DHARMAPURAM GNANAMBIGAI GOVERNMENT ARTS COLLEGE FOR WOMEN, MAYILADUTHURAI – 609 001.
(Affiliated to Bharathidasan University, Tiruchirappalli.)

PROGRAM OUTCOMES, PROGRAM SPECIFIC OUTCOMES AND COURSE OUTCOMES OF ALL PROGRAMS OFFERED

Bachelor of Arts (B.A.), Bachelor of Commerce (B.Com.), Bachelor of Administration (BBA.) and Bachelor of Science (B.Sc.)
&
Master of Arts (M.A.), Master of Science (M.Sc.)

DEPARTMENT OF TAMIL

B.A. Applied Tamil

Programme Outcome

1. Students will obtain the talent of writing Tamil without any mistakes.
2. To pave the way for speaking and writing Tamil based on traditional feature of Tamil.
3. To teach the students the different kinds of poems.
4. To teach the students to write the traditional words based Tamil Literary words and phrases.
5. To make the commences among religion based Literature.
6. Students will learn new literary forms.
7. To train the Students how to use media and how to benefit out of it.

Specific Programme Outcome

1. To make the students understand the meanings of human rights civil and political.
2. Students will get job opportunities in the field of Media.
3. Student will understand the different parts of a Poem.
4. Acquiring master in writing errorless Tamil phrase and Sentences.
5. Attraction towards modern Tamil Literature will improve.
6. Students will try to start writing poems and small Stories.
7. To create the field of job opportunities through Computer Training.

Course Outcome

S.No.	COURSE	OUTCOME
B.A., APPLIED TAMIL (SEMESTER I)		
1.	IKKALA ILAKKIYAM (KAVIDHAIUMURAINADAIUM)	**1:** Introducing Tamil Modern Poetry and Tamil Traditional Poetry. 2. To teach Literary forms of small story novel and essays. 3. Encouraging attraction towards modern Literature. 4. Attraction (Interest) towards modern Tamil Literature will Improve. Students will learn new literary forms 5. Students will try to start writing poems and small stories.
2	NANNOOLEZHUTHADHIKARAM (KANDIGAI URAI)	1. To Insists the first grammar on letter one among the five Tamil Grammars. 2. To pave the way for speaking and

		writing Tamil based on traditional feature of Tamil. 3. Students will obtain the talent of writing Tamil without any mistakes (error) 4. Students will understand the places where vallinam will appear or where it does not. 5. Students will understand the places where to use vallinam and where not to use vallinam. 6. Students will acquirmostery over Tamil Grammar..
3.	OODAGAVIYAL	1. To Insists the growth of media and to make known need of media. 2. To train the Students how to use Media and how to benefit out of it. 3. To Prepare the Students to get employment opportunity in the field of media. 4. Students will acquire knowledge about the media. 5. Students will get training how to use the media for education purposes. 6. Students will get job opportunities in the field of media.
4.	VALUE EDUCATION	1.To make the Students understand five responsibilities of man to himself to his family, to his environment, to his society and to the whole Universe. 2. To make the Students understand the meaning of human rights civil and political. 3. Students will come to know about the information commission for central and state government. 4. This education will throw light on yoga and its allied items.
B.A., APPLIED TAMIL (SEMESTER II)		
5	CHITTRILAKKIYAM	1.To introduce the different forms of small literature. 2. To teach the religion based information in small literature. 3. To make the Students understand the literary features in small literature. 4. Students will understand the richness of the Tamil literature. 5.Students will understand the message of religion based on small literature.

6	NANNOOL SOLLATHIKARAM	1.To teach the grammar on the four types of words. 2. To teach the Students to write the traditional words based 3. Tamil literary words and phrases. 4. To make the students understand the powerful usages Tamil words. 5. Students will understand the word grammar of Tamil language. 6. Students will come to know the usage of Tamil words. Students will improvement in the usage of language (Tamil)
7	INAIYAMUM TAMIZHUM	1.To create the fundamental knowledge about computer website among students. 2.To Instruct the usage of computer website in learning Tamil 3.Making Students understand the part played by computer website in the growth of Tamil 4.Students understand about the electronic continuation Students get training in learning language, literature, grammar 5.through the computer. Students will get inducement in language and literary work.
B.A., APPLIED TAMIL (SEMESTER III)		
8	SAMAYA ILAKKIYAM	1. To introduce literature based on religion. 2. To make clear the commonness among religion based literature. 3. To indicate the social uplift ant thoughts emphasized by literature based on religion. 4. Students will understand the time based growth of Bakthi Literature (devotional Songs) 5. Students will understand the concepts of different religions. 6. Students will realise the idea that humanity is one emphasized by all religions.
9	YAPPARUNGALAKARIGAI (OZHIBIYAL NENGALAGA)	1. To teach Yappilakkanam. 2. To teach the Students the different kinds of poems. 3. To instruct the different kinds of poems skill obtained by Students. 4. Students will understand the different parts of a poem. 5. Students will understand the different kinds and characterises of poems. 6. Students will obtain enthusiasm to compose traditional poems.
10	MOZHIPEYARPPIYAL	1. To teach the birth and history of Translation 2. To teach the Principles and kinds of Translation 3. In Insects the problems and solutions in translation. 4. Understanding the important of Translation in day today life.

		5. Obtaining the practice in the field of Translation 6. Students will be anxious to know about the grammar of many Language.
11	TAMIL NADAI KOORUGAL	1. To teach the important of the usage of Tamil language. 2. To train the Students the different ways to add richness to Tamil language. 3. To teach the grammatical points in the formation of Tamil phrases and sentences. 4. Students will acquire knowledge in the use of Tamil language without error. 5. Students will gather knowledge in the use of notes in Poems and prose. 6. Acquiring master in writing errorless Tamil phrases and sentences.
B.A., APPLIED TAMIL (SEMESTER IV)		
12	KAPPIYAM	1. To Introduce Tamil epics Literary work 2. To insist the ethics found in literature. 3. To teach the sweetness of literature in Tamil Language. 4. Getting interest in epic literature. 5. Acquiring charitable thoughts based on epics. 6. The different forms of epics.
13	THANDIYALANGARAM	1. To teach the different kinds of Tamil Stylistic devices. 2. To teach the Grammar and kinds of different devices. 3. To teach about the time based growth of device grammar. 4. Understanding the different kinds of Tamil devices. 5. Understanding the minute differences in various devices. 6. Using the different kinds of devices in individual poem.
14	AATCHI TAMIZH	1. Instructing the age oldness of Tamil 2. Making known the richness of Tamil language. 3. To teach the various methods of coining Tamil words in daily usage. 4. Understanding the antiquity of Tamil. 5. Realising the Richness of Tamil words. 6. Obtaining interest and training in finings words for day today.
15	SINTHANAIYIYAL	1. To teach the history of birth and growth of thinking in human society. 2. To teach the ideals of the top most thinkers of world. 3. To insect the thoughts of Indian and Tamil Thinkers. 4. Realising that growth in thought is necessary for social change. 5. Understanding the part played by social thinker of world India and Tamil Nadu. 6. Getting skill in growing self thought based on society.
B.A., APPLIED TAMIL (SEMESTER V)		
16	KAPPIYAILAKKIYAM	1. To teach Tamil Charitable literature. 2. To insist on the Individuality of Tamil Charitive Literature. 3. To insist on the background of Social political and economic status during ethic literature. 4. Understanding the knowledge of Tamil ethic literature.

		5. Learning the basic ethic Principles for Social life. 6. Realising the social responsibility indicated by ethic literature.
17	THIRUKKURAL	1. To teach the ethics found inThirukkural. 2. To teach the a aesthetic aspects in Thirukkural. 3. To indicate how thirukkural finds the Pinnacle among the world epic literature. 4. Obtaining ethic feedings responsibility for social life. 5. Realising the aesthetic aspects in Thirukkural. 6. Realising the everlasting dictum of Thirukkural.
18	NAMBIYAGAPPORUL	1. To teach the Principles of mans personal life. 2. To teach the principles of men's personal life of Ancient Tamils. 3. To teach the changes in the principles of man's personal life. 4. Understanding the various aspects of personal life. 5. Realising the conversation between households family people. 6. Understanding the literary tactics ullurai, eraichi.
19	IKKALA TAMIZH ILAKKANAM	1. To insists on the unavoidable nature in literary change and growth in language formation. 2. To Impart the grammatical aspects found in Modern Tamil 3. To teach Tamil traditional grammar in collaboration with modern Tamil. 4. Realising that language is susceptible to change and growth. 5. Attaining the skill for the effective use of language (obtaining the skill for handling the language effectively 6. Getting better understanding in traditional grammar as they learn about tradition change.
20	TAMIL TYPE WRITING PRACTICAL	1. To upgrade students capacity according to modern technical growth. 2. To create the ground for job opportunity based on Tamil Typewriting training. 3. Students will come to know about typewriting machine. 4. Students will become talented in creating essays and planning manifesto. 5. Students will get preference in job opportunities.
		B.A., APPLIED TAMIL (SEMESTER VI)
21	PANDAIYAILAKKIYAM	1. To Instruct the richness of ancient Tamil literature. 2. To reach the poetic device in Sangam poems. 3. To instruct the life ethics shown by public life. 4. Understanding the ancient Tamil literary tradition. 5. Understanding the aesthetic aspects in Sangam literary works. 6. Knowing the life ethics and historic news.
22	OODAGAM SARPADAIPPAKKAM	1. To teach the nature and usage of communication media 2. To Improve the Students talent in creating media creations 3. To prepare students in getting job opportunities in the field of media. 4. Students will understand the nuances of media

		creations techniques. 5. Obtaining the skill of effective speaking writing and conversation job 6. Getting job opportunity in the field of media
23	PURAPORUL VENBAMALAI	1. To teach the different kinds of Tamil Stylistic devices. 2. To teach the Grammar and kinds of different devices. 3. To teach about the time based growth of device grammar. 4. Understanding the different kinds of Tamil devices. 5. Understanding the minute differences in various devices. 6. Using the different kinds of devices in individual poem.
24	COMPUTER OFFICE NOTE PAD	1. To improve the skill of Students according to the modern Technical Growth. 2. To create the field of job opportunities through computer training skill obtained by Students. 3. Students will get knowledge above Computer. 4. Students will get efficiencies in preparing essays and planning manifesto. 5. Students will get preference in job opportunities.
25	KOYIL KALAIUM KOYIL NIRVAGAMUM	1. To insists on the religions thoughts of ancient Tamils. 2. To make it clear about the knowledge in architecture of ancient Tamils. 3. To teach the students the administrative efficiency of Tamils. 4. Students will get a clear understanding of the architecture of ancient Tamils. 5. Students will come to know the art of temple administration 6. Students will preference in Government of Appointments.

M.A., TAMIL

Programme Outcomes

1. Students will obtain the talent of writing Tamil without any mistakes.
2. To pave the way for speaking and writing Tamil based on traditional feature of Tamil.
3. To teach the students the different kinds of poems.
4. To teach the students to write the traditional words based Tamil Literary words and phrases.
5. To make the commences among religion based Literature.
6. Students will learn new literary forms.
7. To train the Students how to use media and how to benefit out of it.

Programme Specific Outcomes

1. To make the students understand the meanings of human rights civil and political.
2. Students will get job opportunities in the field of Media.
3. Student will understand the different parts of a Poem.
4. Acquiring master in writing errorless Tamil phrase and Sentences.
5. Attraction towards modern Tamil Literature will improve.
6. Students will try to start writing poems and small Stories.

7. To create the field of job opportunities through Computer Training.

Course Outcome

S.No.	COURSE	COURSE OUTCOME
M.A., TAMIL (SEMESTER I)		
1	IKKALA ILAKKIYAM - I	1. To Impart about Traditional Poems, Modern Poems, dramas, dramatic poems. 2. To teach modern Tamil dramas poetic field. 3. Students understand about traditional poems. 4. Modern poems dramas in poetic order and prose order. 5. Students learn about poetry.
2	IKKALA ILAKKIYAM – II	1. To teach the Students about Prose and fiction 2. To teach about the history of Tamil Prose 3. To teach about novels to introduce Modern Tamil literature. 4. Students acquire the arts of understanding Tamil Prose and his history. 5. More over their come to know about short stories and modern novels.
3	CHITTRILAKKIYAM	1. To Introduce the different forms of small literature. 2. To teach the religion based information in small literature. 3. To make the Students understand the literary features in small literature. 4. Students will understand the richness of the Tamil literature. 5. Students will understand the message of religion based on small literature.
4	THOL. EZHUTHATHIKARAM (NACHINARKINIYAR URAI)	1. To teach the students about the ancient Tamil Grammar the antiquity of Tamil letters and words. 2. The Richness of Tamil language as fund in Tholkappiyam. 3. Students get obtain glimpses on ancient Tamil literary works. Students gather knowledge in combination of Tamil words.
5	KANINI TAMIZH	1. To make the Students understand the construction and working of computer. 2. To make the students understand about computer

M.A., TAMIL (SEMESTER II)		
6	SAMAYA ILAKKIYAM	1. To teach the Students the Tamil work return by thirugnanasampandar, Thirunavukkarasar and Sundarar. 2. Students come to know about the literary works of Manikavasagar, KaraikalAmmaiyar and Arunagirinadhar Students understand and appreciate the Tamil literary works found in religions works.
7	KAPPIYAILAKKIYAM	1. To Introduce Tamil epics Literary work 2. To insist the ethics found in literature. 3. To teach the sweetness of literature in Tamil Language. 4. Getting interest in epic literature. 5. Acquiring charitable thoughts based on epics. 6. The different forms of epics.
8	ARA ILAKKIYAM	1. To teach Tamil Charitable literature. 2. To insist on the Individuality of Tamil Charitive Literature. 3. To insist on the background of Social political and economic status during ethic literature. 4. Understanding the knowledge of Tamil ethic literature. 5. Learning the basic ethic Principles for Social life. 6. Realising the social responsibility indicated by ethic literature.
9	THOL. SOLLATHIKARAM(SENAVARAIYAR URAI)	1. To teach the Students the different aspects of Tholkappiyam Sollathigaram. 2. To teach the Students about the different kinds of Tamil words. 3. The Knowledge of Tamil words enables the students to write taltless Tamil. 4. Students understand the usage of kinds of Tamil words.
10	OPPILAKKIYAM	1. To import the students the meaning and messages of comparative literature. 2. To teach the Students the birth and growth of Tamil Comparative literature. 3. The Comparative study of literature enables the students to understand the richness and beauty of literary work.

		4. Comparing the literary works of poets of others languages enriches the students Research mentality.
M.A., TAMIL (SEMESTER III)		
11	SANGA ILAKKIYAM – I (ETTUTHOGAI)	1. To teach the Students about ettuthogai poems. 2. To teach about the way of life of ancient Tamils Students learn about the different kinds of sanga Tamil Poems and people's life pattern. 3. Students come to know the kinds of land divisions and life styles living there.
12	SANGA ILAKKIYAM – II (PATHUPPATTU)	1. To teach the poems (Pathupattu) written by different authors. 2. To teach the students about the fertility of ancient nature the way of peoples life and to insist on the richness of Tamil poetry. 3. The Study of Pathupattu will bring a clear picture of the greatness of ancient Tamils. 4. Students one proud of the culture of their ancestors.
13	OPPITUNOKKIL ULAGA SEMMOZHIGAL	1. Words classical languages in the light of comparation study. 2. Students understand and appreciate the richness of Tamil as a classic language compared to other classic language.
14	THOL. PORULADHIKARAM (MUN 5 IYALGAL) (NACHAR URAI)	1. To teach the students about the ancient Tamil Grammar, the antiquity of Tamil letters and words. 2. The Richness of Tamil language as found in Tholkappiyam. 3. Students get obtain glimpses on ancient Tamil. 4. Students gather knowledge in combination of Tamil words.
15	NATTUPURAVIYAL	1. To teach the meaning of folklore and the history of it in our ancient India. 2. The different aspects of Folklore enable the students understand about the life style of ancient people.
M.A., TAMIL (SEMESTER IV)		

16	ILAKKIYA KOLGAIGALUMTHIRANAIVUM	1. To teach the students about literary critism its kinds and critics ability. 2. The teaching of novels and short stories enriches the students' ability to make their own literary work.
17	THOL. PORULADHIKARAM (PIN 4 IYALGAL) (PERASIRIYAR URAI)	1. To teach the students about the ancient Tamil Grammar, the antiquity of Tamil letters and words. 2. The Richness of Tamil language as found in Tholkappiyam. 3. Students get obtain glimpses on ancient Tamil. 4. Students gather knowledge in combination of Tamil words.
18	SAIVAMUMTAMILUM	1. To teach the Students about Indian religions and Tamil nadu religions and beginning and branches siva worship. 2. On Reading the Poetics works of Saint like Sekizhar Students and drawn to follow saivasamayam.
19	MOZHIPEYARPIYAL	1. To teach the birth and history of Translation 2. To teach the Principles and kinds of Translation 3. In Insects the problems and solutions in translation. 4. Understanding the important of Translation in day today life. 5. Obtaining the practice in the field of Translation 6. Students will be anxious to know about the grammar of many Languages.
20	PROJECT WORK	

DEPARTMENT OF ENGLISH

B.A. English

Programme Outcomes

1. Through literature make the learners inculcate social, cultural and moral values.
2. Providing learners insight into different cultures, traditions, philosophy of life and making the learners appreciating them.
3. Enhancing learners' human insight.
4. Bringing culturally and socially desirable and behaviourable changes.
5. Developing learners' creative and imaginative faculty, critical thinking and aesthetic sense.
6. Enhancing problem-solving skills in life through critically analyzing and

appreciating various literature.

7. Developing language and effective communication skills through literary texts.

Course Outcome

S. NO	COURSE	OUTCOME
B.A ENGLISH(I SEMESTER)		
1	PROSE	1. learn the evolution of English prose from the Elizabethans to the 20th century. 2. get exposed to various styles of prose writers. 3. imitate and improve their style of writing
2	SHORT STORY	1. learners are exposed to short story writing over the centuries 2. learners get an insight into different cultures 3. learners appreciate different themes, strategies and techniques employed by the writers
3	SOCIAL HISTORY OF ENGLAND	1. understand the social and literary history of England from the Middle Ages to the 20th century. **2.** learn and be aware of the relation between socio-political and socio-religious events and literary works
B.A ENGLISH (II SEMESTER)		
4	POETRY – I	1. To introduce learners are introduced to the changing trends in English poetry from the Age of Renaissance to Johnson 2. learners analyse and appreciate poetry critically
5	FICTION	1. understand different forms of novel from the Age of Tennyson to the 20th century 2. identify diverse fictional themes and techniques 3. improve their creative and imaginative faculties through the novels of major British writers
6	LITERARY FORMS	1. initiate oneself into the study of various literary forms 2. understand the literary terms while analyzing and interpreting the works of literature
B,A ENGLISH(III SEMESTER)		

7	POETRY – II	1. comprehend the salient features of various types of poetry from the Romantics up to T.S. Eliot 2. sharpen their poetic sensibility and stylistic skills
8	ONE-ACT PLAYS	1. understand the salient features of one-act plays 2. comprehend and appreciate various cultures and varieties of presentation in the representative texts 3. expose to the sociological and psychological dimensions of characterization
9	HISTORY OF ENGLISH LITERATURE – I	1. be made aware of the literary history of the texts from the Age of Chaucer to Dryden 2. understand the rise and fall of literary movements and their relationships to socio-political and socio-religious events
B.A ENGLISH(IV SEMESTER)		
10	DRAMA	1. learn to the emergence of English Drama from the Elizabethans to the 20th century 2. To make learners understand the features of tragedy, comedy of humours, anti- sentimental comedy, drama of ideas and absurd play
11	INTRODUCTION TO LANGUAGE AND LINGUISTICS	1. learn the history of English language and concepts in phonetics and linguistics 2. be aware of the form and content of language 3. know the scientific systems of the language
12	HISTORY OF ENGLISH LITERATURE- II	1. learn the historical background of the literary texts from the Age of Pope to the Present Age 2. understand the rise and fall of literary movements and their relationships to socio-political and socio-religious events
B.A ENGLISH(V SEMESTER)		
13	SHAKESPEARE	1. Learn the dramatic an theatrical conventions of Shakespeare

		2. Understand the characterization , dramatic and poetic techniques in Shakespearean Plays 3. Appreciate and enjoy select plays of Shakespeare
14	PRINCIPLES OF LITERARY CRITICISM	1. acquaint knowledge of history of literary criticism, its various trends and schools 2. apply literary theory to texts in order to enrich their understanding and appreciation of literature 3. understand Wilbur Scott's five approaches to literature
15	AMERICAN LITERATURE	1. learn the important aspects in various genres of American literature 2. get acquainted with the richness of American literature through representative works of poets, essayists and novelists
16	INDIAN CULTURE AND LITERATURE	1. learn and understand the rich literary heritage of India 2. appreciate the underlying unity among the diverse languages and literatures of India 3. recognize the important contribution of India to world literature
B.A ENGLISH(VI SEMESTER)		
17	TRANSLATION: THEORY AND PRACTICE	1. Familiarize oneself with the history and theory of translation 2. Learn the techniques involved in translation 3. Translate prose passages from English to Tamil and vice versa
18	INDIAN WRITING IN ENGLISH	1. Learn the history and the growth of Indian Writing in English 2. Learn the rich literary tradition in Indian Writing in English 3. Appreciate the changing trends in Indian literature in English from pre to post-Independence era

19	COMMON WEALTH LITERATURE	1. Learn the literatures of a few commonwealth countries 2. Understand and appreciate various cultures, traditions and mores
20	ENGLISH LANGUAGE TEACHING	1. Learn various approaches and methods, aspects and strategies of teaching English 2. Understand the essential components and concepts of language teaching
21	JOURNALISM	1. To initiate learners into the history of journalism 2. To expose learners to various aspects of journalism
22	ENGLISH FOR COMPETITIVE EXAMINATIONS	1. Gain confidence and improve their language skills to face the challenges of a competitive examination 2. Equip themselves with adequate English language skills to achieve success in competitive examinations

M.A. English

ProgrammeOutcomes

1. Through literature make the learners inculcate social, cultural and moral values.
2. Providing learners insight into different cultures, traditions, philosophy of life and making the learners appreciating them.
3. Enhancing learners' human insight.
4. Bringing culturally and socially desirable and behaviourable changes.
5. Developing learners creative and imaginative faculty, critical thinking and aesthetic sense.
6. Enhancing problem-solving skills in life through critically analyzing and appreciating various literature.
7. Developing language and effective communication skills through literary texts.
8. An in depth knowledge of Literary theory is focused to fortify the student's critical sensibility in appreciating works of literature.
9. To sharpen the perspective of research in the field of literature.
10. The exercise of writing term papers and dissertations is aimed to sharpen the abilities towards research of the students.

Course Outcome

S.NO	Outcomes	Outcomes
M.A ENGLISH**(I SEMESTER)**		
1	LANGUAGE AND LINGUISTICS	1. get an insight into the nature of language 2. familiarize with the discourse of

		linguistics and to expose them to theoretical and practical manifestations of linguistics 3. to understand the nexus between literature and society
2	MODERN LITERATURE – I	1. learn the evolution of English poetry Chaucer's period 2. learn the salient features of metaphysical poetry 3. learn the origin of English essays 4. Understand the features of tragedy, romantic tragedy, revenge play and comedy of humors of Shakespeare's predecessors.
3	MODERN LITERATURE – II	1. expose themselves to the changing trends in English poetry from Milton to Pre-Romantics 2. understand the prose allegory of the Restoration period and varied prose works of the Age of Pope 3. know the salient features of anti-sentimental comedy and Restoration comedy 4. learn the emergence of the English novel during the Age of Transition
4	INDIAN WRITING IN ENGLISH	1. appreciate the changing trends, from Romantic to realistic, in Indian literature in English from pre to post-Independence era 2. know and will be aware of Indian sensibility in the representative works
5	GRAMMAR, RHETORIC AND WRITING	1. learn and understand the basics of grammar 2. Learn with the basics of rhetoric. 3. write effective paragraphs and essays 4. expose themselves to various forms of discourse
M.A ENGLISH**(II SEMESTER)**		
6	MODERN LITERATURE – III	1. familiarize with the characteristics of Romantic poetry

		2. acquaint with the unique qualities of the essays of Lamb and Hazlitt 3. be aware of the characteristics of Scott's and Jane Austen's novels
7	MODERN LITERATURE-IV	1. Understand the spirit of Victorian England and its influence on poetry. 2. appreciate the revolution brought about through Aesthetic Movement and anti- Victorian Movement in poetry, drama and novel during the Age of Hardy 3. learn various aspects of the works of T.S. Eliot
8	SHAKESPEARE	1. Learn the development of linguistics, social, psychological and existential skills through a few representative plays of Shakespeare. 2. understand the characterization, dramatic and poetic techniques of Shakespeare
9	LITERARY CRITICISM	1. develop literary sensibility and Critical Thinking 2. Understand the wide range of literary texts, Literary History and Literary History and Literary criticism. 3. Learn a variety of critical approaches to perceive the paradigm shift through the critical texts from Plato to T.S Eliot.
10	COMMUNICATION STUDIES AND MASS MEDIA	1. learn different types of communication 2. learn the functions of mass media and mass culture and popular culture
M.A ENGLISH **(III SEMESTER)**		
11	AMERICAN LITERATURE	**1.** learn significant aspects in various genres of American Literature 2. Get acquainted with the richness of American Literature through representative works of poets, essayists, playwrights and novel.

