KSMDB COLLEGE, SASTHAMCOTTA

PROGRAMME AND COURSE OUTCOMES

UG PROGRAMMES

B.A.

Economics

English

Hindi

History

Malayalam

Political Science

Sanskrit

B. Sc.

Botany

Chemistry

Mathematics

Physics

Polymer Chemistry

Statistics

Zoology

B.Voc.

Food Processing & Management

Software Development

B.Com.

PG PROGRAMMES

M.A.

Economics

English

Sanskrit

M.Sc.

Chemistry

Mathematics

Physics

M.Com

KSMDB COLLEGE, SASTHAMCOTTA

Under Graduate PROGRAMMES

B.A ECONOMICS

EC01: Methodology and Perspectives of social sciences - familiarize the students with the broad contours of Social Sciences, specifically Economics and its methodologies, tools and analysis procedures. The course also aims to create an enthusiasm among students about different schools of Economic thought and various aspects of social science research, methodology, concepts, tools and various issues.

EC02: Microeconomics I - to provide basic principles of Micro Economics.

EC03: Informatics - acquire basic informatics skills and attitudes relevant to the emerging knowledge society and also to equip the students to effectively utilize the digital knowledge resources for their chosen courses of study.

EC04: Microeconomics II - to provide a basic understanding of microeconomics.

EC05: Basic Tools for Economics I: enable the students to understand economic concepts with the aid of mathematical tools and enable them to quantify the variables.

EC06: Macroeconomics I - enable the students to understand the theoretical framework and the working of an economy as a whole. The paper also gives an insight to the students about the basic concepts used in Macro economics and policy alternatives used in controlling the economy.

EC 07: Money and Modern Banking - enable the students to know about the evolution and role of money in the economy. The paper also provides an insight into the innovative role of banks in the changing economic set up.

EC08: Macroeconomics II - enable the students to understand the theoretical framework and the working of an economy as a whole. The paper also gives an insight to the students about the basic concepts used in Macro economics and policy alternatives.

EC09: Economics of Growth and Development - enable the students to understand the basic concepts of Development and Growth. It also intends to provide the theoretical framework for growth and development discourses under different schools of economic thought and a better insights and knowledge on issues and challenges on economic development.

EC10: Indian Economy - enable the students to have an understanding of the various issues of the Indian Economy, enabling them to comprehend and critically appraise current issues and problems of Indian economy. The focus of the syllabus is on the development of Indian Economy since Independence.

EC11: Public Economics - intends to provide basic information to students on the scope of Public Economics, significance of government and its functions, governmental finance and its economic impacts, and budgeting with special reference to India.

EC12: Human Resource Management (HRM) - enable the students to understand the significance of Human Resource in constituting economic growth. The course also teaches the basic principles of strategic human resource management and the various aspects of Human Resource Planning.

EC12: Kerala Economy - understand the structural changes, sectoral aspects and features of the Kerala Economy since the formation of the state and enable the students to have a basic understanding of the emerging trends and issues of Kerala Economy .

EC13: Financial Economics - familiarize the students with the basic concepts in financial economics and develop comprehensive knowledge on the role of finance in the operation of an economy. It also enables them to know the operation of the Indian Financial System and activities in the financial markets.

EC14: Basic Tools for Economics - familiarize the students with statistical tools and techniques and enable them to apply these tools in economics.

EC15: International Economics - understand the basic concepts and theories of international trade and enable the students to have a basic understanding of the emerging trends , issues and polices in the field of international Economic system .

EC16: Industrial Economics - provide a detailed treatment of issues in agricultural economics. Its aim is to familiarize students with policy issues that are relevant to Indian agricultural economics and enable them to analyze the issues, using economic concepts.

BA ENGLISH

SEMESTER I

LANGUAGE & FOUNDATION COURSES IN ENGLISH

Course 1. B.A/BSc [EN1111.1], B.Com [EN1111.2] &2(a) [EN 1111.3]
Listening, Speaking and Reading

Course Objectives:

1: The main aim is to develop in the learners the ability to understand English and use it in a wide range of contexts.
2: The students develop the four language skills and they will be able to face situations with confidence.
3: They will be able to seek employment in the modern globalized world.
4: Knowledge of English phonetics will help the students to listen and to speak English better,
5: The knowledge of the phonetic alphabets/symbols will help the students to refer the dictionary for correct pronunciation.
6: The students can develop better reading skills which help them to comprehend better.
7: To make the students proficient communicators in English.

- **Course2. Foundation Course I for BA/BSc - WRITINGS ON CONTEMPORARY ISSUES: EN 1121**
  Course Objectives:

1: To sensitize students to the major issues in the society and the world.

2: To make them capable of literary appreciation.

3: To encourage them to read literary pieces critically.

4: To have an overall understanding of some of the major issues in the contemporary world.

5: To make them able to correlate literature with contemporary issues.

6: To respond empathetically to the issues of the society.

7: To help them orienting towards becoming better citizens.

SEMESTER II

- **Course3: First Degree Programme in English (CBCS System) Common for B.A/B Sc [EN1211.1] & 2(a) [CG1271] ENVIRONMENTAL STUDIES**

Course Objectives:

1: To give a general awareness on our environment.

2: To develop scientific insight.

3: To sensitise the students to the major issues in the environment.

4: to show the relationship between literature and environmental studies.

- **Course 4. Modern English Grammar and Usage EN 1212.1, BCom: 1211.2**

Course Objectives:

1: To help the students to become flawless communicators.

2: To help students have a good understanding of modern English grammar.

3: To enable them produce grammatically and idiomatically correct language.

4: To help them in becoming confident speakers by improving their verbal communication skills.

5: To help them minimize mother tongue influence.

6: To produce grammatically and idiomatically correct spoken and written discourse.

7: To spot language errors and correct them.

SEMESTER III

- **Course 5: Language Course VI (English IV) - WRITING AND PRESENTATION SKILLS. Common for B. A, B. Sc EN: 1311.1**

Course Objectives:

1: To become proficient in general and academic writing.

2: To practice the different modes of writing.

3: To improve their reference skills and to document data and materials.

4: To prepare and present seminar papers and project reports effectively.

5: To obtain proficiency in digital media and visual media.

SEMESTER IV

- **Course 6 - READINGS IN LITERATURE Common for BA/BSc: EN 1411.1 & Career related 2(a): EN 1411.3**

Course Objectives:

1: To develop the aesthetic sense of students.

2: To understand and appreciate literary discourse.

3: To look at the best pieces of literary writing critically.

4: To analyze literature as a cultural and interactive phenomenon.

5: To sensitize students to the aesthetic, cultural and social aspects of literature.

6: To help them analyze and appreciate literary texts from the classic to the modern age.

SEMESTER I

- **Core Course I – READING POETRY: EN 1141**

Course Objectives:

1: To read, analyse and appreciate poetry critically.

2: To make them aware of the diverse poetic devices and strategies.

3: To enhance the level of literary and aesthetic experience and to help them respond creatively.

