b>	<b>Credits:4</b>

**Course Outcome :**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the basic principles, nature and levels of management.	1,4	Un
CO-2	understand the scientific approaches of management	4	Un
CO-3	know the importance of planning its procedures and limitations.	1	Cr
CO-4	analyze organizational structure and span of control.	2,3,5	An
CO-5	understand the steps in staffing.	1,8	Un
CO-6	identify the difference between power and authority.	7	Re
CO-7	evaluate the effectiveness of directing and coordinating.	5	Ev
CO-8	understand the techniques and importance of controlling.	1,2	Un

<b>Semester II</b>			
<b>Core IV - Business Mathematics</b>			
<b>Code:18UBAC22</b>	<b>Hrs/Week:5</b>	<b>Hrs/Semester: 75</b>	<b>Credits:4</b>

**Course Outcome :**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the knowledge of using number system and techniques.	6	Un
CO-2	prepare various formation of matrices	1, 8	Cr
CO-3	gain a thorough knowledge on calculation of interest and ratios followed in the field of banking.	1,5	Ap, Re
CO-4	apply the mathematical techniques and skills to face aptitude exams.	4, 8	Ap, Ev
CO-5	understand the fluctuations of demand and supply in the market environment.	2, 3, 5	Un, Ap
CO-6	analyze the equilibrium point of the business.	7	Re, An,Ap
CO-7	exhibit ability to operate electronic calculators	9	Un, Ap
CO-8	create, use and analyze graphical representations of mathematical relationships.	1, 8, 9	Cr, Ap,An

<b>Semester-II</b>			
<b>Allied III- Business Correspondence</b>			
<b>Code:18UBAA21</b>	<b>Hrs/Week:3</b>	<b>Hrs/Sem.: 45</b>	<b>Credits: 3</b>

**Course Outcome :**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the meaning and definition of business correspondence.	1	Un
CO-2	understand the need and uses of business letters in business fields.	2	Un
CO-3	create the students to write business letters.	6	Ap
CO-4	know to fill bank, insurance and agency forms.	6	Cr
CO-5	understand the importance of short and long reports.	6	Un
CO-6	understand about interdepartmental communication.	8	An
CO-7	know the need of business correspondence.	4	Ap
CO-8	know the techniques of business correspondence.	4,6	Ap



<b>Semester II</b>			
<b>Allied IV –Business Ethics</b>			
<b>Code:18UBAA22</b>	<b>Hrs/Week:3</b>	<b>Hrs/Semester:45</b>	<b>Credits:3</b>

**Course Outcome :**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand and illustrate the theoretical foundation of business ethics.	1	Un
CO-2	understand the knowledge of business and economic concepts from an ethical perspective.	3	Un
CO-3	know the importance, for business and the community, of ethical conduct.	1,3	Un
CO-4	analyse and resolve ethical issue in business.	1,3	Un, An
CO-5	perform and critically examine their own values.	1,3,5	Cr
CO-6	confidently apply systematic ethical reasoning to business dilemmas and communicate effectively in oral and written forms these.	4,6	Ev
CO-7	expose the concepts, logic and rhetorical conventions of business ethics.	7	Ap
CO-8	apply the role of government in business environment.	1	Ap

<b>SEMESTER III</b>			
<b>CORE V - INDUSTRIAL LAW</b>			
<b>Code: 18UBAC31</b>	<b>Hrs/Week : 6</b>	<b>Hrs/Sem : 90</b>	<b>Credits: 4</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO- 1	understand the concept of industrial relations and trade unions	1	Un
CO- 2	describe the industrial disputes & peace	6	An
CO- 3	learn about the strikes and prevention of lockouts	1	Un
CO- 4	understand the labour welfare concepts with statutory & voluntary welfare measures	1,3	Un
CO- 5	know the causes of accidents, safety provisions and occupational hazards, diseases.	3,6	An
CO- 6	investigate solutions to industrial relations problems based on research and assessment of current practices.	4	Ap
CO- 7	inculcate the legislative provisions for child, women and contract labour	3	An
CO- 8	learn the code of conduct	3	Un