12	THEORY OF COMPARATIVE LITERATURE AND CLASSICS IN TRANSLATION	1. learn the scope, methodology and application of the theories in comparative literature 2. understand the thematology and genre studies to make learners know a few representative classics in translation
13	LITERARY THEORY	1. learn literary theory from the beginning of the twentieth century to the present day 2. apply theory in the analysis of literary texts 3. understand a wide range of theoretical perspectives to enhance their appreciation of literary texts
14	RESEARCH METHODOLOGY	1. learn philosophy of research 2. use different research sources and document them 3. know the format of research and mechanics of writing
15	ASIAN LITERATURE IN ENGLISH	1. familiarize with Asian writers in English 2. learners aware of various Asian cultures through representative texts of Asian Literature in English
M.A ENGLISH **(IV SEMESTER)**		
16	NEW LITERATURE IN ENGLISH	1.familiarize themselves with writers of new literatures 2.to appreciate various cultures
17	TRANSLATION: THEORY AND PRACTICE	1. learners familiarize with the history and theories of translation 2. learn to the techniques involved in translation of literary and non- literary texts 3. enhance the employability of the learners as translators
18	SINGLE-AUTHOR STUDY	1. to learn the study of Tagore's works and his narrative techniques 2. learn the aspects of Indian civilization

		and culture with reference to Tagore
19	ENGLISH LITERATURE FOR UGC EXAMINATIONS	1. gather a wide range of knowledge in literature – poetry, prose, drama, short story and novel 2. prepare for UGC Eligibility tests for JRF and Assistant Professorship
20	PROJECT	1. expose to and learn the philosophy of Research 2. enable to use different research sources and document them 3. initiate oneself into the field of research

DEPARTMENT OF HISTORY

B.A. History

Programme Outcomes

1. To acquire knowledge of the chronology of major events and personalities in the various courses pertaining to India and Tamil Nadu
2. To offer multi-dimensional ideology of major historical events of world
3. To analyse the historical sources through scientific methods
4. To present seminars, write assignments and respond the evaluations

Programme Specific Outcomes

Upon the completion of the programme, the students

1. Gain knowledge about the cultural heritage of India and the world
2. Develop the skill to reorganize the national and international understanding among the students of history
3. Know the past history of the human culture, and try to construct the culture of the future.

Course Outcome

COURSE	COURSE OUTCOME
HISTORY OF INDIA FROM PRE – HISTORY TO 1206 A.D:	Co1.demonstrate the ability to distinguish the civilization with culture Co2.compare and contrasts the Indus Valley civilization with Vedic Culture Co3.classify the basic ideology of Brahmanism and shamanic religious Co4.identify the attempts made by the kings for empire building
HISTORY OF TAMILNADU UP TO 1565 A.D	Co1.demonstrate the classical age of the Tamils Co2.determine the range of service rendered by Tamil Kings to the development of Art, Region and Literature Co3.illustrate the syncretism of the culture among the south Indian dynasties Co4.Demonstrate the cultural synthesis in Tamil country.
MODERN GOVERNMENT – I:	Co1.classify the constitutions according some guild lines Co2.distinguish the characteristics of a State

	Co3.demonstrate the theories of separation of powers among the organs of the parliament Co4.demonstrate the formation and functions of political parties Co4.prepare them to continue the course in the next semester
HISTORY OF INDIA FROM 1206 – 1707 A.D	Co1.demonstrate the circumstances leading to the transmission of Hindu India in to Islamic India Co2.apply the principles of Bhakthi with the Tamil Bakthi Movement Co3. identify the challenges against the Hindu Art and Culture Co4.distinguish the sultanates of Delhi with the Mughals for their place in the history of India
HISTORY OF TAMILNADU FROM 1565 A.D TO 2000 A.D	Co1.find the early resistance of the polygars against the British Co2.demonstrate the economic exploitation of the British in Tamil Nadu Co3.best the services of Christian missionaries for the spread of western education Co4.demonstrate the role played by the leaders of Tamil Nadu in the freedom struggle
MODERN GOVERNMENTS II:	Co1.compare and contrast the features of the constitutions of the world Co2.apply those rules with the constitution of India Co3.analyze the distinctive characteristics of the constitution of India Co4.identify the powers and functions of the presidents of India and USA Co5.Assess the procedures to the constitutional amendments
PUBLIC ADMINISTRATION- I	Co1.demonstrating the scope of public Administration Co2.applying the historical Knowledge to the public administration Co3.Demonstrating the precious knowledge on the power and function of the prime minister and the president of India and U.S.A. Co4.indentifying the student participation in public administration after the completion of the degree Co5.demonstrating the importance of panchayat Raj in India as field administration of the British government
NMEC 1-FREEDOM MOVEMENT IN INDIA	Co1. demonstrate the causes of the emergence of India National congress Co2. analyze the growing agitation in India and the reinforcement Co3. compare /relate the freedom movement with the Asian counters and of the world Co4. demonstrate the participation of the leaders in the event pertaining to freedom struggle in India
HISTORY OF INDIA FROM 1857AD TO 1947AD	Co1. beginning of local self government in the Birth India Co2. attempts made by the Socio religious reformers practices Co3. gradual development of Constitutional reforms and the national movement simultaneously
HISTORY OF EUROPE FROM 1789-1945AD	Co1. learn the unity and power of the French people and the legacy of the regulations Co2. Recall the Socio economic transformations of Europe on account of the Industrial and agrarian revolutions Co3. identify a sense economic transformation and unity among

	the European Counties Co4. describe the impact of world wars and aggressive foreign policy of Italy and Germany
PUBLIC ADMINISTRATION II	Co1. demonstrate the communication skills in the public and sectors Co2. learn the management issues within an Organizational frame woke CO3. demonstrate the leadership skills in policy formation and decision making Co4.demonstrate the planning, communication and suppression skills for effective public administration
NMEC-II WORKING OF INDIAN CONSTITUTION	Co1. recall the various provisions of the reform act of 1909-1919 Co2. demonstrate the main factures of Indian Constitution Co3. compare and Contract the constitutions of various counties Co4. apply the current event pertaining to Jammu and Kashmir Co5 .an idea about the Indian Constitution to forecast the future prospects
CONTEMPORARY INDIA	Co1. recognize the role played by the leaders like Patel in the in the integration of Gratian states Co2. examine the external policies of grade since Independence Co3. demonstrate the planning for the economic growth Co4. indentify the contemporary issues like Terrorism LPG and human right
HISTORY OF USA UP TO 1865A.D	Co1. demonstrate how immigration changed the social landscape of the United States Co2. recognize the reforms of the president Co3. acknowledge the events that made USA as a powerful County Co4. identify the aftermath of the civil war
HISTORY OF INDIA FROM 1707AD TO 1857AD	Co1. recall the impact of European settlements on Indian society Co2. examine the policies of expansion of the British towards Indian states Co3. demonstrate the reforms of the British governor generals Co4. identify the Indian response to the British policies
HISTORY OF EUROPE FROM 1453 AD TO 1789AD	Co1. find the drastic changes occurred in Europe in the mid 15^{th} century Co2. demonstrate the impact of renaissance reformation and industries revolutions Co3. dosses the conurbations of the enlightened despots to their countries Co4. from the philosophical concepts to the revolutions in Europe
EAST ASIA FROM 1894 A.D TO 1970 A.D:	Co1.demonstrate to understanding of political, diplomatic and military paths of the Chinese and Japanes relations Co2.trace the administrative polices of the leaders of China and Japan. Co3.compare the conditions of china and Japan with contemporary India Co4.develop communication skills land intellectual idea Co5.develop skills in reading the Chinese names and events and

	participate in Seminars
HISTORY OF RUSSIA UPTO 1991 A.D:	Co1.interpreted the knowledge of the historical events in Russian History Co2.evaluate the sources and find reasoning to construct Co3.develop communication and writing skills about the topic Co4.demonstrate the service of the leaders of Russia and compare them with the leaders of India Co5.recognize the historical base to the current issues
ARCHAEOLOGY	Co1.grasp the idea about the archaic Indian Culture Co2.examine the changing aspects of India's prehistoric past Co3.acknowledge the sound ground in understanding the various visitors of our history Co4.equip themselves with the practical experience through field trips, practical and workshops etc.
HISTORY OF USA FROM 1865 A.D TO 2000 A.D	Co1.upon the completion of the course the students are expected to be able to Co2.demonstrate the various progressive social reforms Co3.explain the causes and consequences of political and social conflicts and reforms Co4.develop the skills to improve reading research and communication
INTRODUCT IN TO HISTORIOGRAPHY	Co1.analyse the evolution of historical writings from the enlightenment to the present Co2.demonstrate the methods in major historical fields Co3.demonstrate the skill of historical writing based on the styles of historian impressed them Co4.attain a wide range of idea on the process of historical research
HISTORY OF ENGLAND FROM 1603 A.D TO 1914 A.D	Co1.demonstrate the working of Monarchy, Constitution and Parliament in England Co2.analyse the impact of world affairs on the English polity Co3.articulate the domestic and foreign polices of England between 17th and 20th century Co4.develop skills to analyses the role of England in the international standing
PANCHAYAT RAJ WITH SPECIAL REFERENCE TO TAMILNADU	Co1.analyzing the committees recommending the Panchayat Raj system Co2.demonstrating the reports of the study of community projects and national extension service Co3.demonstrate the allocation, beneficiaries and achievements of welfare programmes
MAJOR BASED ELECTIVE III: HUMAN RIGHTS	Co1.acquire knowledge on the ideological development of human rights Co2.understand the importance of human rights in India Co3.demonstrate awareness against on the human rights violations Co4.identify issues and problems pertaining to human rights
GENDER STUDIES	Co1.analyzing the determinants of gender Co2.contrasting women studies with Gender studies Co3.demonstrating the sources of Gender discrimination Co4.developing skills to demonstrate the sources of the safeguard of women from gender discrimination Co5.demonstrating the policies and measures for the Gender

	empowerment.

M.A. History

Programme Outcomes

1. to acquire knowledge of the chronology of major events and personalities in the various courses pertaining to India and Tamil Nadu
2. to offer multi-dimensional ideology of major historical events of world
3. to analyse the historical sources through scientific methods
4. to present seminars, write assignments and respond the evaluations

Programme Specific Outcomes

1. gain knowledge about the cultural heritage of India and the world
2. develop the skill to reorganize the national and international understanding among the students of history
3. know the past history of the human culture, and try to construct the culture of the future.

Course Outcome

COURSE	COURSE OUTCOME
INDIAN CIVILIZATION AND CULTURE FROM PRE-HISTORY TO 1206 A.D	Co1. the student will understand Co2. the Pre historic environment and changing nature of human culture over time and space (Unit .I) Co3. the emerging political ideology and different Organizations (Unit. II) Co4. the approaches to study the ancient – Indian religious (Unit.III) Co5. the method to identify the commercialization of agriculture in ancient India (Unit .IV) Co6. the changing aspects of pastoral life into sedentary agrarian society (Unit .IV) Co7. the education of ancient Indian Art (Unit .V)
INDIAN CIVILIZATION AND CULTURE FROM 1206 TO 1707 A.D	Co1. acquire the knowledge on the concept of centralized state polity in the early medieval India (Unit. I) Co2. understand the emergence of non-sectarian state (Unit. II) Co3. aware of the Mughal policy towards Hindu Kingdoms (Unit.III) Co4. produce his own historical analysis on the religious policy of the Mughals (Unit.IV) Co5. assess the economic innovations of the Mughals (Unit.V) Co6. recognize the impact of social and religious movements on the Medieval Indian society (Unit.VI)
SOCIO – CULTURAL HISTORY OF TAMILNADU FROM THE SANGAM AGE TO 1800 A.D	Co1. trying to demonstrate the ethical use of sources Co2. relating the Bhakthi Movement to the religious ideology of the medieval period. Co3. comparing the Tamil Feudalism with the European Feudal system

	Co4. recognizing the circumstances leading to the urbanization during the time of the cholas. Co5. identifying the amelioration of the Vijayanagar elements in Tamil Culture.
HISTORY OF WORLD CIVILIZATIONS UP TO 1453 A.D (EXCLUDING INDIA)	**Co1.** find the reasons of the emergence of civilizations in the river vallies Co2. trace the agricultural and urban revolutions in the ancient world Co3. distinguish the characteristics of the world civilizations Co4. identify the transition of European culture from the ancient to medieval period
HUMAN RIGHTS	Co1. prepare himself to the social competence Co2. develop his personal and behavioral competence Co3. demonstrate the understanding of constitutional provisions human rights in India. Co4. analyze the complexity of human rights issues and apply the previous of laws in India
SOCIO – CULTURAL HISTORY OF INDIA FROM 1707 A.D TO 1857 A.D	Co1. recalling the stage of European expansion and its impact on Indian society. Co2. identifying the policy of divide and rule and policy of annexation Co3. comparing the revenue policy of the British with the Mughals Co4. developing the skills to find the concept of organization
SOCIO –CULTURAL HISTORY OF TAMILNADU FROM 1800 AD TO 1967 AD	Co1. know the social and religious changes in Tamil society under the British rule Co2. understand the concept of commercialization of agriculture and its impact Co3. develop skills to demonstrate concept of Tamil renaissance Co4. trace the birth of pure Tamil movement in tamilnadu
HISTORY OF EUROPE FROM 1453 -1789 A.D	Co1. capable of knowing the transition of Europe from medieval to modern era Co2. able to understand the legacy of /Renaissance and reformation Co3. remembered to the modernization of Europe Co4. capable to apply the age of enlightenment to Asian countries.
HISTORY OF SCIENCE AND TECHNOLOGY	Co1. apply the scientific knowledge on the historical study Co2. accept the fact that historical knowledge requires scientific approach. Co3. understand the significance of science and technology in history through the ages Co4. demonstrate the skill to inter the western impact on Indian science. Co5. try to predict the future of history in the scientific world
A) INDIAN AND HER NEIGHBOURS	Co1. recall the political and economic condition of India with its neighbors. Co2. predict the future of India and her Neighbours Co3. outline the countries around India in the maps Co4 identify the root cause of the issues among the Neighbouring countries Co5. recommend the research on the course.
HISTORY OF EUROPE	Co1. demonstrate the impacts of revolutions in the world

FROM 1789 – 1945 A.D	history Co2. trace the Socio – Economic impacts of Industrialization Co3. know about the political block in Europe Co4. demonstrate the results of two world wars.
INTERNATIONAL RELATIONS SINCE 1945 A.D	Co1. prepare them for active citizenship Co2. demonstrate a sense of participation in politics Co3. define and apply concepts and theories in international relations Co4. demonstrate the ability to evaluate sources and bring research on international affairs. Co5. understand the cross cultural communication
HISTORIOGRAPHY	Co1. describe the value of History Co2. infer the idea on the education of historical writings Co3. compare and contrast various approaches to history Co4. select a valuable topic and analyse the sources for the project
INDIA SINCE 1947 A.D	Co1. assess the significance of the acts passed by the British govt.in India. Co2. analyse the impact of the acts on the freedom struggle Co3. demonstrate l the protest of the leaders against the constitutional legislators. Co4. develop skills to demonstrate the leadership quality for the nations Co5. point out the battened in the successful functioning of democracy
TOURISM AND TRAVEL MANAGEMENT	Co1. gaining the basic knowledge on the concepts of Tourism and Travel Co2. getting confidence for job opportunities in the Travel industry Co3. attaining further instinct for additional qualifications in Tourism area Co4. contributing to the national per capital income Co5. forming the wide vision of international understanding
GENERAL KNOWLEDGE AND CURRENT AFFAIRS	Co1. recall the previous knowledge on general knowledge Co2. be prepared for civil services Co3. b aware of the major events in India and world Co4. be equally competent to the Post Graduation
SOCIO – CULTURAL HISTORY OF TAMILNADU FROM 1800 A.D TO 1967 A.D	Co1. know the social and religious changes in Tamil society under the British rule Co2. understand the concept of commercialization of agriculture and its impacts Co3. develop skills to demonstrate concept of Tamil renaissance Co4. trace the birth of Pure Tamil Movement in Tamilnadu

DEPARTMENT OFECONOMICS

B.A Economics

Programme Outcomes

1. Appreciate the importance of the subject Economics.
2. Study the various terms and concepts in Economics.

3. Study various principles and theories in Economics.
4. Evaluate the programmes and policies of the government.
5. Study the quantitative techniques and its applications in Economics.
6. Study research methodologies in Economics.
7. Study global economic issues like globalization, privatization and liberalization and identify solutions.

Programme Specific Outcomes

1. To have comprehensive and exhaustive knowledge in Modern Economics
2. To acquire the conceptual and empirical skills to analyse, interpret and suggest remedies / policies to the current economic issues.
3. The curriculum taught through augmented Trading and Learning Centric Methods with need based syllabus prepared the students industry ready and also sharpen their skills to have an edge over their contemporaries
4. To plan and organize a research work of social relevance with econometrics modeling.
5. To behave ethically and morally in order to become change makers / trend setters of the society.

Course Outcome

S.NO	COURSE	COURSE OUTCOME
B.A ECONOMICS I SEMESTER		
1	MICRO ECONOMICS-I	1. Know about the Nature and Scope of Micro Economics and Deductive and Inductive models. 2. To study the demand analysis, Cardinal and Ordinal Utility Analysis and Consumer Surplus. 3. To understand the Production Function, Law of Variable Proportions, Iso-quants and Return to Scale. 4. Know about the different types of Costs and theories of Cost. 5. To study Welfare Economics, Classical Welfare, Economics Concept of Value judgment, Pigou's Double criterion, Social Welfare function and Pareto"s Optimality conditions.
2	TAMILNADU ECONOMY	1. Study the features of Tamilnadu economy, Land distribution, Occupational structure in Tamilnadu, Population and Human resources, natural resources and Infrastructural Development. 2. Know about the Agriculture, Land use and Cropping pattern, Green Revolution, Agricultural Marketing, Agricultural Finance, Self Help Groups and Microfinance. 3. To analyze Major Industries, MSME, Cottage industries, Ancillary industries, Handloom industries and Industrial Financial Institutions.

		4. To know about the State Finance, Recent Budget, Poverty Alleviation Programmes, Healthcare and other Government Schemes, Unemployment Problem and Women Development Programmes. 5. Analyse the Tourism Development in Tamil Nadu, Industrial sector and its role, Science & Technology and Environmental Protective measures in Tamil Nadu.
3	PRINCIPLES OF COMMERCE	1. To know fundamentals of commerce, Forms of Business Organizations, Business combinations and control of Monopoly Concentration. 2. To find out the different types of Banks, Structure, Objectives, functions, management and evaluation. Life Insurance, Fire, Marine, Deposit Insurance and Insurance against theft and loss. 3. To analyse the importance of advertisement, Merits and demerits of media, Mail Order sales, Departmental Stores, super market and A to Z shops. 4. To find out the Finance, Working Capital and Fixed Capital, Shares, Debentures, Public Deposits, Ploughing back to profits, location of industries and balanced regional development. 5. To study the Scientific management, Management Process, Planning, Organization, direction, coordination, control and professionalization of management in India.
B.A ECONOMICS II SEMESTER		
4	MICRO ECONOMICS II	1. To understand the Market Structure, Classification of Markets, Meaning and Features of Perfect Competition, Short run & Long run Price and Output Determination under Perfect Competition. 2. To Understand the Features of Monopoly, Price and Output Determination under Monopoly, Price Discrimination under Monopoly. 3. To study Monopolistic Competition, Price and Output Determination under Monopolistic Competition, Oligopoly, Kinked Demand Curve, Monopolistic Competition vs Joan Robinson‟s Imperfect Competition. 4. Understand Theories of Rent, Ricardian Theory of Rent, Modern Theory of Rent, Quasi rent. Theories of Wages, the Subsistence Theory of Wages, Wage Fund Theory and Marginal Productivity Theory of Wages. 5. To know about theories of Interest, Classical Theory of Interest, Neo-Classical's Loanable Funds Theory, Modern Theory of Interest, Theories of Profit, Schumpeter's Innovation Theory and Knight‟s Uncertainty Bearing Theory.
5	INDIAN ECONOMIC	1. To study Economic growth and development,

	DEVELOPMENT	Features of Indian Economy, Barriers to economic development and National Income Accounting. 2. Understand the Population growth, occupational distribution, Demographic theory, Population policy, Poverty, Unemployment and Employment generation programmes. 3. To know about the Agriculture and its role, productivity, land reforms, Government measures and Agricultural development under Five Year Plans. 4. To find out the role of Cottage, MSMEs and large scale industries, Industrial policies, problems of rural industries, Industrial development under Five Year Plans – Liberalisation, Privatisation and Globalisation. 5. To analyse the role of Transport in Economic Development, Labour, causes for low productivity, Trade unionism, Labour problems and Government measures, wage policy andsocial security measures.
6	MARKETING	1. To know about Marketing, Planning, Planning process – Marketing objectives, Marketing strategy, Marketing organization and marketing risk. 2. Understand the functions of marketing, buying and selling, transportation, storage, AGMARK – ISI and ISO Certification. 3. Analyse the marketing Information System, marketing research and procedure for marketing research. 4. To find out the State trading and pricing policies, factors influencing price, marketable and marketed surplus and methods of sales promotion. 5. To know about the Regulated markets, working of commodity exchange and methods of trading.
B.A ECONOMICS III SEMESTER		
7	MACRO ECONOMICS-I	1. To study about the Nature and Scope of Macro Economics and Stock and flow concepts. 2. To analyse the National income concepts, measurements, problems and importance of national income. 3. To study the theories of employment, classical and Keynesian theories and say's law market. 4. Know about the principles of effective demand, determination and importance of effective demand. 5. To find out the consumption function, determinants of consumption function and theories of consumption.
8	MONEY AND BANKING	1. To study about the evaluation of money, significance of money and monetary standard 2. Understand the money market, functions, structure and problems of money market in India. 3. To find out the characteristic features of a bank,

		structure of banking systems and types of banks. 4. To analyse the State Bank of India and Lead Bank Origin, Functions and its Role. 5. Know about the advancements in banking, e-banking, automated teller machine, cards, mobile banking, internet banking, impact of information technology on banking
9	ECONOMICS STATISTICS	1. To Study the nature and scope of statistics, collection of data, primary and secondary sources and methods of sampling. 2. To know about the classification and tabulation, diagrammatic and graphic representation. 3. To analyse the characteristics of average, arithmetic mean, median, mode, harmonic mean, geometric mean and simple problems. 4. Understand dispersion, range, deviations, co-efficient of variation, simple problems and lorenz curve. 5. To find out skewness, growth and origin of Indian statistics
10	ADVERTISEMENT MANAGEMENT	1. To analyse purpose, functions, objectives and role of advertisement. 2. To find out the development of creative strategy and government regulations. 3. To know about the advertising strategy & planning and organization, level of decision making and factors influencing organizational features. 4. To analyse advertising budget and research. 5. Understand the role of advertising agents, competition among agencies, ethics and morale of advertisement.
B.A ECONOMICS IV SEMESTER		
11	MACRO ECONOMICS-II	1. To understand the capital and investment, types and determinants of investment, marginal efficiency of capital, factors affecting inducement to invest. 2. To analyse the investment multiplier, working, assumptions, leakages and criticism of multiplier. 3. To study about the assumptions and criticism balanced budget multiplier and foreign trade multiplier. 4. To analyse the principles of acceleration, operation, assumptions and criticism of the acceleration principle and the super multiplier, use of multiplier and acceleration interaction in business cycles. 5. To study about the Hicks–Hansen general equilibrium analysis, objectives of macro economic policy, monetary and fiscal policy measures.
12	MONETARY ECONOMICS	1. To analyse the evolution and functions of money, value of money, Fisher and Cambridge version quantity theory of money.