4: To identify the various forms and types of poetry.

5: To explain the diverse poetic devices and strategies employed by poets.

6: To sensitize students to the language, forms and types of poetry.

8: To respond critically and creatively to the world around.

Complementary Course - HISTORY OF ENGLISH LITERATURE: EN 1131

Course Objectives:

1: To develop an understanding of the evolution of England, its inhabitants and Literature.

2: To develop both an understanding and an appreciation of some of the complexities involved in the production of and reception of British literature.

3: To understand the social and political organizations evolved in England.

4: To understand and appreciate individual works from any age better.

5: To help them develop a sense of history.

Complementary paper – INTRODUCTION TO DALIT WRITING – EN 1132

Course Objectives:

1. To enable students think of the marginal community.

2. To evolve among students subaltern aesthetics.

3. To enlighten students about the need of 'inclusiveness'.

4. To make them aware about the dalit community in India and their issues as a marginalized group.

5. To promote global perspectives on the marginalized groups in the light of Dalit Literature.

SEMESTER II

Core Course II – READING DRAMA: EN 1241

Course Objectives:

1: To enable the students to read, analyse and appreciate drama.

2: To sensitize them to the verbal and visual language of drama.

3: To help them watch, write about, and perform plays.

4: To identify the various forms and schools of drama.

5: To analyse and appreciate drama.

6: To write critically about and engage actively in producing / performing drama.

Complementary Course – HISTORY OF ENGLISH LITERATURE – II – EN 1231

Course Objectives:

1: To develop an understanding of the evolution of England, its inhabitants and Literature.

2: To develop both an understanding and an appreciation of some of the complexities involved in the production of and reception of British literature.

3: To understand the social and political organizations evolved in England.

4: To understand and appreciate individual works from any age better.

5: To help them develop a sense of history.

Complementary paper – INTRODUCTION TO DALIT WRITING- EN 1232

Course Objectives:

1. To enable students think of the marginal community.

2. To evolve among students subaltern aesthetics.

3. To enlighten students about the need of 'inclusiveness'.

4. To make them aware about the dalit community in India and their issues as a marginalized group.

5. To promote global perspectives on the marginalized groups in the light of Dalit Literature.

SEMESTER III

Core Course III - READING FICTION: EN 1341

Course Objectives:

1: To make students aware of the diverse fictional forms in prose.

2: To enable them to analyse and appreciate various fictional writings.

3: To give them an insight into ther cultures.

4: To help them think and write imaginatively.

5: To identify different fictional forms

6: To analyse and appreciate fictional writings.

7: To write imaginatively.

Complementary Course – HISTORY OF ENGLISH LITERATURE – III – EN 1331

Course Objectives:

1: To develop an understanding of the evolution of England, its inhabitants and Literature.

2: To develop both an understanding and an appreciation of some of the complexities involved in the production of and reception of British literature.

3: To understand the social and political organizations evolved in England.

4: To understand and appreciate individual works from any age better.

5: To help them develop a sense of history.

Complementary paper – INTRODUCTION TO DALIT WRITING- EN 1332

Course Objectives:

1. To enable students think of the marginal community.

2. To evolve among students subaltern aesthetics.

3. To enlighten students about the need of 'inclusiveness'.

4. To make them aware about the dalit community in India and their issues as a marginalized group.

5. To promote global perspectives on the marginalized groups in the light of Dalit Literature.

Core Course IV –20th CENTURY MALAYALAM LITERATURE IN ENGLISH TRANSLATION – EN 1342

Course Objectives:

1: To introduce the students to the richness of twentieth century Malayalam writing.

2: To provide the students a basic understanding of twentieth century Malayalam Writing.

3: To introduce to them some of the major twentieth century Malayalam writers.

4: To help them analyse and appreciate twentieth century Malayalam literature.

6: To discern the distinctiveness of twentieth century Malayalam writing.

7: To discuss the salient features of the works of major twentieth century Malayalam writers.

SEMESTER IV

Core Course V – READING PROSE: EN 1441

Course Objectives:

1: To help students understand and appreciate different types of prose writing.

2: To introduce to them the basics concepts of style and literary devices in prose.

3: To acquaint them with cultural diversity and divergence in perspectives.

4: To enable them to write creatively and critically.

5: To recognize various types of prose writings.

Foundation Course II – INFORMATICS: EN 1421

Course Objectives:

1: To update and expand basic informatics skill and attitudes relevant to the emerging knowledge in society.

2: To equip students to utilize the digital knowledge resources effectively for their chosen fields of study.

3: To update and expand their knowledge in the field of informatics.

4: To understand the nature of the emerging digital knowledge society.

5: To use digital knowledge resources effectively for their studies.

Complementary Course - HISTORY OF ENGLISH LANGUAGE: EN 1431

Course Objectives:

1: To familiarize students with the origin and development of the English Language

2: To make them aware of the changes in different areas of the language.

3: to identify the various language families

4: To trace the evolution of the English language

5: to list the changes in the different areas of the language

Complementary paper – INTRODUCTION TO DALIT WRITING – EN 1432

Course Objectives:

1. To enable students think of the marginal community.

2. To evolve among students subaltern aesthetics.

3. To enlighten students about the need of 'inclusiveness'.

4. To make them aware about the dalit community in India and their issues as a marginalized group.

5. To promote global perspectives on the marginalized groups in the light of Dalit Literature.

SEMESTER V

Core Course - LITERARY CRITICISM - EN 1541

Course Objectives:

1: To help understand the psychology behind literary appreciation
2: To give the students a historical overview of the critical practices from classical period to the present.
3: To enable to grasp the depth of Indian aesthetic theories and compare them with the western theories.
4: To help them to read literature with a theoretical perspective.
5: To introduce to them some of the significant concepts that had a seminal influence on the development of critical thought.
6: To develop in them a critical perspective and capacity to relate and compare various critical practices and schools.

7: To enable them to write book reviews, to strengthen and polish their critical and creative skills.
8: To broaden and sharpen their aesthetic and analytic skills.

Core Course VII - INDIAN LITERATURE IN ENGLISH: EN 1542

Course Objectives:

1: To introduce students to Indian writing in English.

2: To broaden and sharpen their aesthetic and analytical skills.

3: To explain the Indianness in Indian literature in English.

4: To read and appreciate Indian literature.

5: To analyse the strength and constraints of Indian English as a literary medium.

Core Course VIII - FILM STUDIES: EN 1543

Course Objectives:

1: To give the students basic knowledge in the history, art and culture of motion picture.

2: To introduce to them the key concepts in film studies.

3: To help them analyze and appreciate films.

4: To enable them pursue higher studies and careers in film.

5: To explain the key concepts in film studies.

6: To analyse films as texts.

7: To write critically about films.

Core Course IX - LINGUISTICS AND PHONETICS: EN 1544

Course Objectives:

1: To equip students with a thorough knowledge of the various aspects of the English language

2: To make them familiarize with the speech sounds of the language and to pronounce correctly and to speak efficiently.