<b>Semester III</b>			
<b>Core VI - Business Statistics</b>			
<b>Code:18UBAC32</b>	<b>Hrs/Week:6</b>	<b>Hrs/Sem:90</b>	<b>Credits:4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the meaning, nature and methods of statistics.	1	Un
CO-2	identify population, sample parameter and sampling frame.	6	An
CO-3	determine the sample as a voluntary response sample or a convenience sample.	1,6	An
CO-4	determine the approximate location of the median and quartiles.	6	An
CO-5	describe the characteristics of the correlation coefficient.	4,6	Ap
CO-6	state the assumptions of inference about the regression model.	1	An,Cr
CO-7	measure the degree of economic changes overtime.	3	An,Ap
CO-8	measure the combined fluctuations in a group related variables.	1,3	Cr

Semester III			
Core VII- Organisational Behaviour –I			
Code :18UBAC33	Hrs/Week :6	Hrs/Sem :90	Credits :4

**Course Outcome:**

CO.No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	understand the importance of organisational behavior and its various approaches.	1	Un
CO -2	learn the role that an individual personality plays in job performance.	4	Un
CO-3	deliver the concepts and principles of perception and learning.	1,3,5	Ap
CO-4	elaborate various motivational theories and its importance.	1,4,5	Un,Ap
CO-5	identify the various leadership styles and skills required for working in groups and organisational climate	1,7,5	An, Ap
CO-6	inculcate the knowledge of Indian leadership styles.	7	Ap
CO-7	gain a brief knowledge on global leaders.	2,5	Un
CO-8	elaborate the perception process	2	Un,Re

<b>SEMESTER III</b>			
<b>Allied V – Women Entrepreneurship</b>			
<b>Code : 18UBAA31</b>	<b>Hrs/Week: 3</b>	<b>Hrs/Sem: 45</b>	<b>Credits: 3</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the nature of entrepreneurs.	4	Un
CO-2	understand about women entrepreneurs.	7	Un
CO-3	identify personal attributes that enable the best use of entrepreneurial business idea.	7	Re
CO-4	know about the schemes for women entrepreneurs.	4	An
CO-5	understand project formulation.	3	Un
CO -6	describe project report.	1	Ap
CO- 7	know about the entrepreneurial training.	8	Un
CO- 8	know about the byelaws in business.	4	Un

<b>Semester III</b>			
<b>Allied VI – Economics for Executives</b>			
<b>Code: 18UBAA32</b>	<b>Hrs/Week:3</b>	<b>Hrs/Sem:45</b>	<b>Credits:3</b>

**Course Outcome:**

<b>CO.No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	explain the meaning, nature and purpose of economics.	1	Un
CO – 2	compare law of demand and elasticity of demand.	1,3,5	Un
CO – 3	understand the different forms of supply.	1,3,5	Un
CO – 4	understand the importance of capital budgeting	1	Un
CO – 5	identify the limits of economic analysis.	7	Re
CO – 6	understand the economic goals of the firms.	1,2	Un
CO – 7	able to use the tools of economic analysis.	2,3	Ap
CO – 8	understand the nature and theories of profit	1,2	Un

Semester III			
Core SB – Principles of Marketing			
<b>Code :18UBAS31</b>	<b>Hrs/Week :4</b>	<b>Hrs/Sem :60</b>	<b>Credits :4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the basic principles, concepts, functions and classification of marketing	1,4	Un,Re
CO -2	deliver the importance of social marketing.	3	Un,Re
CO-3	gain sound information on product and pricing strategies.	1	Un,An
CO-4	understand and analyse the product innovation, mix and life cycle.	2,4	Un,An
CO-5	understand and evaluate sales promotion and personal selling its advantages, limitations, purpose and kinds.	1,6	Un,Ev
CO-6	know the various features, benefit, and objections of advertising.	2, 1	Un,Ev
CO-7	gain knowledge on the kinds and functions of advertising.	2,3	Un,Re
CO-8	know about the selection of advertising media.	8	Un,Cr