		2. To know the Keynes's theory of demand for money, Friedman's Restatement of the Quantity Theory of Money, Patinkin's Real Balance Effect and Tobin's portfolio balance theory. 3. To study about the commercial and central banking, nationalization of banks, performance of public sector banks in India and RBI functions. 4. To analyse the causes, control, and phases of trade cycle and theories of trade cycle. 5. Know about the meaning, types, causes and measures of Inflation, demand pull, cost-push and structural inflation, Phillips curve and stagflation.
13	STATISTICAL METHODS	1. To analyse Correlation and Regression and Difference between correlation and regression. 2. Analyse the time series, components of time series, analysis and measurement of cyclical and irregular variations. 3. To study the association of attributes**,** meaning, methods of measuring association of attributes-problems. 4. To analyse the Testing of Hypothesis, testing the significance of large sample, random sample and medium sample and "t" distribution. 5. To analyse meaning, properties and uses of Chi Square Test.
14	INTRODUCTION TO MARKETING MANAGEMENT	1. To study the meaning and functions of marketing management, difference between marketing management and sales management 2. To find out the marketing manager's responsibility, need, importance and process of planning. 3. Know about the Marketing organization, types of organization, committee, product, line, staff and staff organization and marketing decision making. 4. To study Marketing control and marketing audit, types and methods, marketing risks and methods of dealing with marketing risks. 5. Understand the need and importance of advertising management, advertising strategy, and effectiveness of advertisement.
15	ECONOMICS OF TRANSPORTATION	1. Study the meaning and classification of transport, Economic, Political, Social, Cultural significances and drawbacks. 2. To know the features and importance of Railways, large scale operation- railway development in five year plans, administrative control and problems of railways. 3. Analyse the road transport, nationalization, road development during plans- road finance, taxation and current problems of motor transport. 4. To find out the advantages and limitations of Water transport, features of shipping policy, ports and harbors and current problems and inland water transport.

		5. Understand the nature and significance Air transportation, revenue and expenditure, recent developments in transport policy and coordination in India.
B.A ECONOMICS V SEMESTER		
16	PUBLIC FINANCE	1. To study the Uses and Role of Public Finance in the economy. 2. To understand the Sources of revenue of the centre and states and to identify the growth of Public Expenditure. 3. To analyse the Principles and effects of Taxation. 4. To find out the recent trends of Public debt of the State Governments. 5. To identify the Recent Finance Commission and its report.
17	ECONOMICS OF GROWTH AND DEVELOPMENT	1. To study the Factors affecting economic growth capital, labour and technology growth models. 2. To analyse the Technological progress embodied and disembodied technical progress. 3. To measure the Human development index and other indices of development and quality of life. 4. To study the development of Classical Theories. 5. To understand the Partial theories of growth and development vicious circle of poverty circular causation.
18	INTERNATIONAL ECONOMICS	1. To study the Opportunity and comparative cost theory. 2. To analyse the Tariffs, Quotas and Dumping. 3. To understand the distinction between balance of trade and balance of payments. 4. To study the Purchasing Power Parity Theory. 5. To find out the International Monetary System.
19	HISTORY OF ECONOMIC THOUGHT	1. To analyse the Mercantalism, Physiocracy and Classical school thoughts. 2. To trace the Austrian and Institutional School development of economic theories 3. To study the Socialistic Thought. 4. To understand the Historical, Keynesian and welfare schools 5. To study the Indian Economic Thoughts.
20	CAPITAL MARKET	1. To study the Definition and Growth of Capital Market 2. To analyse the source of finance of Capital Market. 3. To understand the Corporate Securities and Debenditures. 4. To find out the Role of Securities and Stock Exchange Board of India(SEBI) in the Regulation of share market. 5. To measure the Foreign Institutional Investors.
21	SALES MANAGEMENT	1. To study the meaning, scope and functions of sales management, sales policy and responsibilities

		of sales manager. 2. To find out the need for sales force, recruitment and selection of sales force, training of salesman and qualities of a good salesman. 3. Know the sales office functions, interviews, receiving of orders, record keeping and sales bulletin. 4. To analyse sales promotion, dealer & consumer sales promotion tools, sales planning, budgeting and evaluation. 5. Understand the distribution functions, policy and components of physical distribution.
22	RETAIL MANAGEMENT	1. To study the Meaning, characteristics and principles of retail Management, reasons for retail growth and emerging trends in retailing. 2. To analyse the store location, importance, urban vs rural location and Customer service strategies. 3. To find out the objectives, factors and display of stores layout and design. 4. Know the inventory Management in retailing, material handling, principles and purpose of material handling. 5. To find out the retail formats, store based retail format and non store based retail format.
23	SOFT SKILL DEVELOPMENT	1. To Developing positive attitude-Improving perceptions. 2. To study the Developing interpersonal relationship, Team building and group dynamics. 3. To improve the Communication Skills/ Communication with others. 4. To analyse the Developing body language, Time management and Stress management. 5. To find out the Writing resume/cv-interview skills-Group discussion.
B.A ECONOMICS VI SEMESTER		
24	AGRICULTURAL ECONOMICS	1. To understand the Role of Agriculture in Indian Economy. 2. To analyse the New Economic Policy and Agriculture. 3. To measure the Sources of Agricultural Finance and Rural Indebtedness. 4. To study the Role and Functions of efficient marketing system and Agricultural Price Policy. 5. To find out the Problem of Agricultural Labour and Government measures.
25	HUMAN RESOURCE MANAGEMENT	1. To study the Evolution of the Concept of Human Capital. 2. To understand the Brain Drain Development Indicators. 3. To analyse the Human Resource Planning. 4. To find out the Development of Women Entrepreneurship in India.

		5. To study the Human Development Index in India and Male & Female Work Participation Rate.
26	ENVIRONMENTAL ECONOMICS	1. To study the Definition and Scope of Environomics. 2. To measure the Welfare Economics and Environomics - Pareto Theory. 3. To find out the quality of Environmental Issues in Developed and Developing Countries. 4. To identify the Cost Benefit Analysis. 5. To Measures of Pollution Control – Fiscal and Direct control measures.
27	ENTREPRENEURSHIP DEVELOPMENT	1. To study the Significance of Entrepreneurship, Functions of an Entrepreneur and Characteristics. 2. To identify the Micro, Small, Medium and Large Scale Industries and their Significance. 3. To understand the Promotional Agencies – NSIC, TIIC, SIDCO, SIPCOT, District Industrial Centres. 4. To study the Methods of Cost Estimation and Packed Commodities Regulation Act. 5. To find out the Project Preparation and Evaluation- Break Even Analysis.
28	ECONOMICS OF INSURANCE	1. To study the relationship between Insurance and Economic Development. 2. To find out the Health Insurance schemes in India. 3. To measure the Consideration of Alternatives and Selection of the Risk Treatment Device. 4. To Issues concerning Growth of Insurance - Future Potential. 5. To insure the Marketing Strategies of Insurance Companies - Benefits of Bank Assurance.

M.A. ECONOMICS

Programme Outcomes

The MA graduates will be able to

1. Study the growing trends in modern economy.
2. Analyse scientifically the economic problems.
3. Assess the Budget presented by the Central and state governments.
4. Study the quantitative aspects of Economics.
5. Enhance the employability of the students through various skills oriented economic subjects.
6. Impart the knowledge of decision and policy making.
7. Inculcate practical knowledge of economics through Internship and Industrial visit.
8. Develop the analytical skill through projects.
9. Develop the skill of writing competitive examination.

Programme Specific Outcomes

1. The students will have comprehensive knowledge on various core branches of modern economics.

2. The students will acquire skills of critiquing the theories and policies.
3. The students will have developed competencies to analyse economic systems and principles to establish a link between theory and empirical conditions in relation to ethical norms.
4. The students will be able to apply economic theories and concepts to contemporary economic issues for analyzing policies.

COURSE OUTCOME

S.No	COURSE	COURSE OUTCOME
M.A APPLIED ECONMICS I SEMESTER		
1	MICRO ECONOMICS ANALYSIS – I	1. To understand the Recent developments in demand, Elementary theory of price formation. 2. To find out the Empirical evidence; Derivation of cost functions from production functions; derived demand for factors. 3. To study the short run and long run equilibrium, price discrimination, welfare aspects, monopoly control and regulation. 4. To analyse the Monopolistic Competition and Oligopoly Models 5. To identify the Baumol's sales revenue maximization model and Williamson's model of managerial discretion;
2	MACRO AND MONETARY ECONOMICS I	1. To study the different forms of national income accounting. 2. To analyse the Keyne's psychological law of consumption and consumption relationship-absolute income, relative income, life cycle and permanent income hypotheses. 3. To find out the impact of inflation; Influence of policy measures on investment. 4. To measure the RBI approach to money supply; High powered money and money multiplier. 5. To identify the Classical approach to demand for money-Quantity theory approach, Fisher's equation, Cambridge quantity theory
3	MATHEMATICAL METHODS FOR ECONOMIC ANALYSIS	1. To study the Terminology, Concepts and tools. 2. To find out the Rules of differentiation-slopes-linear and non linear functions and partial derivatives. 3. To analyse the application to Consumer's surplus & producer's surplus-Costs & revenues. 4. To find out the Crammer's rule-Uses- Input-output analysis. 5. To understand the Applications of LP technique.
4	PUBLIC ECONOMICS	1. To study the Theory of public Goods and

		Public Choice and the economic role of government - Allocation, Growth and Stabilisation. 2. To analyse the Wagner's law of increasing state activities and Wiesman-Peacock hypothesis. 3. To study the Taxation and Public Debt. 4. To identify the Objectives of fiscal policy-full employment, anti-inflation, economic growth, redistribution of income and wealth; interdependence of fiscal and monetary policies. 5. To measure the Fiscal federalism in India
5	COMPUTER APPLICATIONS IN ECONOMICS	1. To introduce the Basic concepts and components of a computer. 2. To study the operating systems. 3. To understand the **MS Word & MS Power Point.** 4. To identify the uses of SPSS for univariate & multivariate analyses. 5. To analyse the – uses of internet for business and commercial activities.
M.A APPLIED ECONMICS II SEMESTER		
6	STATISTICAL METHODS FOR ECONOMIC ANALYSIS	1. To Measures of central tendency, dispersion and standard deviation. 2. To study the auto-correlation and multicollinearity (concepts only). 3. To analysis the probability theory, concepts, binomial, Poisson and normal distribution. 4. To find out the F- ANOVA, testing correlation and regression coefficients. 5. To identify the Fisher's ideal index- Factor reversal test-Time reversal test.
7	MICRO ECONOMIC ANALYSIS - II	1. To study the Theory of distribution in imperfect product and factor markets; Macro theories of distribution. 2. To analyse the Theory of Second Best - Arrow's impossibility theorem and Rawl's theory of justice. 3. To identify the Partial and general equilibrium, Walrasian excess demand and input-output approaches to general equilibrium. 4. To study the economics of insurance, cost and risk, risk pooling and risk spreading. 5. To understand the Market with incomplete information, search and transaction costs, the economics of information.
8	MACRO AND MONETARY ECONOMICS II	1. To study the Neo-Classical and Keynesian Synthesis. 2. To approach the Post-Keynesian approaches

		to demand for money - Patinkin and the Real Balance Effect. 3. To analyse the Mundell - Fleming model-Asset markets. 4. To evaluate the Classical, Keynesian and Monetarist approaches to inflation; Structuralist theory of inflation. 5.To find out the new classical approach; Policy implications of new classical approach.
9	INTERNATIONAL ECONOMICS	1. To study the Theories of absolute advantage, comparative advantage and opportunity cost. 2. To analyse the Theory of Interventions (Tariffs, Quotas and non- tariff barriers); Economic effects of tariffs and quotas on national income, output, employment. 3. To Meaning and components of balance of payments. 4. To study the Role of GATT/WTO (TRIPS, TRIMS), UNCTAD, IMF, World Bank and Asian Development Bank. 5. To find out the Trade problems and trade policies in India during the last five decades; Recent changes in the direction and composition of trade and their implications.
M.A APPLIED ECONMICS III SEMESTER		
10	AGRICULTURAL ECONOMICS	1. To study about the agricultural development, role of agriculture in Indian Economy, agricultural development under five year plans and causes for low productivity and suggestive measures. 2. To analyse the new agriculture strategy, new economic policy and agriculture, mechanization and land reforms. 3. Know about the capital formation in agriculture, sources of agricultural finance and rural indebtedness. 4. Analyse the present state of agricultural marketing, role and functions of efficient marketing system, marketable surplus and agricultural price policy. 5. To study the problem of agricultural labour, causes for poor conditions of agricultural labour, problem of unemployment and under employment and government measures.
11	ECONOMICS OF GROWTH AND DEVELOPMENT	1. To study the economic growth and development, factors affecting economic growth and growth models. 2. Understand the technical progress-embodied and disembodied technical progress, learning by doing, production function approach to the economic growth. 3. To analyse social and institutional aspects of

		development, food security, education, health and nutrition, human resource development and theory of demographic transition. 4. To find out the classical theory of development, contributions of Adam Amith, Ricardo, Malthus and James mill, Karl Marx and development of capitalist economy. 5. Know about the partial theories of growth and development and Vicious Circle of poverty.
12	ENVIRONMENTAL ECONOMICS	1. Analyse the nexus between economics and environment, Material balance principle and Externalities and market inefficiency. 2. To study the theory of environmental policy, Pigouvian taxes and subsidies, climatic change, international carbon tax, trade and environment in WTO regime. 3. To know about the natural resource management and sustainable development, integrated environmental and economic accounting. 4. Understand the measurement of environmental values, option values and non-use values and valuation methods. 5. To analyse the environmental and natural resource problems in India and environmental laws and their implementation.
13	INDUSTRIAL ECONOMICS	1. To analyse the Process and pattern of industrialization, Industrial structure and change, Hoffman's, Simon Kuznets' and Chenery's pattern of industrial change. 2. Understand the market structure and profitability, market structure and innovation, Weber, Losch and Sargent Florence theories of industrial location. 3. Analyse the Industrial Finance, Industrial financial institutions, commercial bank and Financial statements. 4. To find out the structure of industrial labour, industrial relations and labour market reforms. 5. To study the cost-benefit analysis, net present value and internal rate of return criteria – balancing private and social returns.
14	INDIAN ECONOMIC DEVELOPMENT	1. To analyse the natural resources, forest, energy, mineral, and water resources and population. 2. To study the nature and causes for poverty and unemployment and causes for income inequalities. 3. Understand the India's foreign Trade Policy, WTO and The New Economic Reforms. 4. Analyse the technological change in

		Agriculture, Agricultural marketing, New agricultural policy and new industrial policy. 5. To study the objectives, achievements and shortcomings of Planning in India.
M.A APPLIED ECONMICS IV SEMESTER		
15	RESEARCH METHODOLOGY	1. To study the meaning and characteristics, features of research and Objectivity in research. 2. Know the Methods of Research, Case study, Scaling Techniques, Sample surveys and Various sampling methods. 3. Analyse the Steps in Research, Formulation of a Research problem, Role of Review of Literature, Formulation of Research Design and Hypothesis. 4. To find out the sources of data collections, tools of primary data collection and sources of secondary data. 5. To know the Structure and General format of report writing, Presentation of tables, diagrams, charts and maps and Bibliography.
16	ECONOMICS FOR COMPETITIVE EXAMINATIONS	1. To know about the consumer behavior, national income accounting, basic concepts demand and supply of money, price and inflation. 2. To study about the types of industries, sources of Industrial Finance, Industrial Policy and Location, RBI, Commercial and Co-operative Banks. 3. To study the Land Reforms, Technology in agriculture, NABARD and RRB, Infrastructure and Environmental Issues. 4. Know the Techniques and methods of Indian Five year plans, Indian population problem and policy and Role of Women in Economic Activity. 5. Understand the export promotion and import substitutions, new economic policy, foreign trade and Balance of Payments and role of Multi National in India.
17	PERSONNEL MANAGEMENT	1. To study the Meaning, Scope, Importance, Characteristics and Objectives of Personnel Management. 2. To find out the Human Resource Planning, Recruitment and selection procedures and Placement. 3. To analyse the objectives, principles, basic procedure, advantages, limitations and methods of Job evaluation. 4. Know the meaning, types and objectives of motivation and Job security. 5. Study the causes and procedure for dispute settlement, objectives of industrial relations

		and Role and objectives of Trade unions.
18	ADVERTISING MANAGEMENT	1. To study the Meaning, Purpose, functions, objectives and role of Advertising and Economic and Social implications of Advertisement. 2. To know about the Meaning, sources and development of creative strategy and Government Regulation. 3. To analyse the advertising strategy & panning and organization and factors influencing organizational features. 4. To find out the advertisement budget making process, advertising research and fundamentals of Qualitative and Quantitative Research. 5. To study the future trend of advertisement, role of advertising agents and role of technology in advertising.
19	PROJECT WORK	

DEPARTMENTOF COMMERCE

B.Com. Commerce

Program Outcome

1. This program could provide Industries, Banking Sectors, Insurance Companies, Financing companies, Transport Agencies, etc., well trained professionals to meet the requirements.

2. After completing graduation, students can get skills regarding various aspects like Marketing Manager, Selling Manager, over all Administration abilities of the Company.

3. Capability of the students to make decisions at personal & professional level will increase after completion of this course.

4.Students can independently start up their own Business.

5. Students can get thorough knowledge of finance and commerce.

6. The knowledge of different specializations in Accounting, costing, banking and finance with the practical exposure helps the students to stand in organization.

Program Specific Outcome

1. The students can get the knowledge, skills and attitudes during the end of the B.com degree course.

2. By goodness of the preparation they can turn into a Manager, Accountant, Management Accountant, cost Accountant, Bank Manager.

3. The students will acquire the knowledge, skill in different areas of communication, decision making, innovations and problem solving in day to day business activities.

4. Students will gain thorough systematic and subject skills within various disciplines of finance, auditing and taxation, accounting, management, communication, computer.

5. Students can also get the practical skills to work as accountant, audit assistant, tax consultant, and computer operator. As well as other financial supporting services.

6. Students will learn relevant Advanced accounting career skills, applying both quantitative and qualitative knowledge to their future careers in business.

7. Students will be able to do their higher education and the field of finance and commerce.

Course Outcome

Sl No.	COURSE	COURSE OUTCOME
B.Com(SEMESTERI)		
1	PRINCIPLES OF ACCOUNTANCY	1 To give an insight to various basic aspect of journal and preparation of ledger book. 2 Enable them to understand the purpose of the trading account that is to determine the gross profit made from sales. 3 To give knowledge of non-profit that is an organization whose primary objective is to fill a need of society 4 To understand that A Joint Venture Account is an agreement where two or more parties join to create a partnership for a specific business venture 5 To educate students about A system of book - keeping in which both the aspects of transaction are recorded.
2	MARKETING	1. Enable them to understand the goal of marketing function is to reach potential customer to satisfy their needs in the profitable way. 2.To give knowledge of consumer behavior and market segmentation 3 .To understand thatmaximize long-run profit. maximize short-run profit. 4.To give knowledge of sales promotion that is to increase consumer demand, stimulate market demand, and to get potential buyers 5: To create awareness about the products and services offered by the company.
3	BUSINESS MANAGEMENT	1 To understand thatManagement is basically

		concerned with thinking and utilizing human, material& financial resources 2 . To understand thatNo planning is possible without setting up of objectives. And Objectives are include the managerial functions 3 .To give knowledge of Organizational structures help everyone involved in a company 4 . Enable them to understandMotivation, and business communication 5 .To understand that how to become an Effective leader.
B.Com(SEMESTERII)		
1	BUSINESS ACCOUNTING	1 .To know the financial position of each and every department separately 2.To understand thatpurchase transaction 3 .To give knowledge of Theself-balancing function creates the correct debit or credit entry 4 . Familiarize students to safeguard the businesses from any unforeseen circumstantial loss, most of the business entities buy insurance policy 5 .Enable them to understand Predictability
2	BANKING THEORY LAW AND PRACTICE	1 . To give knowledge ofBanker&Customer 2. Enable them to understandA dividend reinvestment plan . 3 . To give an insight to accounting is to manage and maintain a proper record of each of the financial transactions in a systematic manner. 4 .To give knowledge about “Paying Banker” 5 .Enable them to understand passbook is used for accounts with a low transaction volume, such as savings accounts.
3	BUSINESS ECONOMICS	1..Togive knowledge ofMicroeconomics studies for individuals and business decisions. 2 .To educate student about forecasting sales and revenues. 3. Enable them to understand "Production Function." Production management is slowly being replaced by operations management. 4.To understand that supply depicts the relationship between price and quantity supplied by producers. 5 .Provide knowledge about national income

		that is to ensure constant growth and equitable distribution of resources.
B.Com(SEMESTERIII)		
1	PARTNERSHIP ACCOUNTS	1 .To give knowledge of the partnership capital account is an equity account in the accounting records of a partnership. 2.To understand that the account which shows change in the value of assets. To learn and understand the accounting treatment 3. To knowthe account which shows revaluation of assets and liabilities. 4 . To understand thatInsolvency occurs when an individual, company, or other organization and how to overcome 5 . To know that the main purpose of amalgamation of companies is to avoid competition among themselves. To reduce cost. To achieve growth
2	BUSINESS LAW	1 .To give knowledge of Mercantile law 2 . Enable them to understand performance contract constitutes a range of management instruments 3. To understand that Area of law dealing relationships created between two parties Sub Agent andAgent 4. To understand thatSale of Goods Act 1930 was introduced with the objective of balancing the rights and duties 5. To know the objectives of a partnership include bringing together the skills and resources of multiple business owners.
3	BUSINESS COMMUNICATION	1. To understand that the communication in management is to convey information-instructions,policies,procedures,decisions,etc. 2 . Familiarize students with businessletteristomakea direct sale and the complaint letter is to prompt an action that resolves aconflict. 3. Provides knowledge about collection letter and sales letter 4.Enable them to prepare application letter is toattracttheattentionofanemployer. 5.Helps students to prepare Reports

		cancoverawiderangeoftopics
4	PERSONAL INVESTMENT	1: To give knowledge of Safety, income, and capital gains are the big three objectives of investing. 2: To understand that Some investors pursue tax minimization as a factor in their choices. 3: To understand that the main objective of financial planning is that sufficient fund should be available in the company for different purposes 4.To know the Savers normally use deposit accounts for the long range. 5. To give an insight to Funds received from the sale of stock contribute to the firm's capital formation.Equity Shares are issued by companies to pool in investments.
5	ELEMENTS OF INSURANCE	1. Enable them to understand the goal for an insurance company is to set premiums high enough to cover their losses, 2. To know the action of suspension if found justified and in accordance with the provisions. 3.To understand that Agency theory is a principle that is used to explain and resolve issues in the relationship between business principals and their agents. 4. To know that helps the underwriter to make sure the amount you're purchasing is in line with your family's and your needs. 5 . To make students understand that The main purpose of buying insurance is to compensate for losses.
B.Com(SEMESTERIV)		
1	COST ACCOUNTING	1. To understand Objectives of cost accounting ,fixation of selling price, proper recording and presentation of cost data . 2. To make students understand the Inventory control is to optimize the cost of ordering inventories and ultimate ABC analysis is to secure economy. 3.To know the objective of this study is to know the organizational culture that effect on employee turnover. 4. To make students for facilitate allocation and apportionment of overheads to different departments .