3: To sensitize them to the nuances of spoken and written forms of English.

4: To help them overcome specific problems resulting from mother tongue interference.

5: To make them understand the importance of eastern linguists in the evolution of linguistic theories.

6: To enable them to use English with proper stress and intonation.

Core Course X - POST COLONIAL LITERATURES IN ENGLISH – EN 1545

Course Objectives:

1: To create awareness regarding the need for cultural hybridity.

2: To help to bridge cultural gaps and to promote tolerance of various cultures, thus to cultivate a global world view.

3: To develop the skill to explore the plurality of colonial and postcolonial experiences.

4: To broaden their aesthetic and intellectual faculties.

5: To create awareness on the dangers of neocolonialism and also linguistic imperialism.

6: To read and appreciate Post Colonial literature with insight.

7: To understand Post Colonial culture and its varying modes of literary expression.

Open Course I - COMMUNICATIVE APPLICATIONS IN ENGLISH: EN 1551.1

Course Objectives:

1: To use English for international communication.

2: To engage in all kinds of communication activities – informal, formal/business related and academic.

3: To perform well in language tests and competitive examinations.

SEMESTER VI

Core Course XI - WORLD CLASSICS: EN 1641

Course Objectives:

1. To broaden the outlook of students by opening possible vistas of varied cultures.

2. To expand their view of literature by introducing them to the classics in Literature.

3. To promote literary sensibility and enthusiasm.

4. To enable them to appreciate genuine literary text.

5: To evaluate classical texts critically.

6: To assess and place cultures and estimate our culture in the light.

Core Course IV - METHODOLOGY AND PERSPECTIVES OF HUMANITIES – EN 1642

Course Objectives:

1: To introduce students to the methodological issues specific to the humanities

2: To develop in them a critical perspective in pursuing literary studies

Core Course XIII - ENGLISH FOR THE MEDIA: EN 1643

Course Objectives:

1: To sensitize students to the English language used in the media.

2: To explain the nature and scope of the communication media.

3: To write headlines and articles for newspapers and magazines and design their content.

4: To produce and present scripts and programmes for Radio and TV.

Core Course XIV - WOMEN'S WRITING - EN 1644

Course Objectives:

1: To introduce students to the development of women's writing in various countries.

2: To familiarize them with the diverse concerns addressed by feminism.

3: To motivate them to critically analyse literary works from a feminist perspective.

Elective Course - CREATIVE WRITING: EN 1661.3

Course Objectives:

1: To make the students aware of the various aspects of Creative Writing.

2: To expose and familiarise the students to representative English writers and their works.

3: To equip the students to attempt at practical creative writing.

- **Course 20 Project/Dissertation EN 1645 PROJECT**

  CO1. The students have gained a proper insight of various aspects of research, its limitations and the vast arena of analysis.

  CO2. Their research attitude and aptitude is given vent to, motivating them and preparing them for the broad areas of research awaiting them.

BA HINDI

In this Programme, we aim to provide education in Hindi Language and Literature in undergraduate level. To enable the students to understand the Hindi Language. Maintain the highest academic standards in undergraduate teaching. To develop the ability to use the language effectively for the purpose of practical communication and to make them think and express ideas, sentiments in the language. To enhance their ability to communicate effectively in Hindi. To build reading and writing skills. The outcome of the programme is that the students who pass this programme (FDP in Hindi under CBCSS) will have comprehensive knowledge of Hindi literature both prose and poetry from the Ancient period to contemporary period. They will be proficient in grammer. The programme will kindle their aspiration for a career as translator/Hindi Officer/Journalist in Hindi.

Hindi Additional Language for B.A./BSc. Degree Programme

Semester	Course Code	Course Type	Course Title	Credit	Lecture Hrs/week
1	HN 1111.1	Language Course-Common (Addl.Language I)	Hindi Katha Sahitya	3	4
2	HN 1211.1	Language Course-Common (Addl.Language II)	Hindi Nibadh aur anya gadya Vidhayen	3	4
3	HN 1311.1	Language Course-Common (Addl.Language III)	Hindi Natak, Vyakaran tatha Anuvad	4	5
4	HN 1411.1	Language Course-Common (Addl.Language IV)	Hindi Kavita evam Ekanki	4	5

Semester – 1

HN 1111.1 Language course (Common

Course) Addl. Language I)

Hindi Katha Sahitya

CO -1 Understanding Hindi Prose and its various types.

CO -2 Familiar with cultural, social and moral values of Modern hindi prose.

CO-3 Understanding National Language.

CO-4 To familiarize the students with the world of fiction

CO-5 To develop their faculty of appreciation of fiction

CO-6 To develop creativity in the students

Semester-2
HN 1211.1 Language Course- Common

(Addl. Language II)

Hindi Nibadh aur anya gadya Vidhayen

CO-1 Understand different Mode of Hindi writings.

CO-2 Familiar with Hindi authors and writings.

CO-3 Understand Modern Hindi Literature

CO-4 To acquaint the students with the different forms of prose in Hindi.

CO-5 To develop the skill of evaluating prose writing of representative prose writer in Hindi.

CO-6 Recollect the main works of the prescribed writers.

CO-7 Analyse & evaluate the prose forms prescribed, with respect to the craft and the relevance.

Semester -3

HN 1311.1 Language Course- Common

(Addl. Language III)

Hindi Natak, Vyakaran tatha Anuvad

CO-1 To familiarize the students with the development of plays in Hindi

CO-2 To learn to appreciate play

CO-3 Familiar with Hindi Grammar.

CO-4 Understand Hindi Usages.

CO-5 To facilitate the use of translation as a tool for communicating in Hindi and English

CO-6 To motivate the students for a career as translator

CO-7 Understands difference between spoken Hindi and written Hindi.

Semester -4

HN 1411.1 Language Course- Common

(Addl. Language IV)

Hindi Kavita evam Ekanki

CO-1 To understand development of Hindi poetry through selected poems

CO-2 Knowledge of distinct features of Hindi Ekanki.

CO-3 Critically evaluates the contribution of Ancient & modern poets to the development of Hindi poetry

CO-4 Appreciates ancient and modern Hindi poems.

CO-5 Appreciates and evaluates one act play with respect to craft and subject.

Hindi Additional Language For B.Com Degree Programme

Semester	Course Code	Course Type	Course Title	Credit	Lecture Hrs/week
1	HN 1111.2	Language Course-Common (Addl.Language I)	Hindi Gadya aur Vyavasayik lekhan	4	4
2	HN 1211.2	Language Course-Common (Addl.Language II)	Hindi Kavita, Anuvad aur paribhashik sabdavali	4	4

Semester 1

HN 1111.2 Language course (Common

Course) Addl. Language I)

Hindi Gadya aur Vyavasayik lekhan

CO-1 Understanding Hindi prose

CO-2 Knowledge of Hindi letter writing and the form and style of other letters in hindi.