<b>Semester III</b>			
<b>NME I – Fundamentals of Advertising</b>			
<b>Code : 18UBAN31</b>	<b>Hrs/Week: 2</b>	<b>Hrs/Sem:30</b>	<b>Credit : 2</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO-1	know the basic marketing tools.	1	Un
CO-2	gain knowledge on classifications of advertising	1,3	Ap
CO-3	understand about kinds of media	3,6	Un
CO-4	familiarise with advertisement copy preparation.	1,6	Un
CO-5	understand about the social media and its impact.	3,4	Un
CO-6	gain knowledge on advertising agency	3,4	Ap
CO-7	understand the ethics in advertising	1,5	Un
CO-8	Know the overall functions of advertising	1,6	Un



<b>SEMESTER III</b>	
<b>Self-Study/Online course: Personality Development</b>	
<b>Code:18UBASS1</b>	<b>Credits:2</b>

**Course Outcome:**

<b>CO.NO.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the importance of personality development	1	Un
CO-2	describe the emergence of goal setting in human life	1	An
CO-3	learn about self-monitoring	1	Un
CO-4	understand about perception and attitude.	4	Un
CO-5	know the knowledge on team building	5	An
CO-6	investigate on leadership style and conflict management	7	Ap
CO-7	understand and analyse the importance of communication	3	An,Cr
CO-8	learn the emergence of social graces.	8	Un,Ap

<b>SEMESTER IV</b>			
<b>CORE VIII – BUSINESS LAW</b>			
<b>CODE: 18UBAC41</b>	<b>Hrs/week: 6</b>	<b>Hrs/sem: 90</b>	<b>Credits: 4</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the basics of Indian contract act governing business	1	Un
CO-2	know about offer, acceptance, revocation and consideration.	3	Un
CO-3	understand the performance of contract and discharge of contract.	3,4	Un
CO-4	describe the ethics and law in business.	3	Un
CO-5	understand the concept of indemnity and guarantee	3	Un
CO-6	know about bailment, pledge and contract of agency	3,4	Ap
CO- 7	understand the concept of sale of goods act	8	Un
CO -8	know about delivery of goods	8	Re

Semester IV			
Core IX – Cost Accounting			
<b>Code:18UBAC42</b>	<b>Hrs/Week:6</b>	<b>Hrs/Sem:90</b>	<b>Credits:4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	apply cost accounting methods , evaluate and apply it in business performance.	2	Ap
CO-2	find out the stock level of the business concern.	5	Re
CO-3	find the method of sharing gains in productivity with workers by rewarding them financially.	5	An,Re
CO-4	compare the revenue of each department with their total cost.	8	Ap,Ev
CO-5	compare the actual cost with estimated cost.	1	An
CO-6	guide the management on the utilisation of resources.	3	Ap,An
CO-7	compute profit of an incomplete contract, cost of contract and work certified.	7	An,Ev
CO-8	understand the knowledge of material and labour cost.	1	Un

<b>Semester IV</b>			
<b>Core X – Organisational Behaviour –II</b>			
<b>Code :18UBAC43</b>	<b>Hrs/Week :6</b>	<b>Hrs/Sem :90</b>	<b>Credits :4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the formation of groups and develop effective decision-making frameworks	1	Un
CO -2	know the effectiveness of team work and its impact.	5	Ap
CO-3	know the sound information on power and politics in organisation.	4	Un
CO-4	apply problem solving and critical thinking abilities to initiate, manage and implement changes in organisation.	6	Ap
CO-5	gain knowledge on organisational change and development.	2,4	Un, Ap
CO-6	understand the organisational culture.	3	Un
CO-7	know about organisational effectiveness.	3,5	Re
CO-8	apply knowledge on conflicts management and dispute settlement.	6	Re,Cr

<b>Semester IV</b>			
<b>Allied VII – Consumer Behaviour</b>			
<b>Code :18UBAA41</b>	<b>Hrs/Week :3</b>	<b>Hrs/Sem:45</b>	<b>Credits :3</b>