		5. provides knowledge about abnormal loss.
2	BUSINESS TOOLS FOR DECISION MAKING	1.Helps students to understand Classification is a process of statistical analysis while tabulation is a process of presenting data is suitable structure. 2.Enable them to understand Measures of dispersion give a single value indicating the degree of consistency or uniformity of distribution. 3. To give an insight to correlation to identify the strength and direction of a linear. 4. To educate students about sequence of observations, and forecasting. Interpolation is also used to simplify complicated functions 5. To understand that These index numbers, when compared with the working class cost-of-living index numbers. The goal of the weighted GPA
3	COMPANY LAW	1. To make students understand the objective like expand the activities of the company with help of shareholders. 2. To know the MOA helps the creditors, shareholders and any other person that are interacting and dealing with the company. 3. To understand that the purpose of the share capital is really to enable the company to be divided up in terms of ownership and control. 4. Enable them to understand statutory meeting is to make the members familiar with the matters regarding the promotion and formation of the company. 5. To give an insight to the objective of voluntarily winding up a company is to enable the members and creditors.
4	INTRODUCTION TO ACCOUNTANCY	1. To maintain systematic record of financial transactions. Objectives of accounting .systematically record transactions, 2. To provide financial information to the management for making financial plans and decisions. To provide data wise record of transactions. 3. To provide information about income and expenditures. 4.Presenting correct accounting records. Presenting a true financial position cash book

		balance, i.e. the business record of their bank account. 5. Enable them to understand The final accounts give a picture of profit or loss during the accounting period .
5	SALESMANSHIP	1. To know the objective can be set for either an individual salesperson or a sales team to reach the goal of increasing the amount of revenue. 2. To understand that selling is about understanding one simple concept 3. Enable them to understand Increasing sales and profit Increasing customer numbers. Building rapport can be incredibly beneficial to your career. 4. Educate students about holding the salesman responsible for sales and services. like increasing customer numbers 5.To understand that Objectives of Supervision Help to motivate subordinates.
B.Com(SEMESTERV)		
1	CORPORATE ACCOUNTING	1.To ascertain profit or loss of the business: 2. To understand the objective of this reserve is to protect the interest of debenture holders. sinking fund is a fund 3. To know amalgamation is to achieve synergetic benefits which arise, when two companies can achieve more in combination than when they are individual entities . 4. Enable them to understand A holding company is a registered and legally recognized entity. The objective of the consolidated financial statements 5. To give an insight to determines the financial position of the business.
2	AUDITING	1. Enable them to understand The objective of an audit is to form an independent opinion on the financial statements of the audited entity. . 2. To check whether all the business transactions are properly recorded in the books of accounts or not. 3. To know whether the balance sheet exhibits a true and fair view which helps to show the current value of the asset. 4. To give knowledge ofauditors report may need to include an opinion as to whether the financial statements.

		5. To understand that Divisible profits can be used to pay as dividend after approval.
3	COMPUTER APPPLICATIONS IN BUSINESS	1: Enable students to acquire and Exhibit knowledge to understanding of the computer system and computer applications 2: To understand the objective of MS Word is to enable you, to create and edit documents. These saved files can also be sent to another person. 3: To educate students about Spreadsheets are an essential business and accounting tool. 4: To provide students with the opportunity to acquire knowledge of business concepts, as well as gain the necessary computerized accounting and office skills. 5: It provides details for controlling and planning inventory for short and long duration.
4	MANAGEMENT ACCOUNTING	1: Helps to understand For preparing Comparative Financial Statements . 2: To know the objective of funds flow statement is to disclose the cause of changes in the assets, liabilities and equity capital between two balance sheet dates. 3: To educate students about Margin of safety is used to determine what percentage that sales can decrease before a business generates a net loss. 4: Enable them to prepare the sales budget, 5: To understand the objectives of working capital management is to determine the optimum level of investment in current assets .
5	ENTREPRENEURIAL DEVELOPMENT	1: To develop the ability of understanding business situations in which entrepreneurs act and to master the knowledge . 2: To know Entrepreneurial growth requires proper motives like profit-making, acquisition of prestige and attainment of social status. 3: To understand objectives of the Entrepreneurship Development Programmes are to Develop and strengthen the entrepreneurial quality. 4: Realize that innovation need not be limited to the creation of new products and services. Registration and Approval of Project. 5: To understand the objective of providing incentives is to motivate an entrepreneur

6	INTERNATIONAL MARKETING	1. Enables them to understand , achieve world peace by building trade relations among different nations. . 2.Enable them to understand drafting the plans and programmes. 3. To enhance free trade at global level and attempt to bring all the countries together for the purpose of trading. 4. To know the IMIS goal is to create an optimal database as a basis for effective marketing management and Indirect exporting involves. 5. To improve the skill of International communication consists of those activities which are used by the marketer to inform and persuade the consumer to buy.
B.Com(SEMESTER VI)		
1	FINANCIAL MANAGEMENT	1: To know the objective of Profit maximization is to reduce risk and uncertainty factors in business decisions and operations. 2: To understand the objective of determining the cost of capital is to evaluate a project. 3: Enable them to understand Leverages are important for profit planning and for the improvement of the financial health of the company. 4: Provides knowledge about effective capital structure is to maximize the value of the firm and to reduce the cost of capital. 5 To know the Forecasting capital expenditure requirements and budgeting for it, and ensuring no investment opportunities are lost is the crux of budgeting.
2	INCOME TAX THEORY,LAW & PRACTICE	1. To give an insight to Capital expenditure is an amount of money that a business or other organization has tagged to spending on a long-term asset. 2. Enable them to Attract Competent Personnel, To Improve Productivity, To Retain the Present Employees. . 3. To give knowledge of House property that is rented for complete or part of the year is considered as a let out property for income tax purposes. 4. Enable them to understand “Profit and gains of business or profession” .

		5. To understand that A capital gain (or capital loss) happens commonly by selling assets .
3	FINANCIAL SERVICES	1. To give an insight to various basic aspect of Financial services serve as an efficient tool for raising funds in an economy. 2.To give knowledge of Bank credit and investment function from the internet. Leases may also serve accounting and tax objectives. 3. To understand that A mutual fund with income as the primary investment . 4. To give an insight to The objective of venture capitalist is to make capital gain . 5. Enable them to understand Factor a four-term polynomial by grouping.
4	HUMAN RESOURCE MANAGEMENT	1: Enable students to acquire and exhibit knowledge of Developing effective coordination and communication within the organization. 2: To understand that The objective of human resource planning is to ensure the best fit between employees and jobs, while avoiding manpower shortages or surpluses. 3:To educate about Training is basically a task-oriented activity aimed at improving performance in current or future jobs. 4: To know the objective of executive development is to impart basic knowledge and information to the new entrants in the organization. 5: To make students understand To maintain records in order to determine compensation packages, wage structure, salaries raises, etc.
5	SERVICE MARKETING	1. To give knowledge of The Services Marketing Triangle is a strategic marketing model. Improved labour productivity. 2. To understand that Product objectives are targets for product development or product management. . 3. To understand the objective in selecting an ideal location is to ensure minimum investment and lower operational costs. 4. To ensure the services are delivered effectively and efficiently, in line with the contractual commitments. 5. To give an insight to Service marketing mix

		or 7Ps strategy evaluates a company based on parameters .
6	INSURANCE MANAGEMENT	1. A portion of a scene that contains an objective for the character. objective of capital budgeting mutual fund 2. To understand that The main goal in the issuance of consumer rebates is to generate a higher level of consumer loyalty while increasing sales. 3. To give an insight to Insurance primarily serves the purpose of granting security against losses and damages to people. 4. To give knowledge of life insurance generally revolve around providing security for your survivors after death. 5. To know the main purpose of issuing group health insurance plan is to retain their employees in the office.
7	INVESTMENT MANAGMENT	1. To make students understand that Some investors pursue tax minimization as a factor 2. To know the Systematic risk is the probability of a loss associated with the entire market 3. Enable them to understand Savers normally use deposit accounts for the long range, although banks offer deposit products. 4: To understand thatTime value of money concept is the part of financial education and awareness. 5. To give knowledge ofEconomic analysis helps us to make decentralized decisions on the appropriate choices between competing uses of resources.

DEPARTMENT OF BUSINESS ADMINISTRATION
BBA
Programme Outcomes

1. Encourages analytical and critical thinking abilities for business decision making.
2. Promotes ethical and value-based leadership ability.
3. Provides a wide knowledge of all disciplines of the course and training in management .
4. Enables students to effectively communicate business issues,and management concepts.

5. Equips students to demonstrate the capabilities required to apply business knowledge

6. Enables students to demonstrate use of appropriate techniques to effectively manage business challenges.

7. Makes students capable of recognizing and resolving ethical issues.

8. Helps to prepare students for managerial roles and as entrepreneurs.

Programme Specific Outcomes

1.Ability to define, analyse the solutions for different business problems and using logical reasoning patterns for evaluating information, materials, and data for practical implementation.

2. Provides verbal, reasoning, Data Interpretation, Quantitative and communication skill to solve specific business problems and decision making.

3. Apply ethical principles and commitment towards professional ethics and responsibility.

4. Function effectively as a member, leader, individual or group in diverse environment.

5. Ability to conceptualize a complex issue into a coherent written statement and oral presentation and to communicate effectively on complex activities with technical community.

6. Providing an opportunity for the students to gain practical exposure towards the workplace and make them industry ready.

7. Promotes entrepreneurship by providing understanding of the fundamentals of creating and managing innovation, new business development, and high-growth potential entities.

8. Ability to demonstrate technical competence in domestic and global business through the study of major disciplines within the fields of business.

Course Outcome

SL.NO.	COURSE	COURSE OUTCOME
BBA (SEMESTERI)		
1	MANAGEMENT CONCEPTS	1: Provide knowledge about scientific management for develop all men to their greatest efficiency and prosperity. 2: To give the planning and budgeting knowledge for alter the pattern of resources 3:To know The span of control determines the level of interactions and responsibilities associated with employees and managers. 4: To make students understand about Staffing and Directing 5:To understand the process by which manager achieves harmonious group effort and unity of action in the pursuit of a common purpose.

2	FINANCIAL ACCOUNTING	1: The know the accounting and maintain systematic record of financial transactions. 2: To record the financial transactions in a systematic way. 3: To know the picture of the financial position of business. 4 Helps to know that Depreciation is charged to fixed assets which helps to show the current value of the asset. 5: To understand the objective of non-trading concerns is to provide goods or services that fulfill a social need
3	MANAGERIAL ECONOMICS	1: Enable them Managerial economics is a method to analyze goods or services and make business decisions from the analysis. 2: To know that the Objective utility is nonrelative value. It may attach to a good for a person without being relative to the person's attitudes. 3: Familiarize about the factors of production (land, labour, capital, and entrepreneurship) are seamlessly interwoven together to create economic growth. 4: The goal of economic market structure analysis is to isolate these effects in an attempt to explain and predict market outcomes. 5: To know the objectives of the national income
BBA (SEMESTERII)		
1	MARKETING MANAGEMENT	1: Provides basic knowledge to Promote New Products or Services, GLead Generation, Target New Customers. 2: To know the objective for market segmentation is determining what price different groups of consumers. 3: To give knowledge of marketing mix for finding the right combination of product, price, promotion, and distribution (place) 4: To ensure the availability of products at the point of sale. 5: Provides knowledge about the product life cycle in order to increase sales.
2	MATHEMATICS AND STATISTICS FOR MANAGERS	1: Provides knowledge about Finding the maximum and minimum values of a

		function and also the Derivatives contracts helps in ascertaining the price of underlying assets. 2: To understand matrices, and linear equations. Determine whether a system of linear equations has no solution, a unique solution or an infinite number of solutions. 3: To know basic aim of statistics in this sense of a subject of study is to provide methods of organising and simplifying data so that their significance is comprehensible. 4: To educate about Measures of dispersion give a single value indicating the degree of consistency or uniformity of distribution. 5: Provides knowledge about Correlation to identify the strength and direction of a linear relationship and using regression to predict how much a dependent variable changes.
3	BUSIBESS ENVIRONMENT	1 ; To educate the students about Business environment helps to improve sale and profit. 2: To know the objective of environmental economics is to maintain a balance between economic development and environmental quality. 3: To understand Participative management acts as a force to motivate employees to meet specific organizational goals. 4: To know the objective of a financial system is to institutionalize and standardize many common financial transactions. 5: Familiarize students with The cultural environment consists of the influence of religious, family, educational, and social systems in the marketing system.
BBA (SEMESTERIII)		
1	MANAGERIAL COMMUNICATION	1: To understand that The communication in management is to convey information-instructions, policies, procedures, decisions, etc. 2:Familiarize students with business letter is to make a direct sale. The objective of a complaint letter is to prompt an action that resolves a conflict. 3: Provides knowledge about collection

		letter and sales letter. 4: Enable them to prepare application letter is to attract the attention of an employer. 5: Helps students to prepare Reports can cover a wide range of topics, but usually focus on transmitting information with a clear purpose, to a specific audience
2	COMPUTER APPLICATION IN BUSINESS	1: Enable students to acquire and Exhibit knowledge to understanding of the computer system and computer applications 2: To understand the objective of MS Word is to enable you, to create and edit documents. These saved files can also be sent to another person. 3: To educate students about Spreadsheets are an essential business and accounting tool. 4: To provide students with the opportunity to acquire knowledge of business concepts, as well as gain the necessary computerized accounting and office skills. 5: It provides details for controlling and planning inventory for short and long duration.
3	BUSINESS LAW	1: To make students understand the primary purpose of contract law, to enforce the agreement of the parties. 2: To educate students about breach of contract 3:Provides knowledge about in the Area of law dealing relationships created between two parties regarding business transactions . 4: To know the Sale of Goods Act 1930 for process of transferring of property from one person to another of buyers and sellers. 5: To know the objectives of a partnership include bringing together the skills and resources of multiple business owners.
4.1	MANAGEMENT PRINCIPLES	1: To give an insight to varies aspect of Growth and development of business, Promotion of research and development. 2: To know the pattern of resources use and, if possible, to intensify such use in such a fashion as to achieve certain socially

		desirable goals. 3: Enable students to understand Organization harmonizes the individual goals of the employees with overall objectives of the firm. 4: To make students understand about Staffing and Direction to match employee skills with necessary tasks in the most cost-effective ways. 5: To know the Coordination is the essence of management for the achievement of harmony of individual effort towards the accomplishment of group goals.
4.2	STOCK EXCHANGE PRACTICES	1: To familiarize Capital market 2: To understand the functioning of stock market. 3: To provide ready marketability and liquidity of a company's securities. 4: To know the role of a stock broker is to facilitate the buying and selling of stocks 5:Provides basic knowledge about Credit rating helps to improve the image of company.
BBA (SEMESTERIV)		
1	ORGANIZATIONAL BEHAVIOUR	1: To understand the objective of Organizational Behavior is human interactions in an organization, find what is driving it for attaining business goals. 2: Enables them to understand the programme is to build self-confidence, enhance self-esteem and improve overall personality of the participants. 3: To educate students about Leadership objectives are targets that a leader sets for a period of time. As well as providing direction, inspiration, and guidance. 4: To know the Morale is the total satisfaction a person derives from his job, his workgroup. His organization and his environment. 5: To understand The objective of motivation is to create conditions in which people are willing to work with zeal, initiative, interest, and enthusiasm.

2	OPERATIONS RESEARCH	1: To educate the students about Operational research, has a relation with different areas of study and it has several applications and provide knowledge of Linear programming . 2: Enable them to understand The destination of a transportation problem is the location to which shipments are transported. 3: To know the objective of inventory control is to optimize the cost of ordering and carrying inventories. 4: Familiarize students about The objective of assignment problem is to assign a number of jobs to an equal number of machines so as to minimize the total assignment cost . 5: To make students understand the aim of physical asset repair/replacement decisions is to create value through the eventual outcome of the decision.
3	PRODUCTION MANAGEMENT	1:Familiarize students about production management is to produce goods and services of the right quality,right quantity,at the right time and at minimum cost. 2: Enable them to understand Work study ,Time study and work measurement to improve productivity and direct observation, the quantum of human work . 3: To give knowledge of production planning and control is to ensure the coordinated flow of work and understanding of the objective of both routing and route scheduling 4: To understand The main objective of inspection is to meet customer requirements, wants and needs. 5: Familiarize students about Materials management and JIT that is to pay reasonably low prices for the best values, produce and deliver what and when it is needed.

4.1	BANKING PRACTICES	1: To improve the knowledge about the aim of banking system is to provide security and confidence in the economy. 2: To know , banking' has been defined as 'accepting' for the purpose of lending or investment. A banker has a right to charge interest on loans and advances. 3: To give the knowledge of Cheque like transfer money from your bank account to the person and other purposes. 4: To know crossing is made to warn the banker but not to stop negotiability of the cheque. 5: Enable them to understand The changes made by banks are mostly focused on financial inclusion for expansion into rural areas .
4.2	INTERNATIONAL BUSINESS	1: To make students understand the rules for international trade and to provide a forum for negotiating and monitoring further trade liberalization. 2: To know how to expand the business beyond the boundaries of the home country and avail of competitive advantage internationally. 3: To know Policy Options Analysis is a structured way to invent, evaluate, and choose alternative courses of action. 4: Provides knowledge about cooperate with other major international economic and resolve trade disputes. 5: Familiarize students with Social Responsibility of business and the objective of managers for taking decision related to business .
BBA (SEMESTERV)		
1	COST ACCOUNTING	1. To understand Objectives of cost accounting ,fixation of selling price, proper recording and presentation of cost data to management for measuring efficiency. 2. To make students understand the Inventory control is to optimize the cost of ordering inventories and ultimate ABC analysis is to secure economy . 3. To know the objective of this study is to

		know the organizational culture that effect on employee turnover. 4. To make students for facilitate allocation and apportionment of overheads to different departments . Allocation of resources to government budget. 5. provides knowledge about abnormal loss, the normal cost of the normal output is determined by deducting from the total cost, the scrap value of normal loss.
2	FINANCIAL MANAGEMENT	1: To know the objective of Profit maximization is to reduce risk and uncertainty factors in business decisions and operations. 2: To understand the objective of determining the cost of capital is to evaluate a project. 3: Enable them to understand Leverages are important for profit planning and for the improvement of the financial health of the company. 4: Provides knowledge about effective capital structure is to maximize the value of the firm and to reduce the cost of capital. 5 To know the Forecasting capital expenditure requirements and budgeting for it, and ensuring no investment opportunities are lost is the crux of budgeting.
3	COMPANY LAW AND SECRETARIAL PRACTICE	1: Enable them to understand the company objective is to generate profit in order to maximize shareholder value. 2: To know the Promotion is aimed at informing consumers about features, qualities, performance, price, and availability of firm's products. 3: To know purpose of purchasing shares in a company is to earn money when the stock appreciates and having knowledge about dividend policy 4. Familiarize students with knowledge of computer software, communication skills and organization abilities. 5 . Provides knowledge about Meeting objectives, Agendas also help people know what to expect.
4	RESEARCH METHODS IN	1: To know the purpose of business

	MANAGEMENT	research is to gather information in order to aid business- related decision-making. 2: To educate Selection is the process of pre-screening, reviewing, prioritizing, and short listing applicants to identify the most suitable candidate for the job. 3: To know that hypothesis testing is to make an inference about the population of interest on the basis of a random sample taken from that population. 4: Enable them to understand Data are needed to make rational decisions, evaluate the fisheries performance in relation to management objectives . 5: Familiarize the Research objectives describe concisely what the research is trying to achieve
5	SERVICES MARKETING	1. Exhibit knowledge and skill required marketing constraints , the demand for your product, your ability to supply that product . 2. To know the fundamental objective of marketing management is to maximise consumer satisfaction. 3. To develop the adjust and align capacity to match customer demand. 4. To know the Product objectives are targets for product development and product management. 5. To know , what are the strategies used during the product life cycle in order to increase sales.
BBA (SEMESTERVI)		
1	HUMAN RESOURCE MANAGEMENT	1: Enable students to acquire and exhibit knowledge of Developing effective coordination and communication within the organization. 2: To understand that The objective of human resource planning is to ensure the best fit between employees and jobs, while avoiding manpower shortages or surpluses. 3:To educate about Training is basically a task-oriented activity aimed at improving performance in current or future jobs. 4: To know the objective of executive

		development is to impart basic knowledge and information to the new entrants in the organization. 5: To make students understand To maintain records in order to determine compensation packages, wage structure, salaries raises, etc.
2	MANAGEMENT ACCOUNTING	1: Helps to understand For preparing Comparative Financial Statements . 2: To know the objective of funds flow statement is to disclose the cause of changes in the assets, liabilities and equity capital between two balance sheet dates. 3: To educate students about Margin of safety is used to determine what percentage that sales can decrease before a business generates a net loss. 4: Enable them to prepare the sales budget, 5: To understand the objectives of working capital management is to determine the optimum level of investment in current assets .
3	ENTREPRENEURIAL DEVELOPMENT	1: To develop the ability of understanding business situations in which entrepreneurs act and to master the knowledge . 2: To know Entrepreneurial growth requires proper motives like profit-making, acquisition of prestige and attainment of social status. 3: To understand objectives of the Entrepreneurship Development Programmes are to Develop and strengthen the entrepreneurial quality. 4: Realize that innovation need not be limited to the creation of new products and services. Registration and Approval of Project. 5: To understand the objective of providing incentives is to motivate an entrepreneur
4	MANAGEMENT CONCEPTS IN THIRUKKURAL	1: To give an insight to various aspect of Ethics deals with moral principles and values. . Business ethics are applies in all aspects in business transaction 2: Familiarize students by introducing the

		concept of punishment to an individual, the individual gets the idea that what he/she is doing is wrong. 3: To know how The organisation looks forward what it intends to do in future. It provides a framework for planned change enabling the top management 4:To educate about Formal planning is in the form of well structured process involving different steps. 5: Enable them to understand that how managers in controlling various organisational functions.
5	GLOBAL BUSINESS MANAGEMENT	1: Educate students regarding enhance free trade at global level and attempt to bring all the countries together for the purpose of trading. 2: Enables them to understand How The government aims at making India an export hub, to help boost job creation. 3: To know that The GATS was inspired by essentially the same objectives as its counterpart in merchandise trade. 4: Enable them to understand multinational companies are able to reach their target markets more easily. 5:To know the Globalization creates opportunities for many countries to experience economic growth.

DEPARTMENT OF MATHEMATICS
B.Sc., Mathematics

Programme Outcome

1. Think in a critical manner.
2. Know when there is a need for information , to be able to identify, locate, evaluate, and
3. effectively use that information for the issue or problem at hand.
4. Formulate and develop mathematical arguments in a logical manner.
5. Acquire good knowledge and understanding in advanced areas of mathematics and statistics,

6. chosen by the student from the given courses.
7. 5. Understand, formulate and use quantitative models arising in social science, business and
8. other contexts.
9. 6. Apply the concepts studied , in real life situation.

Programme Specific Outcome

1. Mastery of Fundamental Mathematical Concepts (Algebra, Analysis, Geometry).
2. Will gain the ability to understand and deal with abstract concepts.
3. Communicate mathematical concepts effectively.
4. Ability to think critically and creatively.
5. Analyze and model real world problems based on mathematical principles.
6. Ability to solve problems which are modeled.
7. Communicate the solutions in rigorous mathematical language.
8. Ability to progress independently and ethically.