CO-3 Understanding National Language

Semester-2

HN 1211.2 Language Course- Common

(Addl. Language II)

Hindi Kavita, Anuvad aur paribhashik sabdavali

CO-1 Understand theoretical background of Translation.

CO-2 Familiar with the Technical Terms used in offices.

CO-3 Capable of Hindi conversation and Hindi writing.

CO-4 Understand Ancient and Modern Hindi Poets and Poems.

Open Course

Semester	Course Code	Course Type	Course Title	Credit	Lecture Hrs/week
5	HN 1551	Open Course I	Communicative Hindi	2	3

HN 1551 Open Course I

Communicative Hindi

CO-1 Understand colloquial Hindi.

CO-2 Understand the Hindi as Official Language & Rashtra Bhasha.

CO-3 Students speaks Hindi well.

CO-4 Learn different styles of Hindi.

Complementary Course –Hindi

Semester	Course Code	Course Type	Course Title	Credit	Lecture Hrs/week
1	HN 1131	Compl: Course I	Samkaleen Sahityik Vimarsh	2	3
2	HN 1231	Compl: Course III	Kathakar Premchand	3	3
3	HN 1332	Compl: Course VI	Rajbhasha Prabandhan	3	3
4	HN 1431	Compl: Course VII	Bharatiya Sahitya	3	3

Complementary Course –Hindi

Semester 1

HN 1131 Compulsory Course I

Samkaleen Sahityik Vimarsh

CO-1 The students understand the latest trends in literature .

CO-2Critically evaluate different discourses in modern Hindi literature.

Semester 2

HN 1231 Compulsory Course III

Kathakar Premchand

CO-1 The students attain comprehensive knowledge of Premchand as fiction writer:

CO-2 Appreciates and critically evaluates prescribed short stories and Novel of Premchand

CO-3 Evalautes the contribution made by Premchand in the field of Hindi fiction writing.

Semester 3

HN 1332 Compulsory Course VI

Rajbhasha Prabandhan

CO-1 Attains comprehensive knowledge of official language Hindi

CO-2 Students understand Official Language Act and amendments in constitution.

CO-3 Does noting and drafting in Hindi.

CO-4 Opens a career option- that of translator/Hindi officer in Central Govt. Officers /PSUS/Banks.

Semester 4

HN 1431 Compulsory Course VII

Bharatiya Sahitya

CO-1 Familiarizing the Indian literature

CO-2 Understands the concept of one Indian literature.

CO-3 Understand the notable writers in Indian literature

CO-4 Students get knowledge of comparative literature

Foundation Course II

Semester	Course Code	Course Tpye	Course Title	Credit	Lecture Hrs/week
3	HN 1321	Foundation Course II	Soochana Praudyogiki aur adhunik patrakarita	3	4

HN 1321 Foundation Course II

Soochana Praudyogiki aur adhunik patrakarita

CO-1 Students get awareness on ICT

CO-2 Understand the Modern technology like Unicode, Online Language Programmes etc.

CO-3 Understand the theoretical and practical experience in computing

CO-4 Understand the possibilities of computer and Hindi.
CO-5 Updates and expands Basic informatics skills.
CO-6 Understands modern trends in Journalism

Core Course – Hindi

Semester	Course Code	Course Tpye	Course Title	Credit	Lecture Hrs/week
1	HN 1141	Core Course I	Hindi kathethar Gadya sahitya	4	6
2	HN 1241	Core Course II	Hindi Sahitya ka itihas – Ritikal tak	4	6
3	HN 1341	Core Course III	Hindi Sahitya Ka itihas- Adhunik Kal	4	5
4	HN 1441	Core Course IV	Hindi Natak aur Rangmanch		
	HN 1442	Core Course V	Vishesh Lekhak Agney	3	4
5	HN 1541	Core Course VI	Ancient poetry & Epic Poem	4	4

	HN 1542	Core Course VII	Modern Poetry	4	4
	HN 1543	Core Course VIII	Hindi Fiction upto 1980	2	3
	HN 1544	Core Course IX	Hindi Grammar-Theory & Practice	4	4
	HN 1545	Core Course X	History of Hindi Language And Linguistics	4	4
6	HN1641	Core Course XI	Post Modern Hindi Fiction from 1980 to 2000	4	5
	HN 1642	Core Course XII	Literary Criticism	4	5
	HN1643	Core Course XIII	Translation: Theory & Practice	4	5
	HN 1644	Core Course XIV	Film: History & Production	3	4
	HN 1645	Project/Dissertation	Dissertation	4	3
	HN 1651	Elective	Journalism And Hindi Journalism in Kerala	2	3

Semester 1

HN 1141 Core Course I

Hindi kathethar Gadya sahitya

CO-1 Understand the Hindi prose and its Various types

CO -2 Familiar with cultural, social and moral values of Modern hindi prose.

CO-3 Understand Hindi Literature and Notable writers in Hindi

CO-4 Enriches the aesthetic sense of students.

Semester 2

HN 1241 Core Course II

Hindi Sahitya ka itihas –Ritikal tak

CO-1 Understand the origin and development of the ancient Hindi Literature and different trends of each 'Kal.'

CO-2 Familiar with great poets like Kabeer, Jayasi, Thulasi, Soor, Bihari and their thought and

Philosophy.

CO-3 Recognizes the diverse dimensions of Hindi Literature.

CO-4 Understand the old literary languages like avadhi, vraj etc.

CO-5 The students gain comprehensive knowledge of the classification of Hindi literature from the beginning to 1800 AD.

CO-6 Critically evaluate the contributions of poet to Hindi literature during the various periods.

Semester 3

HN 1341 Core Course III

Hindi Sahitya Ka itihas- Adhunik Kal

CO-1 Understand the modern trends of Hindi Literature.

CO-2Understand development of Prose, Novel, Story, Drama, Sketch, Diary, Report, Auto Biography etc.

CO-3 Understand different trends of Hindi Poetry.

CO -4 Understand modern and post modern trends in Hindi literature

CO-5 Familiar with prominent Hindi writers and their major works.

CO-6 Understand the Difference between modernism and Post modernism.

CO-7 The students get a comprehensive knowledge of History of Hindi literature from 10th century to the middle of 20th century.

CO-8 Critically evaluates the trends in literature during this period.

CO-9 Critically evaluate the evolution of prose in Hindi and its development till 1960.

Semester 4

HN 1441 Core Course IV

Hindi Natak aur Rangmanch

CO-1 Understand the dramatic elements in Hindi literature.

CO-2 Understand the distinct features of Hindi drama.

CO-3 Knowledge of the art of Drama.

CO-4 Understand the difference between Drama and One Act Plays.

CO-5 Understands the role of Lekshmi Narayan lal in modern Hindi drama literature.

CO-6 Understands the principles of Hindi drama

CO-7 Evaluates the development of theatre in Hindi.

CO-8 Appreciates and critically evaluates the prescribed plays.

HN 1442 Core Course V

Vishesh Lekhak Agney

CO-1 Get to know the famous Hindi writer Agney.