**Course Outcome:**

<b>CO.No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	know the knowledge on consumer behaviour and evolution	1	Un
CO -2	understand the depth information on principles of consumer behaviour.	3	Un,Re
CO-3	develop sound knowledge on consumer motivation	1,3	An,Re
CO-4	know and analyse about consumer knowledge and perception.	6	Un,Re,Ap
CO-5	learn the environmental influences of consumer behaviour.	6,7	Un,Re
CO-6	learn the family influences of consumer behavior	3	Un
CO-7	learn the personal influences of consumer behavior	3,4	Un
CO-8	understand and analyse the outcomes of consumer behavior	6	Re,Cr

<b>SEMESTER IV</b>			
<b>Allied VIII – Retail Management</b>			
<b>Code: 18UBAA42</b>	<b>Hrs/week: 3</b>	<b>Hrs/sem: 45</b>	<b>Credits: 3</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	understand the concept of retail management	1	Un
CO – 2	understand what retailing means to business	1	Un
CO – 3	understand the buying decision of buyers	2	Un
CO – 4	know about the pricing strategies	7	Cr
CO – 5	understand the ways and techniques retailers use to interact with their customers.	4	Un
CO – 6	understand the concept of branding	2	Ap
CO – 7	know how franchising stepped in India	2	Ap
CO – 8	understand the concept of mall management in India	2	Ap

<b>Semester IV</b>			
<b>Core SB – Web Commerce</b>			
<b>Code : 18UBAS41</b>	<b>Hrs/Week: 4</b>	<b>Hrs/Sem:60</b>	<b>Credit : 4</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the basics about web commerce.	1	Un
CO-2	know about different types of web commerce.	2	An
CO-3	understand and apply web payment systems.	2	Ap
CO-4	know about web marketing and web advertising.	2,8	Cr
CO-5	know about internet technologies.	2,4	Cr
CO -6	understand the basic electronic commerce functions.	1	Ap
CO - 7	identify and reach customers through web.	4	Ap
CO - 8	understand and apply web marketing approaches.	8	Ap

<b>Semester IV</b>			
<b>NME II – Salesmanship</b>			
<b>Code : 18UBAN41</b>	<b>Hrs/Week: 2</b>	<b>Hrs/Sem:30</b>	<b>Credit : 2</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the concept of salesmanship	1	Un
CO-2	know about personal selling	3	Un
CO-3	understand the duties and responsibilities of salesman	3	Un
CO-4	understand and analyse the concept of selection and recruitment process	4,7	Un,An
CO-5	know and apply the training program for salesman	4,7	An,Ap
CO-6	know about the remuneration and compensation and apply it in business.	4	An,Ap
CO-7	evaluate the different factors of salesman.	1,6	Ev
CO-8	get the knowledge of salesman's incentives and bonus.	6	Cr,Ev



<b>Semester IV</b>	
<b>Self-Study – Organisational Theory</b>	
<b>Code: 18UBASS2</b>	<b>Credits: 2</b>

**Course Outcome:**

<b>CO. No</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	understand the concept of organisation theory and design.	1,4	Un
CO – 2	know the dimension of organisational structure, size, strategy and technology.	2,8	Cr
CO-3	know the divisional structure of organisational design.	4,6	Ev
CO-4	evaluate the complexity, formulation and centralization.	2,3	Ev
CO-5	apply the strategies of internal and external environment.	5,6,8	Ap
CO-6	know about the organisational change.	4,8	Un
CO-7	identify the sources of organisational conflict.	6	An
CO-8	evaluate the organisational culture.	1,2,6	Ev

<b>SEMESTER – V</b>			
<b>Part III Core XI (Common Core) - Human Resource Management</b>			
<b>Code:18UMCC51</b>	<b>Hrs/Week: 6</b>	<b>Hrs/Sem: 90</b>	<b>Credit : 4</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to:</b>	<b>PSO addressed</b>	<b>CL</b>
CO – 1	gain knowledge on the basic concepts of planning human resource and help them to understand basic techniques of business.	1,2	Un
CO – 2	understand the basic selection process in human resource management.	1,2,3	Un
CO – 3	know the importance of training and development in human resource management.	2,3,4	Ap
CO – 4	know about the transfer policies	2,3,5	Un,Re
CO – 5	gain knowledge on compensation methods.	3,4	Un,An
CO - 6	understand the promotional policies in business	3,4	Un,Re
CO – 7	know and apply the significance and problems in performance appraisal.	3,4,5	Ap
CO - 8	know and apply the methods of performance appraisal	3,4,5	Ap