Course Outcome

S.No.	COURSE	COURSE OUTCOME
B.Sc., MATHEMATICS (SEMESTER I)		
1	DIFFERENTIAL CALCULUS AND TRIGONOMETRY	**1:** Understand the concept of differentiability of functions and successive differentiation. **2:** Know the concept of maxima, minima for function of two variables. **3:** Knowledge of expansions of trigonometric functions for multiples of angles, and powers of trigonometric functions. **4:** Understand the concept of relation between trigonometric functions, hyperbolic functions. **5:** Concept of trigonometric series, Gregory's series.
2	INTEGRAL CALCULUS	**1**: Identify and solve the various forms of integral problems. **2:** Understand the basic concept of Properties of definite integrals and Reduction formulae for integrals. **3:** Know the concept of Double and triple integrals and Volumes and surfaces of solids of revolution. **4:** Study about the basic concepts of Area and Volume**.**

		5: Learn about Beta and Gamma functions.
B.Sc., MATHEMATICS (SEMESTER II)		
3	DIFFERENTIAL EQUATIONS AND LAPLACE TRANSFORMS	**1:** Identifying the type of given equation and solving in the case of first order and Higher degree. **2:** Understand the methods in solving the linear differential equations with constant coefficient. **3:** Know about the method of formation of partial differential equation, solving the equations using different methods. **4:** Finding particular integrals of equation. **5:** Understand the concept of Laplace transform and its application in solving differential equations. Learn about the Laplace transforms of periodic functions and its inverse.
4	ANALYTICAL GEOMETRY 3D	**1:** Understand the basic concept of direction ratios and direction cosines, planes and lines in three dimension. **2:** Compute the angle between a line and a plane, length of perpendicular from a point to a line. Calculate the Shortest distance between two skew lines. **3:** Know about the sphere and section of a sphere. **4:** Know about the intersection of cone with a surface, tangent plane and normal. **5:** Conditions for plane to touch i)Cone, ii) Conicoid, iii) Cone to have generators etc.
B.Sc., MATHEMATICS (SEMESTER III)		
5	SEQUENCES AND SERIES	**1:** Gain knowledge about sequences and Verify the given sequence in convergent and divergent **2:** Behaviour of Monotonic sequenceandknow about limits of sequence, algebra of limits **3:** Subsequence, Cauchy sequence and limit points of sequence. **4:** Test the convergence of series using various tests. **5:** Test the convergence of alternative series.
6	CLASSICAL ALGEBRA AND	**1:** Relation between roots & coefficients of functions. **2:** Concept of transformations of Equations and Reciprocal equations

	THEORY OF NUMBERS	**3:**Form of an equation by Removal of terms and Descart's rule of sign **4:** Inequalities (Weirstrassinequality , Cauchy inequality) and Applications to Maxima &Minima. **5:** Analysis of theory of numbers(Prime & Composite numbers).
B.Sc., MATHEMATICS(SEMESTER IV)		
7	VECTOR CALCULUS AND FOURIER SERIES	**1:** Understand the basic concepts of Gradient, Divergence and Curl. study about the Solenoidal and irrotational vectors and identities involving divergence and curl. **2**: Understand the concept of the Line integrals and Volume integral **3**: Solve the problems using Gauss divergence and Green's Theorem**.** solve the problems using Stokes Theorem. **4:** Understand the basic concepts of Fourier series and Fourier expansion. **5:** Learn about the half range Fourier cosine and sine series.
8	LINEAR ALGEBRA	**1:** Understand the concept of Vector Space and sub spaces. **2:** Understand the concept of dimension of vector space. **3:** Understand the concept of Inner product spaces and Orthogonalization process. **4:** Learn and apply the concepts of Linear Transformation. **5:** Transforms a matrix into diagonal/triangular form.
B.Sc., MATHEMATICS (SEMESTER V)		
9	NUMERICAL METHODS WITH MATLAB PROGRAMMING	**1:** Manipulating Matrices Using Predefined Functions and Limitations. **2:**Creating Plots from the Workshop Window, Programming in MATLAB forProblems with Two Variables **3:** Curve Fitting using Interactive Fitting Tools using MATLAB code **4:** Methods for solving algebraic and transcendental equations. **5:** To know different rules of Numerical Differentiation and Numerical integration by solving problems
10	REAL ANALYSIS	**1:** Basic concepts for Real Numbers ,countable, uncountable sets and Metric spaces. **2:**Continuity of a function and Types of discontinuities .

		3: understand the concept of differentiability of functions. **4:** Basic theorems involving derivatives. **5:** understand the of concept of Riemann integration and theorems on Integrable functions
11	STATICS	**1**: Define Resultant, Component of a Force, Coplanar forces, like and unlike parallel forces, Moment of a force and Couple with examples. **2:** Prove the Parallelogram of Forces, Triangle of Forces, Converse of the Triangle of Forces, Polygon of Forces, Lami's Theorem, Varignon's theorem of moments. **3**: Find the resultant of coplanar couples, equilibrium of couples and the equation to the line of action of the resultant. **4:** Discuss Friction, Forces of Friction, Cone of Friction, Angle of Friction and Laws of friction. **5**: Define catenary and obtain the equation to the common catenary
12	NUMERICAL METHODS WITH MATLAB PROGRAMMING (P)	**1:** Study of Interpolation using the 1^{st} and 10^{th} program. **2:** Curve Fitting using Interactive Fitting Tools using MATLAB code (3^{rd} program) **3:** Study of Linear regression (2^{nd} program) **4:** To know different rules of Numerical Differentiation and Numerical integration by solving problems (4^{th}, 5^{th} and 9^{th} program) **5:** Specific methods of solving simultaneous equations (6^{th} ,7^{th} and 8^{th} program
13	OPERATIONS RESEARCH	**1:** Understand the basic concepts of Linear Programming Problem and solving problem using simplex method **2:** Solve the linear programming problem using the concept of Duality **3**: Understand the concept of transportation problem and assignment problem **4**: Define queue charecteristics , transient and steady state Define Kendal notations solution of queue models (M/M/1):(_/FIFO),(M/M/1):(N/FIFO) .Define Two persons sum games ,maximin-minimax principle, saddle points. 5: Define CPM and PERT. Define basic components of Network and find critical path
B.Sc., MATHEMATICS (SEMESTER VI)		
14	ABSTRACT	**1:**Understand the concept of groups and its applications.

	ALGEBRA	**2:Understand the concept of Subgroup And Cyclic Groups**. **3:**Understand the concept of normal subgroup and Quotient groups Understand the concepts of Homomorphism and Isomorphism **4:**Understand the concept of Rings. **5:** Understand the concept of Ideals.
15	COMPLEX ANALYSIS	**1:** Analyse Analytic functions and continuous functions. **2:** Understand Bilinear transformations. **3:**.Apply Cauchy's theorem for disk and the Integral formula. **4:** Differentiate the Taylor's series and Laurent series. **5:** Study Residue theorem and the argument principle.
16	DYNAMICS	**1:** Related concepts of Velocity and Acceleration **2:** Define Projectile, and Prove that the path of a projectile is a parabola **3**: Collision of Elastic Bodies and Find the direct and oblique impact of smooth elastic spheres. **4**: Define Simple Harmonic Motion and its problems. **5**: Differential equations and problems in central orbit .
17	GRAPH THEORY	**1:** Understand the basic concepts in graph theory. **2:** Matrices ,Connectedness and Components in Graphs **3**: Understand the concept of HamiltonianandEulerian graphs and trees. **4:** Understand the concept matching and planarity in graphs **5:** Kruskal's algorithm and Dijkstra's algorithm in Directed Graphs
18	ASTRONOMY	**1**: IntroductiontoCelestial sphere and diurnal motion and Celestial coordinates. **2**: Introduction tostars ,zones of earth and twilight. **3**: Learn the topic of Refraction and Understand the concepts of geocentric and annual parallax. **4:** Know about the Kepler's law of motion and Newton's deductions **5**: Learn the topic of phases of moon .

M.Sc., MATHEMATICS

Programme Outcomes

1. Ability to think critically andcreatively.
2. Analyze and model real world problems based on mathematicalprinciples.
3. Will gain the ability to understand and deal with abstractconcepts.
4. Adjust themselves completely to the demands of the growing field of Mathematics by life- longlearning. Mastery of Fundamental Mathematical Concepts (Algebra, Analysis,Geometry).
5. Apply knowledge of Mathematics, in all the fields of learning including higher research and its extensions.
6. Innovate, invent and solve complex mathematical problems using the knowledge of pure and appliedmathematics.
7. Communicate mathematical conceptseffectively.
8. Ability to solve problems which aremodeled.

Program Specific Outcomes

1. To develop problem-solving skills and apply them independently to problems in pure and applied mathematics.
2. To assimilate complex mathematical ideas and arguments.
3. To improve your own learning andperformance.
4. To develop abstract mathematical thinking.

Course Outcome

S.No.	COURSE	COURSE OUTCOME
M.Sc., MATHEMATICS (SEMESTER I)		
1.	ALGEBRA	**1** : Gain expertise in the concepts of group theory especia permutation groups anddiscuss on counting tricks inalgebra. **2**: Discuss in detail about homomorphism of rings, ideals and quotient rings and Euclidean rings. **3:** Identify various forms of Polynomial rings, Polynomials over the rational field and over commutative rings.Further they will be able to discuss about inner product space. **4**: Understand the concepts of fields, especially extension fields, roots of Polynomials and more about roots. **5**: Discuss in detail aboutthe elements of Galois theory.
	REAL ANALYSIS	**1:** Throughly understand the basic topological ideas and numerical sequences and series. **2:** Discuss in detail about the concepts of continuity like limits of

2.		functions, continuity unctions, continuity and compactness function . Also discuss about differentiation. **3:** Gain mastery on Riemann Stieltjes integral. **4:** To understand the important concepts of sequences and series of functions like uniform convergence and continuity, uniform convergence and differentiation and equicontinuous families of functions. **5:** Discuss about functions of several variables including linear transformations, Differentiation, the contraction principle,etc
3.	ORDINARY DIFFERENTIAL EQUATIONS	**1:** Obtain the general solutions of the Homogeneous equations, obtain a new solution with the use of one known solution. **2:** Discuss aboutregular singular points of Legendre polynomials and Bessel functions. **3:** Analyse Linear systems of first order equations. **4:** Gain knowledge in Oscillation theory and boundary value problems. **5:** Discuss about Nonlinear equations including autonomous systems, the phase plane and its phenomena,types of critical points and simple critical points of nonlinea systems.
4.	GRAPH THEORY	**1:** Understand the basic concepts of graphs and digraphs like subgraphs, paths and connectedness, operations on graphs and tournaments. **2:** Study in detail about the connectivity of graphs and the properties of trees. **3:** Discuss aboutthe relationship between independent sets and coverings, matchings and edge coverings. Further able to discuss about Eulerian graphs and Hamiltonian graphs. **4:** Gain knowledge in vertex colorings and edge colorings of graphs including chromatic polynomials. **5:** Discuss about planar and nonplanar graphs in detail, especially the nonplanarity of K5 and K3,3, dual of a plane graph, The Four Color Theorem, The Five Color Theorem and Kuratowski's Theorem.
5.	INTEGRAL	**1:** Understand the concepts of variation and itsproperties.

	EQUATIONS, CALCULUS OF VARIATIONS AND TRANSFORMS	**2:** Different types of Fourier Transformation and Parseval's identity. **3:** Study about Hankel Transform of differential operators and Parseval' Theorem **4:** Discuss about Linear Integral Equations and understand the concepts of convolution Integral and the inner and scalar product of two functions. **5:** Classify Fredholm , Volterra and singular type integral equation Solve integral equations using Fredholm theorem, Fredholm Alternative theorem and method of successive approximations.
M.Sc., MATHEMATICS (SEMESTER II)		
6.	COMPLEX ANALYSIS	**1:** Analyze the topological structure and analytic functions related topics **2:** Realize the concepts of Fundamental theorems in complex integration . **3:** Understanding the Local Properties of Analytic Functions **4:** Study on the General Form of Cauchy's Theorem, The Residue Theorem and The Argument Principle **5:** Discuss about Schwarz's theorem, the Reflection Principle Power
7.	LINEAR ALGEBRA	**1:** Understand the concepts of Matrices, Elementary Row operations and Bases and Dimension. **2:** Discuss Algebra of Linear Transformations and Double Dual. **3:** Study about the algebra of polynomials, Lagrange Interpolation. **4:** Analyze rational canonical forms and Determinants. **5:** Understand the Simultaneous angulation, simultaneous Diagonalization
8.	PARTIAL DIFFERENTIAL EQUATIONS	**1:** .Introduction to linear and Non linear equations of Partial differential equations **2:** .Study on Special types of first order equations and solving them by using Charpits method and Jacobi's method. **3:** Discuss about Second order PDE, applications and their problems with constant coefficients. **4:** Gain knowledge of equations in three variables and the solution

		of Linear Hyperbolic equations. **5:** Discuss about Elementary solutions of Laplace's equations and Boundary value problems.
9.	MATHEMATICAL MODELING	**1:** Understand the concept of a mathematical model and explain the series of steps involvedin mathematical modeling. **2:** Discuss on Mathematical Modeling through First order Differential equations . **3:** Discuss on Mathematical Modeling through second order Differential equations **4:** Discuss on Mathematical Modeling through Difference equations **5:** Use the ideas of directed graphs, weighted digraphs and unoriented graph for modeling real lifeproblems
10.	STOCHASTIC PROCESS	**1:** Understand Markov chains and explain the generalization of IndependentBernoulli trails **2:** Classify the states and chains and discuss stability of a Markovsystem **3:** Realize the working knowledge on Markov chains with continuous statespace **4:** Study about the renewal processes in continuous time using Wald's equation and demonstrate and apply renewaltheorems **5:** Analyze transient behaviour of Queuingmodels
M.Sc., MATHEMATICS (SEMESTER III)		
11.	CLASSICAL DYNAMICS	**1:** Understand the important definitions and introductory concepts like the mechanical system. **2:** Derive Lagrange's equations and its applications. **3:** Study about Special Applications ofLagrange'sEquations. **4:** Discuss aboutHamilton's equations and Hamilton's principle. **5:** Study aboutHamilton - Jacobi Theory in particular Hamilton's Principal Function and the Hamilton - Jacobi equation.
	MEASURE AND INTEGRATION	**1:** Observe the idea of measurable function, simple functions and theirproperties **2:** Appreciate the power of Riemann integral and its drawbacks. They will be ableto capture the need for the modern

12.		integrationtheory **3:** Discuss about the importance of monotone convergence theorem, dominated convergence theorem and Fatou's lemma. **4:** Discuss the concept of Halin Decomposition and the Jordan Decomposition **5:** Understand the proof and apply Fubini's theorem in variouscases.
13.	TOPOLOGY	**1:** Understand the basic concepts and different kinds of Topology **2:** Realize the concepts of Continuous functions in the product Topology and Metric Topology. **3:** Understand the concepts of connectedness in real line and its components. **4:**o gain knowledge about compactness, local compactnessand limit point compactness inreal line. **5:** Discuss about countability and separation axioms.
14.	DISCRETE MATHEMATICS	**1:** Discuss about various relations like binary relations, equivalence relations and partial order relations, pigeonhole principle, inclusion and exclusion principle, functuions like inverse functions, recursive functions and composition of functions. **2:** Know about logic operators, theory of inference and deduction, mathematicalcalculus, predicates and quantifiers.Also able to form truth tables. **3:** Gain knowledge in lattices, their properties and different types of lattices. **4:** Explore various Boolean identities, Boolean forms, Minimization of Boolean knowledge in coding theory. **5:** Realize the concepts ofgrammar and languages, especially language generated by grammar.
15.	ADVANCED OPERATIONS RESEARCH	**1:** Understand the Integer programming problem. **2:** Find solutions to linear programming problem by dynamicprogramming. **3:** Study about Decision Theory and Game theory. **4:** Solve a variety of deterministic and probabilistic inventory co problemsboth with and withoutbreaks. **5:** Understand the concepts of nonlinear programmingproblems.

		Also can solve nonlinear programming problems using Wolfs method and Beale'smethod.
M.Sc., MATHEMATICS (SEMESTER IV)		
16.	Functional Analysis	**1:** Comprehend the important of four pillars of functional analysis namely Hahn- Banach theorems, open mapping theorem, closed graph theorem, uniform boundednessprinciple. **2:** Gain mastery in basic Hilbert space theory: Projection theorem and Riesz Representation Theorem. **3:** Realize the basic concepts of Spectral theory in final dimensional vector space. **4:** Understand the concepts of general preliminaries on Banach Algebras. **5:** Understand the structure of commutative Banach Algebras.
17.	DIFFERENTIAL GEOMETRY	**1:** Understand the space curve and study the fundamental existence theorem for space curve in three dimension Euclidean space. **2:** Discus the first fundamental form and local intrinsic properties of the surfaces. **3:** Study about Geodesic curvature. **4:** Discus the second fundamental form and developables. **5:** Derivation of Hilbert lemma and Hilbert theorem for Geodesic curves.
18.	ADVANCED NUMERICAL ANALYSIS	**1:** Solve algebraic and transcendental equations using various iterative methods and study the rate of convergence of thoseproblems and also learn the concept of Descartes' Rule of Signs. **2:** Solve System of Linear Algebraic equations using direct and indirectMethods and also find the eigen values and eigen vectors. **3**: Solve algebraic equations and differential equations using the techniques of interpolation like Lagrange Interpolation ,Hermite Interpolation etc.. **4**: Understand the advanced concepts in Numerical Differentiation and Integration. **5**: Find the numerical value of the derivative of various function using Euler method and Runge-Kutta method.
19.	ALGEBRAIC	**1:** Introduce divisibility, primes and can solve the congruences.

	NUMBER THEORY	**2:** Understand the techniques of numerical calculations , public key cryptography,can find primitive roots and power residues and can solve Congruences of degree two. **3:** Look number theory from an algebraic view point. **4:** Discuss about binary quadratic forms,different types of functions and combinatorial number theory. **5:** Gain knowledge in Diophantine equations with assorted examples.
20.	PROJECT WORK	

DEPARTMENT OF PHYSICS
B.Sc., Physics
Programme Outcome

1. Develop a firm belief that Science clears the field on which we can build technology.
2. Provide an assured foundation in all aspects of Physics.
3. Provide an enhanced awareness of the physical processes enriched in the surrounding world.
4. Provide an understanding of the interplay between theory and practical applications.
5. Familiarize a broad spectrum of modern trends in Physics.
6. Motivate the students to pursue higher education.

Programme Specific Outcome

1. Develop an understanding about the core concepts of Physics like electricity, magnetism, atomic dimension, nuclear dimension, and solid materials.
2. Communicate the Physics principles effectively.
3. Furnish students in methods and methodology related to Physics.
4. Provoke a realization to consider the day-to-day life through Physics principles.
5. Propel students to do experiments that can serve to rinse out the power crisis.
6. Develop confidence to pursue post-graduation and research in Physics.

Course Outcome

S.No.	COURSE	COURSE OUTCOME
B.Sc., PHYSICS (SEMESTER I)		
1	PROPERTIES OF MATTER ANDACOUSTICS	**CO1 :**Understand the concept of elasticity and its usage in every day life. **CO2 :**Gain knowledge regarding uniform and non uniform bending. **CO3 :**Understand about surface tension and its practical application. **CO4 :**Know the difference between stream line and turbulent flow. **CO5 :** Understand the ultrasonic waves and their properties.
B.Sc., PHYSICS (SEMESTER II)		

2	MECHANICS	**CO1 :**Understand the concept of impulsive force and its usage in every day life. **CO2 :**Gain knowledge regarding centripetal and centrifugal forces. **CO3 :**Gain knowledge about Kepler's laws of planetary motion. **CO4 :**Know the meaning of the word moment of inertia. **CO5 :** Understand the concept centre of gravity and the conditions needed for a floating ship.
B.Sc., PHYSICS (SEMESTER III)		
3	THERMAL PHYSICS	**CO1 :**Understand the concept specific heat and its importance in every day life. **CO2 :**Get knowledge regarding heat conduction process. **CO3 :**Gain knowledge about energy radiated from the Solar system. **CO4 :**Know the methods of creation of low temperature. **CO5 :** Understand the concept of entropy and heat death of the Universe.
B.Sc., PHYSICS (SEMESTER IV)		
4	ELECTRICITY, MAGNETISM AND ELECTROMAGNETISM	**CO1 :**Understand the Gauss's law of electrostatics. **CO2 :**Gain knowledge about Wheatstone's bridge and its applications. **CO3 :**Gain knowledge about LCR circuits. **CO4 :**Know the method of construction of a transformer. **CO5 :** Understand the nature of magnetic materials.
B.Sc. PHYSICS (SEMESTER V)		
5	OPTICS AND SPECTROSCOPY	**CO1 :**Understand the different defects in lenses. **CO2 :**know the meaning of the term interference of light . **CO3 :**Gain knowledge about diffraction of light. **CO4 :**Know the importance of polarization nature of light. **CO5 :** Understand the functioning of optical instruments.
6	ATOMIC AND NUCLEAR PHYSICS	**CO1 :**Understand the production of positive rays. **CO2 :**Gain knowledge about different atom models. **CO3 :**Knowtheproduction of X-rays. **CO4 :**Understand the concept of photo electric effect. **CO5 :** Know the theory of ESR.
7	ELECTRONICS	**CO1 :**Understand the difference between the unipolar and bipolar transistors. **CO2 :**Gain knowledge about amplifier and oscillators. **CO3 :**Gain knowledge about logic gates functioning. **CO4 :**Know the importance of flip flops in digital circuits. **CO5 :** Understand the functioning of operational amplifiers.

B.Sc. PHYSICS (SEMESTER VI)		
	NUCLEAR PHYSICS	**CO1 :**Understand the general properties of a nucleus. **CO2 :**Gain knowledge about neutrino hypothesis. **CO3 :**Gain knowledge about particle accelerators. **CO4 :**Know the meaning of Q - value of a nuclear reaction. **CO5 :** Understand the nature of elementary particles
8	THEORETICAL PHYSICS	**CO1 :**Understand the principle of virtual work. **CO2 :**Gain knowledge about cyclic co-ordinates. **CO3 :**Gain knowledge about dual nature of matter. **CO4 :**Know the basics of quantum mechanics. **CO5 :** Gain knowledge of some applications of Schroedinger equation.
9	MICROPROCESSORAND 'C' PROGRAMMING	**CO1 :**Understand the basics of digital computer. **CO2 :**Gain knowledge about 8085 architecture. **CO3 :**Gain knowledge about assembly language programming. **CO4 :**Know the usage of C - program. **CO5 :** Understand the usage of functioning keys.

M.Sc., PHYSICS

Programme Outcome

1. Mould the students face the challenges in diverse areas of theoretical and experimental Physics at par with global standard.
2. Improve the confidence level of the students to appear for national level tests like UGC - CSIR, and NET.
3. Motivate the students to take up the chance of pursuing their doctoral research.
4. Open up a new path to pursue interdisciplinary research.
5. Allow the students to realize the necessity and importance of nano-technology

Programme Specific Outcome

1.Develop an understanding of the core papers like mathematical Physics, classical mechanics, quantum mechanics, spectroscopy, nuclear and solid-state Physics.
2. Make students utilize the materials on the nanoscale.
3. Furnish students in methods and methodology related to Physics.
4. Provoke a realization to correlate the advancement of field theory in modern gadget usage.
5. Propel students to do experiments that can serve to rinse out the power crisis.
6. Tune the confidence level of the students to take up a job in defence.

Course Outcome

S.No.	COURSE	COURSE OUTCOME
M.Sc., PHYSICS (SEMESTER I)		
1.	MATHEMATICAL PHYSICS	**CO1**: Understand the necessity and usage of a vector field in advanced Physics concepts. **CO2**: know the meaning of eigenvalue and eigenvectors and their application in exactly solvable quantum mechanical

		problems. **CO3**: Understand the symmetrical operations and their usage in molecular spectroscopy. **CO4** : Know the usage of complex integrations. **CO5** : Understand different polynomials and their necessity in advanced Physics.
2.	CLASSICAL DYNAMICS AND RELATIVITY	**CO1**: Understand the concepts of Lagrangian and Hamiltonian of a system of particles. **CO2**: know the meaning of central force and its influence in a satellite system. **CO3**: Understand the dynamics of rigid bodies in terms of small oscillations. **CO4** :Gain knowledge of Hamiltonian formalism. **CO5** :Understand the difference between general and special theories of relativity.
3.	ELECTRONICS	**CO1**: Understand the working of semiconductor devices and their usage in the technological world. **CO2**: know the operational amplifier as a functional device. **CO3**: Know the functioning of different types of flip-flops. **CO4** :Gain knowledge of different counters and their applications. **CO5** :Understand the fabrication of integrated circuits.
4.	METHODS AND SPECTROSCOPY	**CO1**: Understand the working of semiconductor devices and their usage in the technological world. **CO2**: know the operational amplifier as a functional device. **CO3**: Know the functioning of different types of flip-flops. **CO4** :Gain knowledge of different counters and their applications. **CO5** :Understand the fabrication of integrated circuits.
M.Sc., PHYSICS (II SEMESTER)		
5.	ELECTROMAGNETIC THEORY	**CO1**: Understand the nature of dielectric materials and polarization. **CO2**: Understand the electrostatic boundary conditions. **CO3**: Get a complete idea of magnetic vector and scalar potentials. **CO4**: Understand the importance of Maxwell's field equations. **CO5**: Understand the propagation of electromagnetic waves in a different medium.
6.	QUANTUM MECHANICS	**CO1**: Understand the concept of the wavefunction and its significance. **CO2**: Understand the different applications of the Schroedinger equation. **CO3**: Get a complete idea of the theory of perturbation. **CO4**: Understand the importance of orbital and spin angular momenta. **CO5**: Understand the difference between relativistic and non-relativistic Schroedinger equations.