CO-2 Understand Agney's Novel and Short stories.

CO-3 Understand the theme, problems and style of Agney's Fiction.

CO-4 Critically evaluates Agney as a poet, as a fiction writer and prose writer

CO-5 Understand the rural world and the truth of Indian life.

CO-6 Understand Agney's relevance in literature.

Semester 5

HN 1541 Core Course VI

Ancient poetry & Epic Poem

CO-1 Understand the Ancient Poetry, the theme, thought and philosophy of Ancient poets.

CO-2 Understand the difference between the poetries of Aadikal, Bhakthikal and Ritikal.

CO-3 Understand the different dialects of Ancient Poetry.

CO-4 Understand the prominent writers like Kabeer, Jayasi,Thulasi and Soordas.

HN 1542 Core Course VII

Modern Poetry

CO- 1Understand the Modern Hindi Poetry

CO-2 Familiarizing with prominent modern poets and poems.

CO-3 Understand the methodology of Hindi Poems

CO-4 Understand the themes of modern Hindi poetry.

HN 1543 Core Course VIII

Hindi Fiction up to 1980

CO-1 Knowledge of Hindi Fiction up to 1980.

CO-2 Learn about pre 80's Hindi literature, notable authors and their works.

CO-3 Understands the history of fiction.

CO-4 Understand the methodology of fiction.

HN 1544 Core Course IX

Hindi Grammar: Theory & Practice

CO-1 Understand the grammar of Hindi Language and the structure of Hindi language.

CO-2 Familiar with the grammatical rules of Hindi Language.

CO-3 Learns to deal with Hindi grammar.

CO-4 Use pure forms of Hindi language.

CO-5 Learn to use Hindi without mistake.

HN 1545 Core Course X

History of Hindi Language and Linguistics

CO-1 Understand the classification of Language and the development of Hindi Language and Lipi.

CO-2 Understand the linguistics –Phonology, Word logy, Morphology, Semantics and Syntax.

CO-3 Understand the origins of the Hindi language.

Semester 6

HN 1641 Core Course XI

Post Modern Hindi Fiction Since 1980

CO-1 Familiarizing the post modernism, post modern culture, the theme and form of post modern Hindi Fiction.

CO-2 Understand the prominent writers and their works since 1980.

CO-3 Knowledge of contemporary Hindi Fiction.

CO-4 Understands the history of hindi fiction.

CO-5 Understand the methodology of hindi fiction

CO-6 Learn about post 80's Hindi literature, notable authors and their works

HN 1642 Core Course XII

Literary Criticism

CO-1 Understand the theories of Aesthetic pleasure and different schools of Indian Literary theories like Rasa, Alankara etc.

CO-2 Familiarizing modern Hindi Literary thoughts and poetics and prosody.

CO-3 Students understand the western criticism.

CO-4 Understand the literary thoughts, Ancient and Modern of western criticism.

HN 1643 Core Course XIII

Translation: Theory & Practice

CO-1 Understand the problems in Translation.

CO-2 Understand the theoretical background of translation studies.

CO-3 Familiarizing the use of translation.

CO-4 Understand the process of translation and the qualities of a translator.

CO-5 Familiarizing the translation of English to Hindi and Hindi to English.

HN 1644 Core Course XIV

Film: History and Production

CO-1 Understand the history of Indian Film.

CO-2 Understand the Directors, Actors etc., of Indian Film.

CO-3 Understand the processing of film production like screen play, photography, editing, music etc.

HN 1645

Project/Dissertation

CO-1 Understand the research methodology.

CO-2 Students language skills are increasing.

CO-3 Students learn to handle language

CO-4 Understand the different techniques in research.

CO-5 Develops skill of enumeration.

CO-6 Develops critical evaluation.

HN 1651 **Elective**

Journalism And Hindi Journalism in Kerala

CO-1 Understand the origin and development of Journalism in India.

CO-2 Understand the development of journalism in Hindi.

CO-3 Understand the development of Hindi journalism in Kerala

CO-4 Recognizes the diverse dimensions of journalism.

BA HISTORY

Through the study of History as major students acquire many soft skills including knowledge, problem solving, analysis of complex problems, effective communication, social interaction, patriotism and nationalism, effective citizenship, ethics, team work, reading, writing, critical thinking, and organisational skills etc.
Earning a bachelor's degree in history will prepare for a wide array of occupations like teachers, professors, civil service officers, historians, archivist, attorney, writer, editor, advisers to political leaders, diplomats, reporters, tour guides, park rangers and hundreds of such kinds.

COURSE OUTCOMES

HY 1141. Core 1. Methodology and Perspectives of Social Sciences
1. Familiarise students with the broad outline of Social Sciences and its methodology.
2. Familiarise the main concerns of Social Science disciplines
3. Articulate the basic terminologies and theories prevalent in concerned disciplines.
4. Make a critical reading and thinking on popular literature from a social science perspective.

HY II. 1241,Core II. Cultural Formation of the Pre Modern world.
1. Enable students to engage with conceptual and general issues regarding culture and civilisation of the ancient period.
2. Inculcate awareness among the students about the cultural heritage of mankind.
3. Inherits a sound knowledge about changes that took place among the major cultures of world civilisations.
4. Give an idea about the harmonious existence of the different sections of the people

HY 1321Foundation II Informatics
1. Update and impart basic skills in informatics relevant to emerging knowledge society
2. Equip students effectively to utilise the digital knowledge of their course
3. Enable basic concepts and functional knowledge in the field of informatics.
4. Impart functional knowledge in standard office package and popular utilities.
5. Create awareness about the social issues and concerns in the use of digital technology.
6. Develop skills to enable students to use digital knowledge resources in learning.

HY 1341 Core III Evolution of Early Indian Society and Culture.
1. Analyse the salient features of prehistoric and proto-historic culture in India.
2. Trace the evolution of Indian culture with special reference to the society and polity of Ancient period.
3. Familiarise the students with heritage of India.

HY 1441 Core IV Medieval India: Socio-Cultural Processes
1. Equip the students to have an idea on social cultural and administrative features during the medieval period.
2. Familiarize the students the processes that made the socio-cultural specificities possible.
3. To makethe students aware of the linkage effect of this period in subsequent centuries.

HY 1442 Core V History of Modern World – part I
1. Familiarise the students about the changes in the history of the modern world.
2. Analyze the agenda of the imperialistic powers in different parts of the World.
3. Create an understanding among students about the liberal ideas and freedom struggle.

HY 1541 Core VI Major Trends in Historical Thought and Writings
1. Enable the students to understand the history of historical writings
2. Equip intellectually to evaluate the works in the light of new theories and concepts.

HY 1542 Core VII Colonialism and Resistance Movements in India
1. Review the circumstances that led to the establishment of colonialism in India.
2. Bring out the impact of colonial rule in India with particular reference to socio-religious political and economic fields.
3. Analyze the genesis and progress of the resistance Movements against the British.