Semester V			
Core XII – Advertising and Sales Promotion			
Code :18UBAC52	Hrs/Week :6	Hrs/Sem :90	Credits :4

**Course Outcome:**

CO.No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	understand the basic idea of advertising and its nature and benefits.	1	Un
CO -2	understand the types of advertising on the basis of demand, geographical, time.	7	Un,Ap
CO-3	understand media and factors influencing media plan.	2	Un,Re
CO-4	know advertising copy and its types.	8	Ev,Re
CO-5	gain the information on services rendered by advertising agency.	2	Un,Re
CO-6	understand the creativity in advertising copy	7	Un
CO-7	understand the importance of advertising agency.	2	Re
CO-8	know the various classification of print media.	7	Cr

<b>Semester V</b>			
<b>Core XIII – Management Accounting</b>			
<b>Code:18UBAC53</b>	<b>Hrs/Week:6</b>	<b>Hrs/Sem:90</b>	<b>Credits:4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the basic concepts of management accounting.	7	Un,Re
CO-2	prepare the financial statement analysis.	8	An
CO-3	understand the long term debt and liquidity level of assets through debt equity and liquidity ratios.	5,7	Cr,Ev
CO-4	calculate the turnover of stock debtors and creditors.	8	Ap
CO-5	prepare fund flow and cash flow statement.	4	Ap,Re
CO-6	know the appropriate position of cash flows and out flows.	8	Cr,Ev
CO-7	understand the basic concepts of break even analysis.	1	Ev
CO-8	calculate the variances of material and labour.	1	Cr

<b>SEMESTER V</b>			
<b>Core Integral – I Research Methodology</b>			
<b>CODE: 18UBAI51</b>	<b>Hrs/week: 5</b>	<b>Hrs/sem: 75</b>	<b>Credits: 4</b>

**Course Outcome:**

<b>CO. No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the objectives of research, types of research and criteria of good research.	1	Un
CO-2	know the research problem and research design.	2	Un,Re
CO-3	gain knowledge of sampling design and methods of data collection.	5	Un,Cr
CO-4	construct the questionnaires and interview schedule.	2	Un,Cr
CO-5	gain insights in the interpretation of data and report writing.	4	Re,Cr
CO - 6	conduct pre-test for doing research.	1,4	Re
CO - 7	understand and undertake pilot study	3	Cr,Ev
CO - 8	write research report.	6	Cr,Ev

<b>Semester V</b>			
<b>Core Integral II – Case Study</b>			
<b>Code:18UBAI52</b>	<b>Hrs/Week:5</b>	<b>Hrs/Sem:75</b>	<b>Credits:4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand the overall situations as well as to analyse the company's strategy.	8	Ev
CO-2	know the process key information needed for decision making.	5,7	An
CO-3	identify the company's strength and weakness.	6	An,Ev
CO-4	know the strategically and applied critical thinking.	1	Re
CO-5	understand the decision making techniques.	5.7	An,Ap
CO-6	identity the alternatives in research.	1	Ev
CO-7	understand and evaluate the opinion of others.	1	Un,Ev
CO-8	analyse the criticism in organisation.	4	Ap

<b>Semester V</b>	
<b>Self Study Course - Customer Relationship Management</b>	
<b>Code : 18UBASS3</b>	<b>Credit : 2</b>

**Course Outcome:**

<b>CO No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>Cognitive Level</b>
CO-1	know the basics of customer relationship management.	1	Un
CO-2	understand the driving forces and benefits of customer relationship management.	4,8	Ap
CO-3	know about the usage, components and types of customer relationship management.	4,7	Un
CO-4	know about the CRM framework	4	Cr
CO-5	understand the usage of technology tools in CRM	2,4	Un
CO-6	impart basic knowledge on Call center process	8	Cr,Ap
CO-7	enhance customer satisfaction and retention	1,6	Ev
CO-8	deal with strategy formulation for customer retention.	7	Un,Ap