7.	MICROPROCESSOR AND MICROCONTROLLER	**CO1**: Understand the architecture of microprocessor 8085. **CO2**: Know the different arithmetic operations of 8085. **CO3**: Get a complete idea of the microprocessor applications. **CO4**: Understand the importance of microcontroller 8051. **CO5**: Understand the instruction set and programming of 8051.
8.	NUMERICAL METHODS AND C++ PROGRAMMING	**CO1**: Understand the fundamental operations of C^{++}. **CO2**: Know the meaning of curve fitting and interpolation. **CO3**: Know the difference between linear and non-linear equations. **CO4**: Understand the importance of numerical integration and differentiation. **CO5**: Develop the solution to second-order differential equations.
M.Sc., PHYSICS (III SEMESTER)		
8.	STATISTICAL MECHANICS	**CO1**: Understand the fundamental laws of thermodynamics and their utilization. **CO2**: Know the importance of the kinetic theory of gases. **CO3**: Know the meaning of ensembles. **CO4**: Understand the importance of quantum statistics. **CO5**: Understand the usage of quantum statistics in day-to-day life.
9.	SOLID STATE PHYSICS	**CO1**: Understand the fundamental of crystal structure and different crystal defects. **CO2**: Know the importance of the thermal properties of solids. **CO3**: Realise the free electron theory and its applications. **CO4**: Know about different magnetic materials and their properties. **CO5**: Understand the superconducting property of materials and different theories associated with it.
10.	CRYSTAL GROWTH AND THIN FILM PHYSICS	**CO1**: Understand the fundamental of crystal structure and different crystal defects. **CO2**: Know the importance of the thermal properties of solids. **CO3**: Realise the free electron theory and its applications. **CO4**: Know about different magnetic materials and their properties. **CO5**: Understand the superconducting property of materials and different theories associated with it.
11.	NONLINEAR OPTICS	**CO1**: Understand the fundamental of Laser. **CO2**: Understand the basics of non linear optics. **CO3**: Know the multi-photon processes. **CO4**: Know about different non linear optical materials. **CO5**: Understand the importance of fibre optics in the communication system.
M.Sc., PHYSICS (SEMESTER IV)		

12.	NUCLEAR PARTICLE AND PHYSICS	**CO1**: Get a basic understanding of the nuclear system. **CO2**: Understand the basics of the neutrino hypothesis and different radioactive decay processes. **CO3**: Know the importance of different nuclear models. **CO4**: Know about different parts of the nuclear reactor and their usage. **CO5**: Know the basics of elementary particles.
13.	ADVANCE PHYSICS	**CO1**: Get a basic understanding of Astro Physics. **CO2**: Understand the space programmes being organised by India. **CO3**: Understand the working of different biomedical instruments. **CO4**: Know about different parts of the cellular phone. **CO5**: Know the role of satellites in wireless communication.
14.	NANOPHYSICS	**CO1**: Get a basic understanding of nanomaterials. **CO2**: Understand the usage of carbon nanotubes. **CO3**: Understand the different fabrication techniques of nanomaterials. **CO4**: Know about different characterization techniques available to study the materials in nano scale. **CO5**: Know the different applications of materials in the nano dimension.

DEPARTMENT OF ZOOLOGY
B.Sc., Zoology

Programme Outcome

1. To achieve excellence in education and scientific research in the field of Zoology.
2. Implement of advanced training to improve the skills of graduates in Zoology and Related fields
3. Enhances the knowledge in the field of zoo noses for effective health management of all living organisms.
4. Students get idea of ecological and evolutionary population dynamics levels
5. Provides professional level conceptual and practical skills in the area of cell and molecular biology, biotechnology, genetics, immunology, physiology and it related fields for the advancement in the research area
6. Provides knowledge on basic life forms and their interactions with ecosystem
7. Provides professional training in effective verbal and written communication skills for Effective research and publication activities.

Programme Specific Outcome

1. It helps to understand the behavior, structure and evolution of animals to understand the present situation of animals in this planet

2. Understanding the structures and purposes of basic components of prokaryotic and eukaryotic cells, especially macromolecules, membranes, and organelles.
3. Understanding about cellular components and it function of generate and utilize energy in cells
4. It enhances the understanding for the fundamental concepts of physiology of digestion and blood vascular system.
5. Students will get idea about genes structure, chromosomes and proteins and demonstrate Knowledge and practical skills of molecular genetic analysis of genetic diseases
6. Students will get the ability to apply the scientific method and quantitative techniques to describe, monitor and understand environmental systems.
7. Students get the principles of immunology including: development of the immune system, innate immunity, immunoglobulin structure and genetics, antigen-antibody reactions, the major histo compatibility complex reactions and antigen presentation.

Course Outcome

S.No.	**COURSE**	**COURSE OUTCOME**
B.Sc., ZOOLOGY (SEMESTER I)		
1.	INVERTEBRATA I	1. Enlighten the students about the diverse forms of Invertebrate animals which belong to 5 major phyla present around us. 2. Students able to distinguish various Invertebrate animals 3. It gives idea about the evolutionary sequence ofthem. 4. Students gets idea about present advanced developed stage of our human body from primitive forms **5.** Enlighten the students about parasitic Protozoans of Man
II	INVERTEBRATA I &INVERTEBRATAII	1. Impart training on the techniques of dissecting the Invertebrate animals and to understand the various

	(P)	systems present in their body. 2. Demonstrate the technique of in silico dissection of invertebrate animals. 3. The students trained to discriminate the various external body parts of Invertebrates. 4. Students study characteristic features of the preserved animals in the museum(wetanddry)
SEMESTER-II		
III	INVERTEBRATA	1. Enlighten the students about the diverse forms of Invertebrate animals which belong to 5 major phyla present around us. 2. Students able to distinguish various Invertebrate animals 3. It gives idea about the evolutionary sequence ofthem. 4. Students gets idea about present advanced developed stage of our human body from primitive forms 5. Enlighten the students about the economic importance of Insects, Social life in Insects.
SEMESTER-III		
IV	CHORDATA	1. Enlighten the students about the diverse forms of vertebrate animals . 2. Students able to distinguish various vertebrate animals 3. It gives idea about the evolutionary sequence ofthem. 4. Students gets idea about present advanced developed stage of our human body from primitive forms 5. Enlighten the students about the parental care in Amphibia
V	CHORDATA & CELL AND MOLECULAR	1. Imparting training on the techniques of dissecting the vertebrate animals and to understand the various systems

	BIOLOGY (P)	present in their body. 2. Demonstrate the technique of in silico dissection of vertebrate animals. 3. Students know about the various types of animal cells and molecular structures with their characteristic features and detailed functions. 4. Students get idea about cell divisions by doing onion root tip experiment 5. Students get knowledge on structure of DNA, DNA replication, RNA types.
VI	PUBLIC HEALTH AND HYGIENE	1. Enlighten the non- major elective students about the general knowledge on their health and hygiene. 2. Importance of scope of Public health and Hygiene will be known by the students 3. It create awareness on general health , the hazardous impacts and remedy. 4. Students know the importance of Communicable diseases and their preventive and control measures 5. It says the Health Education in India
SEMSTER-IV		
	CELL AND MOLECULAR BIOLOGY	1. Understand the cell and cellular details with their significance. 2. The students know about the various types of animal cell structures with their characteristic features and detailed functions. 3. It facilitates to understand the structure and function at molecular level in prokaryote 4. It facilitates to understand the structure and function at molecular level in Eukaryote. 5. Students know about the microscopy techniques to study the ultra structures of the cell
	ORNAMENTAL FISH FARMING	1. Enlighten the non-major elective students about ornamental fish farming a profitable culture practice. 2. It gives idea about profitable nature of this

		ornamental fish activity 3. Students get idea about possibilities of mass production of fancyfishes 4. Arts students know about this self-employment programme. 5. It gives idea about general aquarium maintenance
SEMESTER-V		
	ANIMAL PHYSIOLOGY	1. It helps in understanding how the body functions 2. It also teaches the adaption of our biology system with respect to its external and internal environment 3. Students get idea about nervous integration, sensation, metabolism and reproduction. 4. This paper create knowledge about structure and function of endocrine glands 5. Students get awareness about balanced nutrition and daily recommended allowances of nutrition
	GENETICS AND EVOLUTION	1. It gives basic overview of genes, mutations, sex determination and patterns of inheritance. 2. It teaches the Mendel's principles and applications. 3. An understanding of the chromosomal inheritance and expression of human genetic characters and disorders. 4. It helps in understanding of the evolution of life. 5. It creates interest about Mimicry, animal colouration, speciation and species concept
	MICROBIOLOGY	1. It provides students with the latest information in scientific microbiologicalmethods. 2. It gives basic idea about morphological characteristics, Pathogenesis, laboratory diagnosis and treatmentofdiseasecausingBacteria,VirusandFungus 3. Microbiology emphasis the infectious diseases that are of great actual or potential importance to humans. 4. It emphasis the importance of microbiological analysis of water purity 5. Students get idea about food borne infections and

		intoxications
	ANIMAL PHYSIOLOGY, GENETICS AND EVOLUTION & MICROBIOLOGY (P)	1. To impart training on the techniques of physiological concepts in vertebrate animals 2. It helps in understand molecular structures, genetical importance and evolutionary significance. 3. This course train the students about bacterial cells and culture techniques 4. It train the students in qualitative and quantitative tests forproteins 5. It train the students in blood grouping of man, Pedigree Analysis
	BIOTECHNOLOGY	1. Enlighten the students on various aspects of biotechnology 2. Creates awareness about beneficial products from biotechnology. 3. It gives knowledge on genetic engineering for human welfare 4. Students know about environmental biotechnology-wastetreatment for healthy environement. 5. It encourage the students to take biotechnology as their career as it provide ample scope for brightfeature.
	ECONOMIC ENTOMOLOGY	1. Enlighten the students on beneficial and harmful insects, 2. Enlighten the students on insect's biology, their nature of damage and their management measures. 3. It teaches our students aboutpestswhichattackcropsandtheirmanagementmeasures. 4. It creates awareness about Integrated Pest Management (IPM) for sustainable crop production 5. It also creates interest among students on beneficial insects and Economic importance of insects like honey bee, silk worm….
SEMESTER-VI		

	ENVIRONMENTAL BIOLOGY	1. It is designed to provide fundamental ecological principles 2. It provides in-depth understanding of our natural world, the scientific basis for understanding how environmental systems work, the environmental issues, environmental problems, effects and solutions. 3. It creates awareness about community ecology and it types. 4. It also creates awareness about environmental pollution as air, water, land, noise, thermal and radiation. 5. It also make the students understand about Energy Crisis and the conventional Sources non-conventional sources of energy
	DEVELOPMENTAL BIOLOGY	1. It teaches the students as an experimental science, 2. It provides understanding of the processes of early embryonic development, 3. It will give analyze study of the mechanisms of development by experimental manipulation of developing embryos 4. Students get idea about their own development from single cell to present stage of life. 5. It gives a reviewof current developments in the field of embryology.
	ENVIRONMENTAL BIOLOGY & DEVELOPMENTAL BIOLOGY (P)	It gives hands on training on the following topics 1. Estimation of Dissolved Oxygen in watersamples. 2. Estimation of Salinity in watersamples. 3. Estimation of Calcium in watersamples. 4. Intertidal fauna- sandy, muddy and rockyshore. 5. Examination of marineplanktons. **6.** ObservationofpHandsalinityvariationsindifferentsoilsamples. 7. Estimation of LC_{50} (Demonstrationingroupsusingdifferenttoxicants) 8. Estimation of toxicants (metals, organophosphorus) in industrialeffluents

	BIOCHEMISTRY	1. It provides a basic approach to biochemistry. 2. It provides the structure and function of bio molecules and its importance. 3. Students get idea about animal growth and importance of metabolism of carbohydrate, lipid and protein 4. Students grasp knowledge on enzymes and it role in proper functioning of animal physiology activity 5. Students grasp knowledge on hormones and it role in proper functioning of animal physiology activity
	IMMUNOLOGY	1. Students obtain knowledge about immune systems, cells of immunity 2. Students get idea on types of Immunity 3. Immune system role in protection of our body. 4. Idea on Antigen, antibody concepts, hypersensitivity, MHC and complement pathways. 5. Different immunological techniques used in the clinical testing.
	BIOINFORMATICS	1. Students know the bioinformatics and its applications in biological science 2. It usefulness for the students for their research works. 3. It gives idea about bioinformatics tools for biotechnology work 4. It creates awareness about Genome Annotation, Genome Assembly, Structural and Functional Genomics 5. The role of bioinformatics the various bio techniques may be obtained for further research.
	BIOPHYSICS & BIOSTATISTICS	1. It gives information about the biochemical and biophysical aspects related to living organisms. 2. Students get idea about the Biophysical aspects and their properties 3. Create understanding about the bio physical properties and it role in our day today life . 4. Students know the statistical problems in biological science which is useful for the students for

		their research works. 5. It is to create knowledge on statistical techniques and it application 6. Application of statistics techniques in today modern research

M.Sc., ZOOLOGY

Programme outcomes

1. Achieve excellence in education and scientific research in the field of Zoology.
2. Implement of advanced training to improve the skills of graduates in Zoology and Related fields.
3. Increase the quantity and quality of animal protein to ensure the balanced nutrition to all by developing basics to increase the eggs, meat and milk production .
4. Enhances the proper understanding of students about the life of many insect that harm our crops and to increase the agriculture production.
5. Enhances the social benefits from many industries which are based on raw material from animals for their products.
6. Provides professional training in effective verbal and written communication skills for effective research and publication activities.
7. Promotes students entrepreneurship skills for self employment through aquaculture, sericulture, apiculture, bio-fertilizer, Vermi-culture, poultry and cattle farms.
8. Develops graduates and post graduates in Zoology students with balanced skills for better future of our nation.

Programme Specific Outcomes

1. Student will be able to describe unique characters of animals and to recognize the diversity.
2. It creates understanding about cellular components and it function of generate and utilize energy in cells
3. Students get knowledge on genes structure, chromosomes and proteins and practical skills of molecular genetic analysis of genetic diseases
4. Students learn to use tools from different sciences to study life. Specifically, biochemistry tools to study the chemical processes and transformations in living organisms, while biophysics tools to study the theories and methods of physics to questions of biology.
5. Demonstrate strategic leadership and decision-making skills necessary in biotechnology and distinguish among diverse methods and technologies and their applications in biotechnology
6. The students will acquire knowledge about the role of aquaculture and aquaculture products
7. The student will acquire knowledge and awareness of the basic principles and concepts of biology, computer science and mathematics. Existing software effectively to extract information from large databases and to use this information in computer modeling for application in the biology field.

Course Outcome

S.No.	COURSE	COURSE OUTCOME
M.Sc., ZOOLOGY (SEMESTER I)		
1.	ANIMAL TAXONOMY, PHYLOGENY AND BIODIVERSITY	1. Students know the distribution, taxonomy and phylogeny of animal. 2. Enlighten the primitive forms of invertebrates and vertebrates distribution. 3. Students will understand the status and mode of living of different forms of animals. 4. Understanding of biodiversity and importance of its role in sustainable development **5.** Students know about the species recovery concept for sustainability
2.	CELL AND MOLECULAR BIOLOGY	1. Understanding the structure at molecular level and function of prokaryote and eukaryote cell. 2. Enlighten the students about the cellular organelles and its functions. 3. Students will get the knowledge in Cell communications and signaling pathways. 4. Students will grasp the significance of DNA and it roles in all life forms.
3.	GENETICS AND EVOLUTION	1. Enlighten the students about the DNA and its functions. 2. Enlighten The knowledge in the molecular biology and genetics will provide diagnosis of genetic disorders and treatment at molecular level. 3. It provides basic information of molecular phylogenies and evolution 4. Believes the scientific doubts and genetics related issued in all life forms 5. create interest about life in the earth and its origin
4.	DEVELOPMENTAL BIOLOGY	1. It provides the process of early embryonic development and review the current development in the field of embryology. 2. Students know the cellular differentiation and it roles in successful of life forms 3. Understanding the developmental biology process of living things 4. Understanding the formation of embryo and embryological disorders and treatment methodology. 5. Creates awareness precaution and health care during pregnancy and gestation.
	ANIMAL TAXONOMY, PHYLOGENY AND BIODIVERSITY, CELL AND MOLECULAR BIOLOGY,MOLECUL	1. Obtain knowledge about the identification and classification of animals. 2. Students know the information of animal population - the phylogeny and fossil forms in the title of animal diversity. 3. Knowledge on phylogeny and finding the relationship

	AR GENETICS AND EVOLUTION & DEVELOPMENTAL BIOLOGY (P)	of human being with other animals 4. Imparts the knowledge and concepts of Cell and Molecular Biology, Molecular Genetics and Evolution, Developmental Biology 5. Students grasp the knowledge on Protected zone for enrichment of the Biodiversity
SEMESTER-II		
	ANIMAL PHYSIOLOGY	1. Students will understand the body functions adapts with respect to its external and internal environment, 2. Role of balanced diet for healthy living 3. Students grasp the knowledge of effective food digestion and absorption for healthy living 4. Related to nervous integration, sensation, metabolism and reproduction. 5. Get idea about structure of nerve cells and its function
	BIOCHEMISTRY AND BIOPHYSICS	1. It gives information about the biochemical and biophysical aspects related to living organisms. 2. The life supporting molecules, their metabolism, biological oxidation and its relevance. 3. They know the biochemical process in the our body 4. Students get idea about the Biophysical aspects and their properties 5. Creat understanding about the bio physical properties and it role in our day today life .
	ANIMAL PHYSIOLOGY & BIOCHEMISTRY AND BIOPHYSICS (P)	1. Obtain knowledge about the physiological mechanism from animal models on respiration, excretion and some blood parameters. 2. Students can able to identify the endocrine glands and their secretions. 3. Students gets practical knowledge on Chromatography techniques , solution preparation, ECG, EEG….etc.
	APPLIED BIOTECHNOLOGY	1. It deals with the applied aspects of biotechnology in medical, agricultural, industrial, microbial and environmental fields. 2. The uses of the recombinant techniques and its application for the betterment of mankind. 3. Students learn about biotechnology application in the field of Agriculture, Industry, Medical…etc. 4. Students get awareness about genetic engineering to meet the present need of industry 5. Students get awareness about genetic engineering to solve present pollution problems.
	ENDOCRINOLOGY	1. It creates curiosity among students in the field of endocrinology 2. Students get knowledge about structure and function of endocrinology systems 3. It provides knowledge about whole body control mechanism by hormones 4. It also provides diseases caused due to hypo and hyper secretion of hormones 5. It enlighten the knowledge on treatment options for imbalanced hormonal functions.

	COASTAL GEOMORPHOLOGY	1. It creates knowledge on coastal geomorphology and coastal environment 2. Student get knowledge on different ecosystems and its interactions 3. The alarming climate change and effects on coastal system will come into light in the mind of students 4. The students develops skills for self-employment in the opened areas like in fishery biology. 5. The relevant knowledge in costal morphology, diversity and ecosystems and their impacts.
	POULTRY FARMING	1. It gives information about the poultry and its importance. 2. It gives an idea for the self- employment opportunities to the students. 3. The role of different research organizations and funding agencies to promote poultry farming. 4. The practical social cost and benefits of poultry farming will be known 5. The students will get firsthand knowledge on processing, packaging and marketing of poultry farming
SEMESTER-III		
	MICROBIOLOGY	1. The students get the awareness on History and Scope of microbiology, Microbial Technology, Microorganisms and Environment, 2. The importance of Food microbiology, 3. Students grasp the knowledge on microbial diseases and treatment. 4. The role of microorganisms in developing the new products for industry use 5. The role of microorganisms products for the self employment and research
	BIOSTATISTICS AND COMPUTER APPLICATIONS	1. This paper is to know the statistical problems in biological science which is useful for the students for their research works. 2. It is to create knowledge on statistical techniques and it application 3. Application of statistics techniques in today modern research 4. It teaches basic of computer application for the research **5.** A basic knowledge in computer and its applications for further research.
	MICROBIOLOGY & BIOSTATISTICS AND COMPUTER APPLICATIONS (P)	1. Practical knowledge about the microbial mechanism from experiments with growth and metabolism. 2. They can able to Identify the problems related to biological sciences and biostatics. 3. The use of computers in biological field. 4. Basic knowledge on the basic components of computers – Mouse, keyboard, light pen, scanner….etc
	RESEARCH METHODOLOGY AND BIOTECHNIQUES	1. It gives knowledge on concept of scientific research 2. It guides for writing research articles to publish in reputed journals 3. This paper is to give information about how to write/publish a thesis and its basic steps.

		4. It deals with microtechniques, immunotechniques and tissue culture techniques. 5. It gives information about cryotechniques
	APPLIED ENTOMOLOGY	1. Enlighten the students on harmful insects and their biology, nature of damage and management measures. 2. Students know about various invertebrate pests which attack our crops and belongings and their management measures. 3. Enlighten the knowledge on Bionomics and Management of selected Insect Pests of Crops 4. Students know information about useful insects. 5. It gives first hand knowledge on managing Insects with resistant Plants
	FISHERY BIOLOGY	1. It is to give information about the culture of fishes and crabs. 2. It gives an idea for the self- employment opportunities to the students. 3. It provides knowledge on wild and culture fisheries 4. It enlighten knowledge on sustainable fisheries for long run 5. The role of different research organizations and funding agencies to promote aquaculture.
	BIOINFORMATICS	1. Students know the bioinformatics and its applications in biological science 2. It usefulness for the students for their research works. 3. It gives idea about bioinformatics tools for biotechnology work 4. It creates awareness about Genome Annotation, Genome Assembly, Structural and Functional Genomics 5. The role of bioinformatics the various bio techniques may be obtained for further research.
SEMESTER-IV		
	ENVIRONMENTAL BIOLOGY	1. Students know the information about the environment of biotic and abiotic factors, 2. It provides knowledge on habitat ecology 3. The importance of bio-geo chemical cycles, Habitat, population ecology, pollution and their control measures. 4. The toxicant related with environment, 5. The toxic effects in different fields and to find out the environmental pollutants.
	IMMUNOLOGY	1. Students obtain knowledge about immune systems, cells of immunity 2. Students get idea on types of Immunity 3. Immune system role in protection of our body. 4. Idea on Antigen, antibody concepts, hypersensitivity, MHC and complement pathways. 5. Different immunological techniques used in the clinical testing.

	ENVIRONMENTAL BIOLOGY & IMMUNOLOGY (P)	Students get practical experience on the following techniques 1. Histology of lymphoid organs in Mouse 2. Preparation of antigen and raising of antibody – RBC and sperm proteins. 3. WIDAL test for typhoid detection 4. RPR test for Syphilis detection 5. Mancini's Single Radial immunodiffusion 6. Ouchterlony's Double immunodiffusion
	SERICULTURE	1. It gives information about the culture of silkworm. 2. It gives an idea for the self- employment opportunities to the students. 3. It enable the students in the field of sericulture techniques 4. It gives confidence on disease management in the sericulture activities a. The role of different organizations and funding agencies to promote Sericulture
	AQUACULTURE	1. It gives information about the culture of fishes and crabs. 2. It creates awareness on different types of culture system and need of sustainable aquaculture 3. It gives an idea for the self- employment opportunities to the students. 4. It gives confidence on disease management in the aquaculture activities 5. The role of different research organizations and funding agencies to promote aquaculture.

DEPARTMENT OF COMPUTER SCIENCE
B.Sc., Computer Science

Programme Outcome

1. Applying the knowledge of science, mathematics and computing in finding the solution for complex scientific problems.
2. Identify the problem; develop logical thinking and problem solving skills.
3. Develop programming skills to solve real world problems.
4. Apply ethical principles, bind to professional ethics and empower to take responsibilities.
5. Develop robust web applications with use of powerful web development tools.
6. Analyze a problem; follow ethics in software designing and software documentation.
7. Develop statistical analysis skill and present the finding
8. Develop self -study skills to program in high level language and tools.
9. Develop soft skills to satisfy industry need and future requirements.
10. Provide exposure on hardware trouble shooting.

Programme Specific Outcome

1. Analyze a problem; follow ethics in software designing and software documentation.

2. Develop statistical analysis skill and present the finding
3. Develop self -study skills to program in high level language and tools.
4. Develop soft skills to satisfy industry need and future requirements.
5. Provide exposure on hardware trouble shooting.