HY 1542 Core VIII History of Modern World – Part II
1. Trace the significance of the unification movements in Italy and Germany that paved the way for the beginning of a new epoch.
2. Give an idea about the First and Second World wars.
3. Evaluate the achievements and failures of the International Organisations.

HY 1544 Core IX History of Pre Modern Kerala
1. Understand the historical setting of ancient Kerala.
2. Know about the different regional principalities and political system in ancient Kerala.

HY 1545 Core X Making of Indian Nation
1. Trace the significance of the freedom movement in India.
2. Understands the concept of nationalism.
3. Know about the different courses and phases of Indian national movement and its leaders.

HY 1551.2, Open Course: Introduction to Archaeology.
1. Provide an insight into the discipline of archaeology
2. Trace the evolution of Archaeology as a subject
3. Introduce the students various periods, concepts, methods and terminologies in Archaeology.

HY 1641 Core Making of Modern Kerala
1. Familiarise the students about the colonial phase Kerala had gone through in its history.
2. Introduce the colonial modernity in Kerala.
3. Trace the history of the freedom movements in Kerala.

HY 1642 Core 1642 Major Trends in Indian Historical Thought and Writings
1. Enable the students to understand the origin and development of historical writings in India.
2. Locate major historical works in Indian History.
3. Create an awareness among the students about the influence of ideas and theories trends and concepts in Indian historical writings

HY 1643 Core XIII Contemporary India
1. Provide a graphic account of the circumstances that led to the formation of India Union.
2. Understand the challenges faced by independent India and the bold measures initiated after independence.
3. Evaluate the achievements of contemporary India with special reference to Science, IT etc.

HY 1644 Core XIV The twentieth Century Revolutions
1. Introduce the students four major revolutions of the 20th century.
2. Acquaint the students about the legacy of revolutions.
3. Familiarise the students about the nature, scope, and significance of the revolutions in the present context.

HY 1645 XIV Core Project Work

1. Enable students to understand the method of writing history.
2. Make aware of various tools pertaining to the writing of history.
3. Familiarise the new theories and concepts in historical method.

HY 1651.5 Elective An Introduction to Archaeology

1. Provide an insight into the discipline of archaeology
2. Trace the evolution of Archaeology as a subject
3. Introduce the students various periods, concepts, methods and terminologies in Archaeology.

BA MALAYALAM

സെമസ്റ്റർ : ഒന്ന്

സെമസ്റ്റർ	:	I
കോഴ്സ് കോഡ്	:	ML 1111.1
ലാംഗ്വേജ് കോഴ്സ്	:	II (അഡീഷണൽ ലാംഗ്വേജ് : 1)
സമയക്രമം	:	ആഴ്ചയിൽ 4 മണിക്കൂർ (18 ആഴ്ചയിൽ 72 മണിക്കൂർ)
ക്രെഡിറ്റ്	:	3

മലയാള കവിത

പുസ്തകം : കാവ്യമാലിക

(കേരളസർവകലാശാലാ പ്രസിദ്ധീകരണം)

പഠനോദ്ദേശ്യം

1. മലയാളകവിതയെ സംബന്ധിച്ച സാമാന്യജ്ഞാനം വിദ്യാർത്ഥികൾക്കു നൽകുക.
2. വിദ്യാർത്ഥികളിൽ കാവ്യാഭിരുചിയും കാവ്യാസ്വാദന താല്പര്യവും വളർത്തുക.
3. കവിതകളെ വിശകലനം ചെയ്യാൻ അവരെ പ്രാപ്തരാക്കുക.
4. സെമിനാർ, അസൈൻമെന്റ് തുടങ്ങിയവ മേൽപ്പറഞ്ഞ ലക്ഷ്യങ്ങൾ മുൻനിർത്തി നൽകുക.

സെമസ്റ്റർ	:	**I**
കോഴ്സ് കോഡ്	:	**ML 1141**
കോർ കോഴ്സ്	:	**II**
സമയക്രമം	:	**ആഴ്ചയിൽ 6 മണിക്കൂർ (18 ആഴ്ചയിൽ 108 മണിക്കൂർ)**
ക്രെഡിറ്റ്	:	**4**

നോവൽ : ചരിത്രവും പാഠവും

പഠനോദ്ദേശ്യം :

1. നോവൽസാഹിത്യശാഖയെ സംബന്ധിച്ച് സാമാന്യ ധാരണയുണ്ടാകുക.
2. മലയാളനോവൽസാഹിത്യത്തിന്റെ വളർച്ചയുടെ വിവിധഘട്ടങ്ങൾ മനസ്സിലാക്കുക.
3. ഭാവുകത്വപരിണാമം, ഭാഷ, ഘടന, സങ്കേതങ്ങൾ ഇവ മനസ്സിലാക്കുക.
4. ചരിത്രപരവും സാംസ്കാരികവുമായ പ്രതിനിധാനം എന്ന നിലയിൽ നോവലിനെ തിരിച്ചറിയുക.
5. സമകാലിക മലയാളനോവലിന്റെ സ്വഭാവങ്ങൾ മനസ്സിലാക്കുക.
6. നോവലിന്റെ ആസ്വാദനം, അപഗ്രഥനം, വിമർശനം എന്നിവയ്ക്ക് വിദ്യാർത്ഥികളെ പ്രാപ്തരാക്കുക.
7. വിവർത്തന നോവലുകളെ പരിചയപ്പെടുക.

സെമസ്റ്റർ	:	**I**
കോഴ്സ് കോഡ്	:	**ML 1131**
കോംപ്ലിമെന്ററി കോഴ്സ്	:	**I**
സമയക്രമം	:	**ആഴ്ചയിൽ 3 മണിക്കൂർ (18 ആഴ്ചയിൽ 54 മണിക്കൂർ)**
ക്രെഡിറ്റ്	:	**2**

കേരള സംസ്കാരം - ഭാഗം 1

പഠനോദ്ദേശ്യം:

1. കേരളത്തിന്റെ സാംസ്കാരിക പശ്ചാത്തലത്തെക്കുറിച്ച് അറിവു നല്കുക.
2. ഏ.ഡി. 1400 വരെയുള്ള കാലഘട്ടത്തിൽ കേരളത്തിലെ ഭാഷ, സാഹിത്യം, കലാരൂപങ്ങൾ എന്നിവയുടെ വികാസത്തിന് കളമൊരുക്കിയ സാംസ്കാരികവും രാഷ്ട്രീയവുമായ കാര്യങ്ങൾ പഠിക്കുന്നതിന് സഹായകമായ സാംസ്കാരിക വീക്ഷണം ഉണ്ടാകുക.
3. സാംസ്കാരികത്തനിമ തിരിച്ചറിയുക, ദേശീയബോധം വളർത്തുക, മികച്ച പൗരത്വം വികസിപ്പിക്കുക, വിമർശനാത്മക ചിന്ത വളർത്തുക എന്നിവയാണ് ആത്യന്തിക ലക്ഷ്യം.