Semester VI			
Core XIV – Service Marketing			
Code :18UBAC61	Hrs/Week :6	Hrs/Sem :90	Credits :4

**Course Outcome:**

CO.No	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	understand services marketing	1,3	Un
CO -2	learn about services on specific industries.	2	Un,Re
CO-3	understand the services provided in financial services.	6	Un,Re
CO-4	analyse professional service marketing in health care and advertising agency.	7	Un,Re,Cr
CO-5	understand marketing of educational services.	1,2	Un,Re, Cr
CO-6	understand professional service marketing in advertising agency.	1	Un
CO-7	understand marketing of educational services.	2	Re
CO-8	gain knowledge on marketing of charity services	3	Re



Semester VI			
Core XV - Production Management			
<b>Code:18UBAC62</b>	<b>Hrs/Week:6</b>	<b>Hrs/Sem:90</b>	<b>Credits:4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	understand production system.	1	Un
CO-2	analyse the factors relating to plant layout and plant locations.	8	Ev
CO-3	understand the concepts of work study and motion study.	8	Un
CO-4	analyse the production planning and control.	4	An
CO-5	understand the process of routing and scheduling.	1,3	Un
CO-6	understand the objectives of quality control.	3,6	Un
CO-7	gain knowledge on the basic concepts of quality certification.	5,7	Un
CO-8	understand the objectives and importance of material management.	1,3	Un

Semester VI			
Core XVI – Financial Management			
<b>Code:18UBAC63</b>	<b>Hrs/Week:6</b>	<b>Hrs/Sem:90</b>	<b>Credits:4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	enhance the practical and applied aspects of capital	1	Un,Ap
CO-2	calculate the credit period of the business	8	Ap
CO-3	find out the short term and long term solvency of a business.	8	An
CO-4	ensure a proper system of communication at all levels of management.	5,7	Cr
CO-5	utilize the capital more economically	1,3	Un,Ap
CO-6	check and evaluate actual results.	6	Ev
CO-7	prepare both operating and financial budget.	3,6	Cr,Ap
CO-8	analyse the relationship between the cost volume and profit	6	An

Semester VI			
Core Integral III - Banking Practices			
<b>Code : 18UBA161</b>	<b>Hrs/Week : 5</b>	<b>Hrs/Sem : 75</b>	<b>Credit : 4</b>

**Course Outcome:**

CO. NO	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	understand about the banker and customer	1,3	Un
CO-2	know about the types of deposits	4,6	Un
CO-3	identify loans and advances	1,2,7	Re
CO-4	understand the different approaches to technological change.	2	Un
CO-5	understand the different modes of charging security.	5	Un
CO-6	understand the basic concepts of electronic banking.	1,5	Un
CO-7	understand and analyse the types of e-banking services.	1,5	Un
CO-8	gain knowledge on benefits and constraints of banking	2,5	Ap

<b>Semester VI</b>			
<b>Core Integral –IV Entrepreneurial Development Programme</b>			
<b>Code : 18UBAI62</b>	<b>Hrs/Week: 7</b>	<b>Hrs / Sem : 105</b>	<b>Credits : 4</b>

**Course Outcome:**

<b>CO.No.</b>	<b>Upon completion of this course, students will be able to</b>	<b>PSO addressed</b>	<b>CL</b>
CO-1	know the basic concept of entrepreneur & their roles.	1	Un
CO-2	understand the importance of entrepreneurship to the society	1,3	Un
CO-3	gain the information on women entrepreneurship and their barriers faced.	4	Re
CO-4	gain knowledge on agencies dealing with entrepreneurs.	2,3	Un
CO-5	understand the roles of small scale industries in economic development.	1,2	Ev
CO-6	analyse tax concessions to small industries in rural and backward areas.	4	An
CO-7	understand project identification and prepare project report.	8	Un
CO-8	know and apply the entrepreneurial development programme.	1,4	Ap