Course Outcome

SNO.	SUBJECT	COURSE OUTCOME
1	PROGRAMMING IN C	**CO1.** Understand the syntax and building blocks of C programming language. **CO2.** Learn various data types, operators in C Language **CO3.** Understand functions, structures, pointers, File Management. **CO4.** Enhance problem solving skill through C programming **CO5.** Explore the standard library functions in C.
2	PROGRAMMING IN C LAB	**CO1.** Learn to write algorithms and draw flowcharts for the given problem. **CO2.** Ability to work withTurbo C editor. **CO3.** Learn to compile, debug, recompile and run. **CO4.** Able to write diversified solutions in C language. **CO5.** Apply logical thinking in problem solving.
3	PROGRAMMING IN C++	**CO1.** Understand Classes and Objects in C++ programming language. **CO2.** Learn Object Oriented Concepts, its Benefits and Applications. **CO3.** Understand constructors, destructors, operator overloading and inheritance. **CO4.** Enhance problem solving skill through C++ programming **CO5.** Explore the standard library functions in C++.
4	PROGRAMMING IN C++ LAB	**CO1.** Learn to write algorithms and draw flowcharts for the given problem. **CO2.** Ability to work withTurbo C++ editor. **CO3.** Learn to compile, debug, recompile and run a C++ program. **CO4.** Able to write diversified solutions in C++ language. **CO5.** Apply logical thinking in problem solving.
5	PROGRAMMING IN JAVA	**CO1.** Learn the basic concepts of Object Oriented Programming and Java Programming constructs like constants, variables, operators and control statements. **CO2.** Understand the concepts of classes, objects, method overloading, inheritance, arrays, strings and vectors. **CO3.** Understand the need for interfaces and how to achieve multiple inheritance in Java and the concepts of Multi-threading by using thread class. **CO4.** Learn the concepts of errors and exceptions, keywords that are used to manage Exceptions and

		various stream classes. **CO5.** Ability to work with Java Applets and AWT.
6	PROGRAMMING IN JAVA LAB	**CO1.** Understand the basic concepts such as function Overloading, array and string manipulation in Java **CO2.** Use utility classes in the real time applications. **CO3.** Identify classes, objects, members of a class and the relationships among them needed for finding the solution to specific problem. **CO4.** Implement interfaces, packages, create threads and assign priorities. **CO5.** Design GUI based applications using Java Applets and AWT along with response to events.
7	NON MAJOR ELECTIVE WOEKING PRINCIPLES OF INTERNET	**CO1.** Understand the basics of Internet. **CO2.** Learn to connect and communicate with Internet. **CO3.** Understand the services of Internet and common Internet Tools **CO4.** Learn to shop on Internet. **CO5.** Learn to secure Internet.
8	DATABASE SYSTEMS	**CO1.** Master the data terminology, differentiate between database system and file system, levels of data abstraction and relationship between entities. **CO2.** Understand the data definition language and data Manipulation Language. **CO3.** Gain knowledge about normalization technique and its play in the database design process. **CO4.** Know the basic transactions and their properties, locking protocols and recovers from crashes. **CO5.** Learn the basics of relational languages and relational database design.
9	DATABASE SYSTEMS LAB	**CO1.** Understand and apply DDL commands on database. **CO2.** Perform operations on table using DML commands. **CO3.** Perform operations such as ordering, string manipulation, set operation and aggregate functions on tables. **CO4.** Understand the nested queries, views and Join operations. **CO5.** Develop PL/SQL procedure for a Banking Enterprise.
10	NON-MAJOR ELECTIVE II FUNDAMENTALS OF INFORMATION TECHNOLOGY	**CO1.**Learn the anatomy of digital computer and its classification. **CO2.**Know the basics of CPU, Memory, Input Devices and Output Devices. **CO3.**Introduction to Programming Language, Operating Systems and Database Management Systems. **CO4.** Learn WWW and internet, E-mail and Web Design.

		CO5. Understand Computer Security.
11	DATA STRUCTURES AND ALGORITHMS	**CO1.** Understand the basic concepts of data structures and Select appropriate data structures for a given problem. **CO2.** Implement linear data structures like stack and queues. **CO3.** Determine and analyze the complexity of various sorting and searching methods. **CO4.** Learn various algorithm designing strategies and apply them to design efficient algorithms. **CO5.** Classify the problem and apply the appropriate design strategy to develop algorithm.
12	COMPUTER NETWORKS	**CO1.** Understand the functions of each layer in OSI and TCP/IP model. **CO2.** Understand the various types of transmission media and their purposes. **CO3.** Describe the functions of data link layer, transport layer and explain the protocols. **CO4.** Classify the routing protocols and analyze how to assign the IP addresses for the given network. **CO5.** Know the functions of Application layer and Presentation layer paradigms and Protocols.
13	DIGITAL ELECTRONICS AND ITS MICROPROCESSOR	**CO1.** Understand the basics of number systems, Logic Gates and Circuits. **CO2.** Understand the basics of Boolean algebra and Boolean functions. **CO3.** Understand adders, multiplexers, decoders, encoders, flip-flops, counters and registers. **CO4.** Understand the processor architecture and Intel 8085 instruction cycle. **CO5.** Understand the instruction set of Intel 8085, develop assembly language programs.
14	DIGITAL ELECTRONICS AND ITS MICROPROCESSOR LAB	**CO1.** Understand Logic gates and design circuits to verify the gate outputs. **CO2.** Construct half and full adder using digital kit. **CO3.** Understand 8085 microprocessor kit, knowledge of 8085 instruction set and ability perform Addition and subtraction. **CO4.** Write an ALP to find the biggest number in an array. **CO5.** Perform sum of series for a given set of numbers.
15	SOFTWARE ENGINEERING	**CO1.** Understand the fundamental concepts of software model, design and testing. **CO2.** Propose Software Requirements Specification for a project using formal specification techniques. **CO3.** Learn the Object oriented concepts and the role of UML in OO Design. **CO4.** Familiarize software coding and the various

		software testing tools. **CO5.** Understand Web Engineering.
16	OPERATING SYSTEMS	**CO1.** Understand the basics of Operating System. **CO2.** Understand the memory management policies and allocation. **CO3.** Learn Process scheduling algorithms, deadlocks and multiprocessing. **CO4.** Understand the I/O management and disk scheduling. **CO5.** Learn File management.
17	PROGRAMMING IN PHP	**CO1.** Learn the operators, strings and arrays in PHP. **CO2.** Understand how to create functions, reading data in web pages. **CO3.** Learn advanced object oriented programming **CO4.** Working with database. **CO5.** Develop application using AJAX to communicate and exchange data to and from server and database.
18	PROGRAMMING IN PHP LAB	**CO1.** Learn how to configure PHP and APACHE web server. **CO2.** Able to connect any ODBC compliant database. **CO3.** Able to design and develop dynamic web applications **CO4.** Capable of working with MYSQL, designing HTML forms and reports. **CO5.** Develop application using AJAX to communicate and exchange data to and from server and database.
19	COMPUTER GRAPHICS	**CO1.** Understand the basic principles of implementing computer graphics primitives. **CO2.** Familiarity with algorithms for modeling such as line drawing algorithm, circle drawing algorithm etc., **CO3.** Develop design and problem solving skills with application to computer graphics. **CO4.** Define the fundamentals of animation, virtual reality and their related technologies. **CO5.** To design an application with the principles of virtual reality.
20	CLOUD COMPUTING	**CO1.** Understand cloud computing, its types and working. **CO2.** Acquire knowledge cloud computing architecture and virtualization. **CO3.** Understand data storage and the cloud services **CO4.** Understand the risks in cloud computing, data security in cloud and cloud tools. **CO5.** Learn the various cloud applications.

21	MINI PROJECT	**CO1.** Learn to design the problem solutions as per the requirement analysis is done. **CO2.** Acquire knowledge within the chosen area of technology for project development. **CO3.** Identify, discuss and justify the technical part of the chosen project with a comprehensive and systematic approach. **CO4.** Learn to work as an individual or in a team in development of technical projects. **CO5.** Communicate and report effectively project related activities and findings.
22	LINUX LAB	**CO1.** Learn to work with Linux operating system. **CO2.** Understand the basic set of commands and editors in Linux. **CO3.** Learn to work with GEDIT editor. **CO4.** Ability to solve problems using shell programming. **CO5.** Learn to compile, debug and run a shell program.

M.Sc. COMPUTER SCIENCE

Program Outcome

1. Ability to apply the theoretical knowledge of Mathematics and Computational Sciences to model and solve real-world problems.
2. Ability to understand, analyze and design efficient algorithms.
3. Ability to design web applications.
4. An ability to design efficient protocols for advanced communication technology.
5. Acquire knowledge of Data mining and warehousing.

Programme Specific Outcome

1. Ability to identify, classify the attacks and secure the network.
2. .In-depth knowledge of foundations of computing
3. Ability to understand and solve emerging research problems.
4. Develop programming skills to implement research projects.
5. Ability to be a multi-skilled individual with good technical knowledge and leadership qualities.

Course Outcome

SL.NO	SUBJECT	COURSE OUTCOME
1	MATHEMATICAL FOUNDATION FOR COMPUTER SCIENCE	**CO1**.Comprehend and evaluate mathematical arguments revolving around computation. **CO2.** Understand the basics of Permutationsand Combinations. **CO3**. Represent relations, matrices and digraphs. **CO4**. Apply the knowledge of Graphs and Trees to real world applications. **CO5.**Gain knowledge on testing of hypothesis
2	WEB TECHNOLOGIES	**CO1**.Understand fundamental concepts of Internet, Internet technologies. **CO2.**Learn the syntax, operators, expressions,

		constructs and functions of JavaScript. **CO3.** Learn to differentiate XML and HTML, to integrate XML with other applications. **CO4.** Understand the basics of JSP and Java Beans. **CO5.**Gain the core knowledge of ASP and connecting to Microsoft SQL Server.
3	DESIGN AND ANALYSIS OF ALGORITHMS	**CO1.** Learn the various Elementary Data Structures and its applications. **CO2.** Learn various algorithm designing strategies and apply them to design efficient algorithms. **CO3.** Study the problem and design the algorithms related to these problems. **CO4.** Classify the problem and apply the appropriate design strategy to develop algorithm. **CO5.** Design algorithm in context of space, time complexity and apply asymptotic notation.
4	DISTRIBUTED OPERATING SYSTEMS	**CO1.**Learn the basics of distributed operating systems. **CO2.**Understand message, passing, synchronization and group communication. **CO3.**Acquire knowledge on distributed share memory and deadlock. **CO4.**Understand distributed file system and file sharing semantics. **CO5.**Acquire knowledge on attacks, cryptography, access control and digital signatures.
5	WEB TECHNOLOGIES LAB	**CO1.**Learn to work with HTML, XML, JSP and ASP. **CO2.**Able to write JavaScript code blocks. **CO3.**Able to write JSP program for authentication, shopping cart and store bio-data in database. **CO4.**Learn to use response and request object in ASP. **CO5.**Understand the AdRotator component and database connectivity in ASP.
6	OOAD&UML	**CO1.**Learn the basics of Object Oriented systems development and life cycle. **CO2.**Understand the various object oriented methodologies. **CO3.**Learn use cases, object classification, relationships. **CO4.**Understand basics of object oriented design. **CO5.**Learn the basics of UML diagrams.
7	DISTRIBUTED TECHNOLOGIES	**CO1.**Learn distributed technologies, Dot Net and Java Technologies. **CO2.**Understand the role of ADO NET in distributed applications. **CO3.**Learn the advanced ASP.NET and use of

		controls in website development. **CO4.**Learn security and mobile application development in ASP **CO5.**Learn to access web services , connect a web service to a database.
8	DISTRIBUTED TECHNOLOGIES LAB	**CO1.**Create a table, insert few records, update and delete records. **CO2.**Develop a project to view the records using GridView, DetailsView and Formview controls. **CO3.**Design a web page using Ad Rotator control, wizard control and image control. **CO4.**Develop a web service that has an ASP.NET client. **CO5.**Develop a web service to fetch a data from a table and send it to a client.
9	DATA MINING AND WARE HOUSING	**CO1.** Learn the basic concepts of data mining and warehousing. **CO2.** Understand data cleaning, integration, transformation and classification. **CO3.** Understand and analyze the clustering algorithms. **CO4.** Acquire knowledge on online analytical processing. **CO5.** Learn to design and develop a data warehousing schema for applications.
10	COMPILER DESIGN	**CO1.**Understand design and implementation phases of compiler. **CO2.**Acquire knowledge on parser by parsing LL parser and LR parser. **CO3.**Learn to construct syntax trees. **CO4.**Understand runtime environment and intermediate code generation. **CO5.**Understand optimization of codes.
11	DATA MINING LAB	**CO1.**Learn to create data sets and preprocess the given data. **CO2.**Learn to apply filters and perform feature selection using data mining tool. **CO3.**Understand and apply classifier using data mining tool. **CO4.**Perform clustering using data mining tool. **CO5.**Learn to apply association rule mining.
12	CLOUD COMPUTING	**CO1.**Learn the basics of cloud computing and understand the importance of virtualization. **CO2.**Understand infrastructure as a service and secure distributed data storage in cloud computing. **CO3.**Understand Platform as a service, technologies and tools. **CO4.**Understand Map Reduce programming model

		and implementations. **CO5.**Acquire knowledge on security in cloud and basics of SLA.
13	WIRELESS SENSOR NETWORKS	**CO1.**Learn the basics of wireless networks and wireless generations. **CO2.**Understand the architecture of wireless sensor networks. **CO3.**Acquire knowledge on MAC protocols for wireless sensor networks. **CO4.**Understand the topology control, clustering, time synchronization and sensor tasking in WSN. **CO5.**Learn the wireless sensor network platforms and tools.
14	OPEN SOURCE LAB	**CO1.**Design a web page for shopping cart. **CO2.**Learn to write a PHP program to access the data stored in MYSQL. **CO3.**Learn to write a PHP program using classes to a create a table. **CO4.**Learn to write a Shell program to change the extension of a given file. **CO5.**Create a MYSQL table to execute queries to read, add, remove and modify a record from the given table.
15	PROJECT WORK	**CO1.**Survey on various methods in their research domain. **CO2.**Understand the merits and demerit of earlier approaches. **CO3.**Identify the problem from the series survey. **CO4.**Understand the software development process, models and software engineering principles and develop an ability to apply them to software design of real life problems. **CO5.**Publish the survey or review or work papers in the peer reviewed Journals.
16	MOBILE COMMUNICATION	**CO1.**Understand the need for mobile computing and its basics. **CO2.**Understand GSM, architecture and protocols. **CO3.**Learn more about Wireless LAN. **CO4.**Acquire knowledge on Mobile IP, adhoc networks and routing strategies. **CO5.**Learn Wireless Application Protocol and its architecture.
17	ARTIFICIAL INTELLIGENCE	**CO1.** To analyse and formalize the problem as a state space, graph, design heuristics. **CO2.** Develop skill to represent solutions for various real-world problem domains using logic based Techniques. **CO3.** Understand the various applications and huge possibilities in the field of AI.

		CO4. Learn how to represent knowledge using rules. **CO5.** Ability to convey the ideas in AI research and programming language related to emerging technology.
18	PARALLEL PROCESSING	**CO1.**Learn the basics of Parallel Processing **CO2.**Understand the memory and input-output subsystems. **CO3.**Understand the principles of pipelining and vector processing. **CO4.**Learn the Vectorization and Optimization methods. **CO5.**Acquire knowledge on Parallel Memory Organizations and multiprocessor scheduling strategies.
19	ADVANCED COMPUTER ARCHITECTURE	**CO1.** Learn the various parallel computer models. **CO2.** Understand the conditions of parallelism and program flow mechanisms. **CO3.** Know the advanced processor technology and various types of processors. **CO4.** Understand Multiprocessor and multicomputer. **CO5.** Study the various software used for parallel programming
20	NETWORK SECURITY	**CO1.** Gain knowledge to identify and classify the attacks. **CO2.** Understand symmetric ciphers and can encrypt and decrypt a given message. **CO3.** Create digital signatures with the help of various algorithms. **CO4.** Learn various authentication techniques and secure electronic mail, IP and web. **CO5.**Impart knowledge on Intruders, malicious software and firewalls.
21	MANET	**CO1.** Learn the basics of Adhoc wireless networks. **CO2.** Ability to identify and classify the Adhoc wireless routing protocols. **CO3.** Understand, identify and classify the multicasting routing protocols. **CO4.** Identify the security issues in adhoc networks and implement secure routing protocols. **CO5.** Gain knowledge on Cross Layer Design and integration of Adhoc for 4G.
22	DIGITAL IMAGE PROCESSING	**CO1.**Learn the fundamental concepts of Image processing. **CO2.**Understand and review the image transforms. **CO3.**Learn different image enhancement techniques. **CO4.**Acquire knowledge on Image restoration. **CO5.**Understand the basic algorithms used for image data compression and projection.

DEPARTMENT OF CHEMISTRY

B.Sc., CHEMISTRY

Programme Outcomes

1.Student after completing the course would have fortified their ability in the field of chemical anlysis by their exposure to the sophisticated analytical instruments.
2 .The advanced and uploaded syllabi of the course will equiped the students so face the employment challenges and in still confidence to turn into entrerprennuer
3.The curriculam of this course kindle the students enough interest to step into the research carrier
4.Create an awareness of impact of Chemistry on the environment, society, and development outside the scientific community
5.Demonstrate,solve and an understanding of major concepts in all discipline of Chemistry.
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Programme Specific Outcomes

1.Students will understand the existence of matter in the universe as solids,liquids and gases.

2. Students will learn to estimate the Inorganic salt mixttures and Organic compounds both qualitatively and quantitatively using the classical methods of analysis in practical classes.

3. Students will grasp the mechanism of different types of reaction both organic and inorganic and will try to predit the products of unknown reaction.

4. Sudents will learn to synthesize the chemical compunds by maneuvering the addition of reagents under optimum reaction conditions.

Course Outcome

S.No.	**COURSE**	**COURSE OUTCOME**
B.Sc., CHEMISTRY **(SEMESTER I)**		
1	GENERAL CHEMISTRY I	CO1: Understand that elements are placed on the on periodic table due to similar properties CO2: Design an analytical work flow to occurs data and archive the research objectives of their project. CO3: Predict And Explain Patterns In Shape Structure Bonding Hybridization Formal Charge Stability, And Reactivity For Hydrocarbon. CO4: To Study About NomeinClature Synthesis, Isomerism And Physical Properties Of Alkanes And

		Cycloalkanes Co5: The course aim to provide basic knowledge of surface and colloidal chemistry from a physical chemical perspective
B.Sc., CHEMISTRY **(SEMESTER II)**		
2	GENERAL CHEMISTRY II	CO1: Understand The Common Themes Running Through Ionic, Covalent , Metallic Discription Of Chemical Bonding CO2: Recal the structures properties , applications and the chemical reactivity of s block and zero group elements CO3: Learning about fused rings, understand the how fused rings or classified, Learn about the aromaticity of the fused ring CO4: Have a deep understanding of the mathematical foundation of quantum mechanics, understand the effect of symmetries in quantum mechanics
B.Sc., CHEMISTRY **(SEMESTER III)**		
3	GENERAL CHEMISTRY III	CO1: To understand the structure, nomenclature, reactivity and properties of p block elements. CO3: Differentiate chiral achiral molecule

		and recognize stereoisomers including racemic mixture enantiomers and meso compounds. CO4: Describe solids , liquids, gasses, and changes of state using the particle model CO5: Properties of liquid crystals and how these material's are used in modern displays technologies.
6		
B.Sc., CHEMISTRY **(SEMESTER IV)**		
7	GENERAL CHEMISTRY IV	CO1: in order to study transition metals to understand the trends in properties and reactivates of d block element. CO2: To understand the stability and reactivity simple organometallic complexes. CO3: Lean the structure and properties of alcohols, ethers and phenols CO4: Develop understanding of mass energy heat work efficiency ideal and real thermodynamics cycles. CO5: To Understand the concept of mechanism and using rate law data predict whether or not a proposed mechanism is visible or not.
B.Sc., CHEMISTRY **(SEMESTER V)**		
9	INORGANIC CHEMISTRY-I	CO1:. To understand the nomenclature, classification, properties and preparations of coordination compounds. CO2:. To understand the concepts of metal ligand bonding in transition complex compounds.To Recognize the bonding in transition compounds by VBT and CFST theories and to predict the geometry of coordination compounds CO3:. To understand the thermodynamics and kinetic aspects of metal complexes. To understand the recognize the biological

		reaction of nitrogen fixation, hemoglobin and myoglobin CO4: To understand the chemistry of organometalic compounds, homogenous hydrogenation and carbonyls. CO5: TO recogonize the Classification of nitrosyl chloride ,sodium nitroprusside and able to know the preparation, properties, magnetic susceptibility and magnetic moment.
10	ORGANIC CHEMISTRY-I	CO1: -To understand how to name different aldehydes ketones, the reactivity of different carbonyl compounds towards nucleophillic reaction. To understand how to write the products of addition reaction to carbonyl compounds. CO2:-To understand the methods for preparation carboxylic acid.. To understand the structure of carboxylic acid and their derivatives. nt carboxylic acid derivatives CO3: To understand to differentiate between primary, secondary and tertiary amines. Able to recognize the reactivity of substituted aromatic amines CO4:- The main aim of Heterocyclic compounds study is to develop novel, efficient, convenient, selective and environmentally benign synthetic methods in organic chemistry. . The students will be aware about most of drugs in the present market are the compounds containing various heterocyclic moieties CO5:- Understand the concept of oxidation & reduction, oxidizing agent, reducing agent
11	PHYSICAL CHEMISTRY	CO1- To make students familiar with a broad variety of photochemical systems and their applications and to learn depth knowledge about group theory.

		CO2-To Understand and correctly use thermodynamic terminology and able to Define the concepts of heat, work, and energy. To Explain fundamental thermodynamic properties. To Derive and discuss the first law of thermodynamics CO3 - To Develop and discuss the second law of thermodynamics and to Analyze basic thermodynamic cycles To design practical engines by using thermodynamic cycles; predict chemical equilibrium and spontaneity of reactions by using thermodynamic principles. Van't Hoff isotherm, Clausius – Clapeyron equation and Nernst heat theorem CO4- To learn depth knowledge about solution and its colligative propertyies CO5- To impart the students the knowledge on phase rule, its applications and alloys, their importance, composition and applications. Defines the importance of Phase Diagrams in the field of materials science and engineering
	ANALYTICAL CHEMISTRY	CO1:- To know the storage and handling of various chemicals and first aid procedures- Performing risk assessment of chemical experiments and chemical analytical activity CO2: - Be familiar with calculations in analytical chemistry, be able to calculate titration errors for method evaluation, and perform statistical evaluation of results from classical and instrumental chemical experiments and analyses. CO3:. The student should be able to: - Explain the theoretical principles and important applications of classical analytical methods within titration (acid/base titration, complexometric titration, redox titration), and various techniques within gravimetric and colorimetric methods CO 4: To learn visible spectrophotometry and colorimetry. CO5: To know the various electroanalytical techniques of selected instrumental methods within electroanalytical and

		spectrometric/spectrophotometric methods
B.Sc.,CHEMISTRY **(SEMESTER VI)**		
	ORGANIC CHEMISTRY II	CO:1. Learning objectives know then glycosidic bonds for the acetol and ketol bonds CO:2 Describe them digestion and metabolism of the nonenergy nutrients. CO:3 At end of the course students will be able to chemistry of natural products. CO:4 Understands the back ground of organic reaction mechanisms, complex chemical structure, molecular rearrangements and separation technies CO:5 To understand correctly deduce the structure of an unknown organic molecule from a set of spectra
16	PHYSICAL CHEMISTRY II	CO:1. Determine the magnitude of electrical quantize like resistants, conductance, capacitance. CO:2Students are able to recoganize and balance oxidation-reduction reactions,different types of electrochemical cells CO:3 understand the junctioning of catalytic systems for chemical synthesis with particular emphasis on catalysis at surfaces CO:4 adapt learnt knowledge for multi atom molecules,discribe absorbtions rules and infrared spectroscopy CO:5compare results of infrared and raman spectrum measurments after formulating physical rules on them
17	NUCLEAR,INDUSTRIALCHEMISTRY&METALLICSTATE	CO1:. To know the fundamentals and Basic knowledge of nuclear structure, stable and unstable atomic nuclei, nuclear reactions and different modes of radioactive decay and also methods for measurements of radioactivity. . CO2:. To understand the applications of nuclear chemistry and The fundamentals of radiochemistry, and applications of these in measuring technology CO3:. To study the metallic bond, theories and applications.