സെമസ്റ്റർ	:	II
കോഴ്സ് കോഡ്	:	ML 1231
കോംപ്ലിമെന്ററി കോഴ്സ്	:	III
സമയക്രമം	:	ആഴ്ചയിൽ 3 മണിക്കൂർ (18 ആഴ്ചയിൽ 54 മണിക്കൂർ)
ക്രെഡിറ്റ്	:	3

കേരളസംസ്കാരം ഭാഗം 2

പഠനോദ്ദേശ്യം

കേരളത്തിന്റെ സാംസ്കാരിക പശ്ചാത്തലത്തെക്കുറിച്ച് അറിവു നല്കുകയാണ് ലക്ഷ്യം. ഭൂതകാല സംസ്കാരത്തെപ്പറ്റിയും, ചുറ്റുപാടുകളെപ്പറ്റിയും വ്യക്തമായ ധാരണയുണ്ടാക്കുക, സാംസ്കാരികത്തനിമ തിരിച്ചറിയുക, പൗരബോധം വളർത്തുക, സാമൂഹികമാറ്റത്തിനുതകുക, വിമർശനാത്മകചിന്ത വളർത്തുക തുടങ്ങിയവ ആത്യന്തിക ലക്ഷ്യമാവണം.

സെമസ്റ്റർ	:	II
കോഴ്സ് കോഡ്	:	ML 1241
കോർ കോഴ്സ്	:	II
സമയക്രമം	:	ആഴ്ചയിൽ 6 മണിക്കൂർ (18 ആഴ്ചയിൽ 108 മണിക്കൂർ)
ക്രെഡിറ്റ്	:	4

നാടകം : ചരിത്രം പാഠം പ്രയോഗം

പഠനോദ്ദേശ്യം :

നാടകം എന്ന കലാരൂപത്തെ സമഗ്രമായി പരിചയപ്പെടുത്തുകയാണ് ഈ കോഴ്സിന്റെ ഉദ്ദേശ്യം. നാടകമെന്ന കലയുടെ ഉത്ഭവ - വികാസ - പരിണാമചരിത്രം, നാടകത്തിന്റെ സാഹിത്യം, അതിന് ഇതര സാഹിത്യരൂപങ്ങളിൽനിന്നുള്ള വ്യത്യാസം, നാടകാവതരണത്തിന്റെ സവിശേഷതകൾ, അരങ്ങിന്റെ വൈവിധ്യങ്ങൾ എന്നിവ ചരിത്രപരമായി മനസ്സിലാക്കുകയും അത് മലയാളനാടകവുമായി ഇണക്കിക്കൊണ്ട് സവിശേഷപഠനം നടത്തുകയുമാണ് ഇതിലൂടെ ലക്ഷ്യമാക്കുന്നത്. മനുഷ്യന്റെ പ്രാക്തനമായ കൂട്ടായ്മയിൽനിന്നു രൂപപ്പെടുകയും സാമൂഹികജീവിതത്തിൽ ഓരോ കൂട്ടായ്മയ്ക്കുമുണ്ടായ പരിണാമങ്ങൾക്കനുസരണമായി നിരന്തരം നവീകരിക്കപ്പെടുകയും ചെയ്തുകൊണ്ട് ആധുനികകാലത്തും ശക്തമായി നിലകൊള്ളുന്ന കലയെന്ന നിലയിൽ നാടകത്തെയും അതിന്റെ സാധ്യതകളെയും വിദ്യാർത്ഥികൾ തിരിച്ചറിയേണ്ടതുണ്ട്. നാടകകലയുടെ വിവിധ ഘട്ടങ്ങളിൽ പ്രഭാവം ചെലുത്തിയ അരങ്ങു (തിയേറ്റർ) സങ്കല്പങ്ങൾ, നാടകത്തിന്റെ ആശയസങ്കല്പത്തിൽ വന്ന വ്യതിയാനങ്ങൾ എന്നിവ ചരിത്രപരമായി വിശദീകരിക്കണം. നാടകകലയെ സാമാന്യമായി പരിചയപ്പെടുത്തിക്കൊണ്ട് മലയാളനാടകത്തിന്റെ ചരിത്രത്തെയും പ്രവണതകളെയും കേരളത്തിന്റെ നാട്യപാരമ്പര്യത്തെയും കുറിച്ചു വിശദമാക്കണം. വിശദപഠനത്തിനു നിർദ്ദേശിക്കുന്ന കൃതികൾ കൂടാതെ ആ കാലയളവിലെ പ്രധാനനാടകങ്ങളെയും നാടകകൃത്തുക്കളെയും പരിചയപ്പെടുത്താൻ ശ്രമിക്കണം. അസൈൻമെന്റിന് പാഠേതരഭാഗങ്ങൾ സ്വീകരിക്കാൻ പ്രേരിപ്പിക്കുക.

സെമസ്റ്റർ : രണ്ട്

സെമസ്റ്റർ	:	II
കോഴ്സ് കോഡ്	:	ML 1211.1
ലാംഗ്വേജ് കോഴ്സ്	:	V (അഡീഷണൽ ലാംഗ്വേജ് : II)
സമയക്രമം	:	ആഴ്ചയിൽ 4 മണിക്കൂർ (18 ആഴ്ചയിൽ 72 മണിക്കൂർ)
ക്രെഡിറ്റ്	:	3

ഗദ്യസാഹിത്യം

പുസ്തകം: ഗദ്യമാലിക (കേരളസർവ്വകലാശാല പ്രസിദ്ധീകരണം)

പഠനോദ്ദേശ്യം

1. മലയാളഗദ്യസാഹിത്യത്തിലെ പ്രധാന സാഹിത്യരൂപങ്ങളെക്കുറിച്ച് സാമാന്യാവബോധം ഉണ്ടാകുക.
2. തെരഞ്ഞെടുത്ത പാഠങ്ങളുടെ വിശദപഠനത്തിന് പുറമേ അതതു ഗദ്യങ്ങളുടെ ഉല്പത്തി വികാസപരിണാമങ്ങൾ സാമാന്യമായി മനസ്സിലാക്കുക.
3. രചനകളെ സ്വയം വിശകലനത്തിന് വിധേയമാക്കുക.

സെമസ്റ്റർ : മൂന്ന്

സെമസ്റ്റർ	:	III
കോഴ്സ് കോഡ്	:	ML 1311.1
ലാംഗ്വേജ് കോഴ്സ്	:	VII (അഡീഷണൽ ലാംഗ്വേജ് : III)
സമയക്രമം	:	ആഴ്ചയിൽ 5 മണിക്കൂർ (18 ആഴ്ചയിൽ 90 മണിക്കൂർ)
ക്രെഡിറ്റ്	:	4

ദൃശ്യകലാസാഹിത്യം

(പാഠപുസ്തകം: ദൃശ്യഭാരതി - കേരളസർവ്വകലാശാലാ പ്രസിദ്ധീകരണം)

പഠനോദ്ദേശ്യം

1. കേരളത്തിലെ ദൃശ്യകലാസംസ്കാരത്തിന്റെ സമ്പന്നതയും വൈവിധ്യവും തിരിച്ചറിയുക.
2. കഥകളി, തുള്ളൽ, നാടകം, സിനിമ എന്നീ ദൃശ്യകലകളെയും അവയ്ക്ക് ആധാരമായ സാഹിത്യപാഠങ്ങളെയും വിദ്യാർത്ഥികൾക്ക് പരിചയപ്പെടുത്തുക.