		CO4: To understand the applications of inorganic polymers. CO5: Make the students well-grounded in the principles and through knowledge of scientific techniques of industrial Chemistry. TO Educate and train Chemists to acquire a meaningful picture of Chemical industries.
18	POLYMER CHEMISTRY	CO:1.indicate how the properties of polymeric materials can be exploited by a product designer CO:2students will be able to understand the relationship between polymer molecular weight, molecular weight distribution and the peroperties of polymeric materials CO:3students will be able to molecular spectroscopic techniques and electron microscopy CO:4understand the basic concept of chemical reaction and polymerization reactions involved in the macromolecules CO:5students will be able to discribe the between chemical structure and polymer properties.

M.Sc., CHEMISTRY

Programme Outcomes

1. The students after completing the course would have fortified their ability in the field of chemical analysis.

2. The advanced and updated syllabi of this course will equip the students to face the employment challenges and instill confidence to turn into entrepreneur.

3. The curriculum of this cours kindle the students enough interst to step into the research career.

4. Work in the pure interdisciplinary and multidisciplinary areas of chemical sciences and its applications.

5. Analyze data obtained from sophisticared instruments(likeUV,Vis,fluorescence,FTIR,NMR,GCMS,HPLC,and TGA) for the structure determination and chemical analysis.

6. Apply green chemistry approach towards planning and excecution of research in frontier areas of chemical sciences.

Program Specific Outcomes

1.Gains complete knowledge about all fundamental aspects of all the elements of chemistry**.**

2.Understands the background of organic reaction mechanisms, complex chemical structures,instrumetal method of chemical analysis, molecular rearrangements and separation techniques.

3. Appreciates the importance of various elements present in theperiodic table, coordination chemistry and structure of mkolecules, properties of compounds, structural determination of complexes using theories and instruments.

4.Gathers attention about the physical aspects of atomic structure, dual behavior, reaction pathways with respect to time, varioue energy transformations, molecular assembly in nanolevel, significance of electrochemistr, molecular segregation using their symmetry.

5. **L**earns about the potential uses of analytical industrial chemistry, medicinal chemistry and green chemistry.

6. Carry out experiments in the area of organic analysis, estimation, separation, derivative process, inorganic semi micro analysis, prepatation, conductometric and potentiometric analysis.

Course Outcome

S.No.	**COURSE**	**COURSE OUTCOME**
M**.Sc.,** CHEMISTRY **(SEMESTER I)**		
	ORGANIC CHEMISTRY I	CO1: Recognize and distinguish between aromatic and antiaromatic compounds by the structure. CO2: To identify intermediates formed in given reaction and able to write mechanisms for molecular rearrangements CO3: Determine the configuration in E and Z isomers factors affecting the stability and reactivity of conformation. CO4: To explain the concept of photochemistry and study Beer lambert law CO5: Explain pericyclic reaction like electrocyclic reaction, cycloaddition reaction and sigmatropic reaction
2	INORGANIC CHEMISTRY I	CO:1 Understand the common themes running through ionic covalent and metallic description of chemical bonding. CO:2 learning outcomes discuss the properties of coordination compounds , theory and werner complexes CO:3 The crystal field theory modification to ligand and

		field theory and MO theory for bonding in transition metal complexes CO:4 Describe various metal ligand interaction in terms of sigma and pi bonding interaction CO:5 To understand the theoretical principles controlling rate and probability of light absorption and subsequent photophysical and photochemical reactions.
3	PHYSICAL CHEMISTRY I	CO1: To understand the use the terms homomorphism and isomorphism CO2: The basic principles and concept of quantum mechanics CO3: To determine rate law of chemical change based on experimental data CO4: The macroscopic and microscopic state contact between statistics and thermodynamics CO5: To understand and explain the concept of ionizing radiation and distinguish between three different types of radiation
M.Sc., **CHEMISTRY(SEMESTER II)**		
4	INORGANIC CHEMISTRY II	CO1: It provides a general a overview of the fundamental task objectives based on coordination chemistry. CO2: Learning kinetics of enzymes catalyzed reaction and enzymes inhibitions and regularly proses. CO3: To understand the bioinorganic chemistry of hemoglobin, myoglobin. CO4: It have a good overview of the fundamental principles of organotransition metal chemistry. CO5: Interestingly this catalyst were also active for the reverse reaction, oxidation of alcohol in water.
5	PHYSICAL METHODS IN CHEMISTRY I	CO1: To understand rotational, vibrational, Raman and electronic spectra. CO2: Interpret EPR spectrum of coordination complexes and obtain idea about oxidation state of metal ion and ligand field. CO3: Explain record and interpret the UV visible and IR spectra form structural analysis and kinetic study CO4: The objective of this course is to import understanding of the reactive atomic absorption spectroscopy. CO5: Independent collection of single crystal XRD data evaluation of crystals, diffraction data and their suitability for single crystal structure analysis.
6	(A) SOLID STATE CHEMISTRY	CO1: To understand the synthetic templates have been utilized to construct cocrystals that enable a class of hitherto underdeveloped organic solid state reaction. CO2:To provide students the theoretical and practical

		knowledge in the field of metal-organic frame work materials. CO3: To understand the ion exchange reaction, synthesis new metastable phases by chimie douce CO4: Comprehend magnetization in the matrial and the between the magantic properties and the electronic configuration materials. CO5: It is explain bonding in metal complexes' and the magnetic behavior of complexes and its application.
M.Sc., **CHEMISTRY (SEMESTER** I**II)**		
7	ORGANIC CHEMISTRY II	.CO1: In the same way the outcome of the reaction such as nucleophilic substitution depends on many reactant. CO2: Be able to outline the completed electrophilic substitution reaction as halogenation, nitration and sulphonation CO3: Distinguish between addition, elimination and some named reactions. CO4: To understand the importants of hetrocyclic in biological systems and in pharmaceuticals. CO5: To learn the different types of alkaloids, glycosides and terphenes.
8	PHYSICAL CHEMISTRY II	1.CO1: An account form the basic principles and concept of quantum mechanics and atomic molecular structure. 2.CO2: To define the term over potential explain its origin and then relationship between current and potential for some types of electrochemical cells 3.CO3: Be able to identify and oxidation and reduction reaction. 4.CO4: Describe interactions between colloidal particle and explain colloidal stability and instability. 5.CO5: To develop understanding of mass, energy, heat, work, efficiency, ideal and real thermodynamic cycles and process
9	(B) BIO-ORGANIC CHEMISTRY	CO1: Couse level learning out comes for suggested course manufacture of various biological products like amino acids, protein and hormones. CO2: Kinetics and role of coenzymes /cofactors and overview of industrial applications of enzymes. CO3: To able definition, classification structure and properties of fatty acids. CO4: The energy is essential for biological process of living and this course will examine energy process with in the body. CO5: To led and analog synthesis by group disconnection approach.
10	ANALYTICAL	CO1: To give basic knowledge of instrumental methods of

	CHEMISTRY	chemical analysis and train students to perform in practical works. CO2: Have basic awarance of and hypothesis testing procedures, parameter, sampling distribution, errors etc. CO3: To determine appropriate chromatographic and Approach for analysis. CO4: To introduce concepts of various analytical technics thermodynamics equation of state, Maxwell reactions free energy and entropy CO5: Recognize the electrochemical process evaluate electrodes and cells.
M.Sc., **CHEMISTRY (SEMESTER** IV**)**		
11	PHYSICAL METHODS IN CHEMISTRY II	CO1: Examine in the electronic spectra of diatomic and poly atomic molecules, construct representation of point groups, term symbols for atoms and molecules CO2: To examine the optical component's and molecular structure determination by vibrational spectroscopy. CO3: Apply quantum mechanical model systems to handle the interaction of atoms and molecules with electro magnetic radiation. CO4: Able to describe molecular vibration with the interaction of matter and electromagnetic waves. To examine in the substance in terms of electric and maganetic properties. CO5: Explain and identify radiative and nonradiative relaxation processes of excited molecular states.
12	GREEN CHEMISTRY	CO1: Students learn the basic principles of green and sustainable chemistry. CO2: To identify addition reaction for alkenes and alkynes CO3: Students should be able to redox as to determine oxidation and reduction process. CO4: To understand alkylene hydrolysis in the presence of phase transfer catalysis. CO5: Then aim of the course is to develop knowledge of practical experiments with sonification
13	SELECTED TOPICS IN CHEMISTRY OBJECTIVES	CO1: To understand the different theory of chemical kinetics. CO2: Able to mechanism of various type of organic reactions. CO3: Indented learning outcomes explain basic hemo, regio and stereo selective concepts and apply this in synthesis. CO4: Use the essential description about polymer chemistry. CO5: To understand nuclear structure stability, decay, nuclear reactions.

DEPARTMENT OF BIOCHEMISTRY

B.Sc., BIOCHEMISTRY

Programme Outcomes

1. Think in a creative and innovative manner.
2. Know when there is a need for information, to be able to identify, locate, and effectively use that information for the issue or problem at hand.
3. Understand the structure and functions of biomolecules like carbohydrate, lipids and proteins.
4. Acquire good knowledge and understanding in advanced areas of biochemistry, chosen by the student from the given courses.
5. Understand, the biochemistry and they able to identify the functions and properties of biomolecules
6. Apply the concepts studied, in real life situation.

Programme Specific Outcomes

1. Mastery of specific macromolecules concepts (Carbohydrate, Protein, Lipid).
2. Will gain the ability to understand and deal with abstract concepts.
3. Ability to understand the Vitamins and Nucleic acid concepts effectively.
4. Ability to think critically and creatively.
5. Analyze the macromolecules principles effectively.
6. Ability to solve problems which are modeled.
7. Ability to progress independently and ethically.

Course outcome

S.No	Course	Course outcome
B.Sc., BIOCHEMISTRY (SEMESTER I)		

1.	BIOMOLECULES	**1.** Understand the concept of differentiability of functions and successive differentiation. **2.** Know the concept of structure and function of biological macromolecules. **3.** Knowledge in the quantitative and qualitative estimation of biomolecules. **4.** Understand the concept of relation between micro molecules and macromolecules. **5.** Understanding on the role of biomolecules and their function
B.Sc., BIOCHEMISTRY (SEMESTER II)		
2	HUMAN PHYSIOLOGY	1. Know the structure of major human organ and their roles in the maintenance of individuals. 2. Understand and knowledge of the general terminology, how organs and cells interact to maintain biological equilibria in the face of a variable and changing environment. 3. Understand the basic mechanism of heart, muscle, brain, kidney and osmoregulation 4. Evaluate information on human health and medical research related to its social, environmental, and ethical implications as a responsible member of society. 5. Use scientific laboratory equipment in order to gather and analyze the data on human anatomy and physiology.
B.Sc., BIOCHEMISTRY (SEMESTER III)		
3	BIOCHEMICAL TECHNIQUES	

		1. Identifying the techniques for implementation of research ideas at molecular levels **2.** Understand the various principles techniques in biological research. **3.** Know the concepts of the various techniques will generate and test hypotheses, analyze data using statistical methods where appropriate, and appreciate the limitations of conclusions drawn from experimental **4.** Finding and isolating the macromolecules by using the biochemical techniques. **5.** Significantly enhances the employability of the candidates in Biotechnological, Pharmaceutical Industries and Analytical Laboratories and research Institutes.
B.Sc., BIOCHEMISTRY (SEMESTER IV)		
4	ENZYMES	**1.** Understand the basic theories of enzyme kinetics **2.** Known about the components of a metabolic pathway **3.** Know about the mechanism of enzyme catalysis, mechanism and enzyme regulation in the cell. **4.** Understand the methodology involved in assessing the enzyme activity and mechanism of enzyme action **5.** Understand the principles and applications ofenzymes as a marker in clinical diagnosis
B.Sc., BIOCHEMISTRY (SEMESTER V)		

5	BIOENERGETICS AND METABOLISM	**1.** Understand the concepts of bioenergetics **2.** Understand the mechanism of oxidative phosphorylation. **3.** Knowledge in the metabolism of macromolecules **4.** Understand the concepts of carbohydrate, protein, lipid and nucleic acid metabolism. **5.** Understand the synthesis and breakdown molecules of purine and pyrimidine
6	CELL AND MOLECULARBIOLOGY	**1.** Understand and appreciate the diversity of life as it evolved over time by processes of mutation, selection and genetic change. **2.** Understand the basic structural and functional organization of cell, organization of Genes and chromosomes, chromosome morpholoogy and its aberrations **3.** Understanding of the function of various subcellular organelles **4.** Known the concept of replication, transcription and translation. **5.** Understand the molecular biology and become aware of the complexity and harmony of the cells
7	MICROBIOLOGY	**1.**Understand the basic concept of microbiology with the discovery of antibiotics and their targets **2.** Understand the structure of different kinds of micro organisms and their isolation and Characterization

		3. Understand the importance of microorganisms as model systems in genetics and Biochemistry **4.** Understand the microbes of fight againstmajor killer diseases – tuberculosis, HIV andmalaria **5.** Known about the drug/antibiotic resistance, preventive and therapeutic approaches of infectious diseases
8	PHARMACEUTICAL BIOCHEMISTRY	**1.** Understand the fundamental principles on cultivation, collection processing and evaluation of medicinal plants **2.** Known about action of drugs on living systems **3.** Understand the absorption, distribution, metabolism, excretion and toxicity properties of drugs **4.** Understand the phyto-chemical screening techniques and able to identify the phyto-constitutes of plants. **5.** Understand the concepts of the herbal drug interactions.
9	IMMUNOLOGY	1. Compare and contrast innate and adaptive immunity 2. Known which cell types and organs present in the immune response 3. Understand the reasons for immunization and aware of different vaccination

		4. Understand various mechanisms that regulate immune responses and maintain tolerance. **5.** Understand the basic techniques for identifying antigen antibody interactions
10	CLINICAL BIOCHEMISTRY	1. Know the fundamental biochemistry knowledge related to health 2. Know the clinical aspects of various metabolic disorders 3. Understand the significance of diagnostic bio chemistry 4. Know about the normal constituents of urine, blood and their significance in maintaining good health 5. Understand the mechanisms of causation of diseases of liver and kidney
11	ENDOCRINOLOGY	1. Understand the roles of the endocrine system in maintaining homeostasis, integrating growth and development 2. Understand the different classes and chemical structures of hormones 3. Understand the hormones transported in the blood and the consequences of the reversible binding of many hormones by plasma proteins 4. Understand the roles of hormone receptors in hormone action including

		their location, type and signallingpathways. **5.** Understanding the molecular, biochemical and physiological effects of hormone on cells and tissues
12	BASIC BIOTECHNOLOGY	1. Understand the technological aspect applied to molecular and microbial biology 2. Understand the roles of the basic unit of the organism 3. Know the concepts of biotechnology in environmental management 4. Understand the scientific and technological knowledge on the use of bioprocesses for industrial products 5. Know the functioning of life at cellular Level

M.Sc., BIOCHEMISTRY

Programme Outcomes

1. Students will learn to think critically about biochemistry and understand the basic principles and composition of micro-molecules.
2. Capacity to identify, analyze and design safe experimental process to provide efficient solutions by fair interpretation of data
3. Will gain the ability to understand and deal with abstract concepts.
4. Knowhow on current developments in the biochemical research
5. A strong understanding of fundamentals of biochemical process at an advanced level.
6. After completion of Biochemistry program students will able to get exposed to strong theoretical and practical background in fundamental concepts
7. To demonstrate professional and ethical attitude with enormous responsibility to serve the society.

Program Specific Outcomes

1. Comprehending fundamental concepts in modern biology to meet the emerging trends
2. Developments of analytical and Cognitive skills in Biochemistry that allow independent exploration of biological science through research methods.
3. Development of practical laboratory skills and strong speculative foundation inthe cross over discipline of Chemistry, Microbiology & Bioinformatics
4. Understanding of the applications of Biochemistry in various fields such asClinical Biochemistry, Genetic Engineering, Molecular biology & Biotechnology.
5. An ability to translate knowledge of biochemistry to address environmental, intellectual, societal and ethical issues through case studies presented in the class.

Course Outcome

S.No.	COURSE	COURSE OUTCOME
M.Sc., BIOCHEMISTRY (SEMESTER I)		
1.	CHEMISTRY OF BIOMOLECULES	**1.** Students will be able to demonstrate an understanding of fundamental biochemical and principles **2.** Discuss in detail about structure and function of biomolecules, metabolic pathway and regulation of biological and biochemical process. **3.** Learn the molecular structures of 20 amino acids, differentiating essential and non-essential amino acids, biologically important modified amino acids and their functions **4.** Recognize the structural levels of organization of proteins,3Dstructure of proteins, its functions, denaturation (hemoglobin, myoglobin etc.). **5.** Describe/recognize lipid and porphyrin structures, lipoproteins and functions of porphyrins (heme, chlorophyll etc.).

2.	ANALYTICAL TECHNIQUES	**1.** Exhibit a knowledge base in handling different chromatographictechniques and knowing the sequences of different proteins **2.** Capable to choose and apply suitable separation techniques to identifydifferent biomolecules. **3.** Understand the difference between UV visible and fluorescencespectroscopy and colorimetry **4.** Learn fundamental principles behind centrifugation andelectrophoresis and apply them practically. **5.** To differentiate between paper, ion exchange and affinitychromatography, calculate Rf value from a chromatogram
3	ENZYME AND ENZYME TECHNOLOGY	**1.** To understand the structure, functions and themechanism of action of enzymes **2.** Learning kinetics of enzyme catalysed reactions and enzyme inhibitions and regulatory process, Enzyme activity, Enzyme Units, Specific activity **3:** To perform immobilization of enzymes and understand the wideapplications of enzymes and future potential. **4:** Relate the entropy to law of thermodynamics and Free energy and its relation to chemical equilibria **5.** To gain knowledge on enzyme catalysis and isoenzymes and on multienzyme and multienzyme complexes.
4.	CELL BIOLOGY ANDPHYSIOLOGY	**1.** Acquire knowledge on basic concepts of biology like cell, and themolecules in the extracellular matrix, their function in signaling.. **2.** To known the composition and functions of blood, plasma proteinsin health and disease **3.** Understand physiology of various systems in Human which gives aclear picture about various systems and their respective disorders **4.** Understand the composition, functions and regulation of saliva, gastric, pancreatic, intestinal and bile secretions. **5.** The students are taught the functioning aspects of the human bodyat molecular level.

M.Sc., BIOCHEMISTRY (SEMESTER II)		
5 .	METABOLISM ANDREGULATION	**1.** Understand the metabolic pathway and regulatory metabolism **2.** Understand the free energy and its relation to chemical equilibria.Detail description of coupled reactions and their role in metabolismand chemiosmotic hypothesis of ATP synthesis **3.** To known the diversity of metabolic regulation, and how this is specifically achieved in different cells **4.** Understand the basic metabolic pathways, control and integration of metabolism. **5.** To learn and understand about the biosynthesis of purines and pyrimidine nucleotides, degradation of nucleotides, salvage pathways, biosynthesis and biodegradation of amino acids.
6.	MOLECULAR BIOLOGY	**1.** To understand the basic structure and functioning of the genetic materials – DNA, learn the methods of DNA sequencing and various tools and techniques of molecular biology. **2.** Acquire and in-depth knowledge of biological and/or medicinal processes through the investigation of the underlying molecular mechanisms. **3.** Knowledge of how biochemistry, genetics and molecular biology are used to elucidate both the function of cells and their organization into tissues **4.** To known the molecular mechanism of DNA replication, repair, transcription, protein synthesis and gene regulation in various organisms. **5.** To gain an understanding of chemical and molecular processes that occurs in and between cells.

7.	BIOSTATISTICS	**1.** Understand about the Computer basics like operating systems **2.** The student will learn the basics of handling of data, measures of central tendency like mean, median and mode, Measures of dispersion like mean deviation and standard deviation and Coefficient of variation **3.** To understand the concepts and solve relevant problems pertaining to each topic. **4.** The course will aid in learning Tests of significance like Null hypothesis and alternative hypothesis, t –test, F-test, Chi-square test, Correlation and Regression analysis
		5. This course will also be helpful in the learning and understanding the application of various biostatistical methods and tools in research
8.	MICROBIOLOGY	**1.** Understand the basic microbial structure and function and study the comparative characteristics of prokaryotes and eukaryotes and also the structural similarities and differences among various physiological groups of bacteria/archaea. **2.** To understand the metabolic reaction occurs in the microbial cells, it helps the student to gain basic information about microbiology **3.** Know the various Physical and Chemical growth requirements of bacteria and get equipped with various methods of bacterial growth measurement. **4.** Know General bacteriology and microbial techniques for isolation of pure cultures of bacteria, fungi and algae **5.** Master aseptic techniques and be able to perform routine culture handling tasks safely and effectively
M.Sc., BIOCHEMISTRY (SEMESTER III)		

9.	IMMUNOLOGY	**1.** Apply basic techniques for identifying antigen antibody interactions **2.** Understand the students with essentiality of molecules, cells, tissues, and organs involved in the defense mechanism **3.** Accomplishes the learning of techniques involved in understanding the immunological aspects of physiology and biological samples **4.** To understand the agglutination and precipitation techniques **5.** To understand the tumor antigens-immune response to tumor.
10.	CLINICAL BIOCHEMISTRY	**1.** It trains the students to gain concepts of assessing the human physiology using biological fluid **2.** It illustrates the mechanism of metabolic disorders atmolecular level. **3.** It facilitates in employability in diagnostic and researchinstitutes. **4.** Diagnosis of clinical disorders by estimating biomarkers **5.** Evaluate the abnormalities which commonly occur in theclinical field
11.	GENETIC ENGINEERING	**1.** The objective of the course is to familiarize the studentswith the basic concepts in genetic engineering; and recombinant DNA technology; and to appraise them aboutapplications genetic engineering **2.** To acquaint the students to versatile tools andtechniques employed in genetic engineering. **3.** To understand the recombinant DNA technology; and toappraise them about applications genetic engineering **4.** To known the genetic engineering has been used to mass-produce insulin, human growth hormones, follistim(for treating infertility), human albumin, monoclonal antibodies, **5.** To known the application of genetic engineering

12.	DEVELOPMENTAL BIOLOGY	**1.** Be able to organize results from experiments into a clear narrativethat advances the field **2.** Be able to identify important unsolved problems in cell anddevelopmental biology **3.** Be prepared to teach foundational cell and developmental biology atthe college level. **4.** Be able to write clearly and effectively about cell and developmentalbiology at the graduate level as well as in layperson terms. **5.** Be prepared to teach foundational cell and developmental biology at the college level.
M.Sc., BIOCHEMISTRY (SEMESTER IV)		
		1. To understand the mechanism of action of hormones.
13.	ENDOCRINOLOGY	**2.** Peruse the regulation of metabolic functions of human body by the endocrine system through various signalling pathways. **3.** Acquire in-depth knowledge about types, classification, biosynthesis, interaction, function and regulation of hormones **4.** Understand the fundamental concepts and definitions of signal transduction. **5.** Understand the clinical endocrinology plays a vital role in clinical biochemistry and Metabolism.
14.	BIOINFORMATICS	**1.** To known the basic concepts of Bioinformatics and its significance in Biological data analysis. **2.** Ability to apply skills in a professional environment via an industrial or academic internship in Bioinformatics **3.** Explain about the methods to characterise and manage the different types of Biological data. **4.** Introduction to the basics of sequence alignment and analysis**.** **5.** To introduce the various statistical techniques useful for handling quantitative data.

15.	ECOLOGY AND ENVIRONMENTALSCIENCE	**1.** To study the physical and biological characters of the environment **2.** Ability to known the inter- relationship between biotic and abiotic components of nature as well as relationship among the individuals of the biotic components. **3.** Ability to solve the problems related to the environment, to make them aware of various eco-friendly techniques and modern techniques to solve various environment-related problems. **4.** Graduates will become aware of recycling of organic waste, composting and vermicomposting, and Municipal solid waste treatment and management. **5.** Graduates will get familiarized with Microbial biotransformation/ degradation of organic pollutants, xenobiotics, pesticides, herbicides, heavy metals and radio isotopic materials, and biodeterioration.