സെമസ്റ്റർ	:	III
കോഴ്സ് കോഡ്	:	ML 1321
ഫൗണ്ടേഷൻ കോഴ്സ്	:	II (ഇൻഫോർമാറ്റിക്സ്)
സമയക്രമം	:	ആഴ്ചയിൽ 4 മണിക്കൂർ (18 ആഴ്ചയിൽ 72 മണിക്കൂർ)
ക്രെഡിറ്റ്	:	3

ആധുനിക സാങ്കേതികവിദ്യയും മലയാളഭാഷാപഠനവും

സാങ്കേതിക പഥം (കേരളസർവ്വകലാശാലാ പ്രസിദ്ധീകരണം)

പഠനോദ്ദേശ്യം

1. വിവരസാങ്കേതികവിദ്യയെക്കുറിച്ച് സാമാന്യപരിചയം നേടുക.
2. മലയാളം കമ്പ്യൂട്ടിംഗിനെക്കുറിച്ച് അറിവുണ്ടാവുക.
3. ആധുനിക സാങ്കേതികവിദ്യയുടെ സാധ്യതകൾ പ്രയോജനപ്പെടുത്തി മലയാള ഭാഷയും സാഹിത്യവും പഠിക്കുക.
4. ഇന്റർനെറ്റിലെ ഭാഷാവ്യവഹാരമാതൃകകളും അവയുടെ സാധ്യതകളും മനസ്സിലാക്കുക.
5. മലയാളത്തിലെ സൈബർ സാഹിത്യത്തെക്കുറിച്ച് സാമാന്യ പരിചയം നേടുക.

സെമസ്റ്റർ	:	III
കോഴ്സ് കോഡ്	:	ML 1341
കോർ കോഴ്സ്	:	III
സമയക്രമം	:	ആഴ്ചയിൽ 5 മണിക്കൂർ (18 ആഴ്ചയിൽ 90 മണിക്കൂർ)
ക്രെഡിറ്റ്	:	4

സാഹിത്യസിദ്ധാന്തങ്ങൾ : പൗരസ്ത്യവും - പാശ്ചാത്യവും

പഠനോദ്ദേശ്യം

പൗരസ്ത്യ പാശ്ചാത്യ കാവ്യശാസ്ത്ര സിദ്ധാന്തങ്ങളുടെ പഠനം കാവ്യാസ്വാദന ശേഷിയും നിരൂപണസിദ്ധിയും വർദ്ധിപ്പിക്കുവാൻ സഹായകമാകണം. സിദ്ധാന്തങ്ങളുടെ പഠനത്തോടൊപ്പം പ്രായോഗികജ്ഞാനം സിദ്ധിക്കുന്നതിനായി അസൈൻമെന്റുകൾ നല്കുകയും സെമിനാറുകൾ സംഘടിപ്പിക്കുകയും വേണം.

സെമസ്റ്റർ	:	III
കോഴ്സ് കോഡ്	:	ML 1331
കോംപ്ലിമെന്ററി കോഴ്സ്	:	V
സെമസ്റ്റർ	:	IV
കോഴ്സ് കോഡ്	:	ML 1441
കോർ കോഴ്സ്	:	IV
സമയക്രമം	:	ആഴ്ചയിൽ 5 മണിക്കൂർ (18 ആഴ്ചയിൽ 90 മണിക്കൂർ)
ക്രെഡിറ്റ്	:	4

മലയാളകവിത - പൂർവ്വഘട്ടം

(പുസ്തകം: ഉദയഭാരതി - യൂണിവേഴ്സിറ്റി പ്രസിദ്ധീകരണം)

പഠനോദ്ദേശ്യം

1. മലയാളകവിതയുടെ വാമൊഴിപാരമ്പര്യം മുതൽ പത്തൊമ്പതാം നൂറ്റാണ്ടു വരെയുള്ള വ്യത്യസ്ത കാവ്യസമ്പ്രദായങ്ങളെയും ചരിത്രഘട്ടങ്ങളെയും പരിചയപെടുക.
2. പ്രാചീന - മദ്ധ്യകാലഘട്ടങ്ങളിലെ കാവ്യപ്രസ്ഥാനങ്ങളെ തിരിച്ചറിയുക.
3. പ്രസ്ഥാനപരമായ കവിതാപഠനത്തോടൊപ്പം കാലം, ദേശം, കവിവ്യക്തിത്വം എന്നിവയിൽ അടിസ്ഥാനധാരണയുണ്ടാകുക.
4. കാവ്യവിശകലനത്തിനും കാവ്യാസ്വാദനത്തിനും വഴിയൊരുക്കുക.
5. കാവ്യഭാഷയിൽ സംഭവിച്ച കാലാനുസൃതമായ പരിണാമങ്ങൾ തിരിച്ചറിയുക.
6. താളം, വൃത്തം, അലങ്കാരം, ബിംബസന്നിവേശം, ഇതരകാവ്യസങ്കേതങ്ങൾ എന്നിവയെക്കുറിച്ച് അറിവു നേടുക.

1. വിദ്യാർത്ഥികളുടെ ആശയവിനിമയശേഷി വർദ്ധിപ്പിക്കുക.
2. ഔദ്യോഗിക/ഭരണകാര്യങ്ങളും ശാസ്ത്രവിഷയങ്ങളും മലയാളഭാഷയിലൂടെ അവതരിപ്പിക്കാനുള്ള കഴിവുണ്ടാകുക.
3. മലയാളഭാഷ കൈകാര്യം ചെയ്യുമ്പോൾ ഉണ്ടാകാവുന്ന പാകപ്പിഴകൾ സ്വയം തിരുത്താൻ പ്രാപ്തരാക്കുക.
4. പദം, വാക്യം, ചിഹ്നം എന്നിവ തെറ്റുകൂടാതെ പ്രയോഗിക്കുന്നതിലൂടെ ഭാഷാശുദ്ധി നിലനിർത്തുക.
5. മലയാളഭാഷ അനായാസം കൈകാര്യം ചെയ്യാനുള്ള കഴിവ് നേടിക്കൊടുക്കുക.
6. വിവർത്തനത്തിൽ പ്രായോഗിക പരിശീലനം നൽകുക.

സെമസ്റ്റർ	:	IV
കോഴ്സ് കോഡ്	:	ML 1442
കോർ കോഴ്സ്	:	V
സമയക്രമം	:	ആഴ്ചയിൽ 4 മണിക്കൂർ (18 ആഴ്ചയിൽ 72 മണിക്കൂർ)
ക്രെഡിറ്റ്	:	3

മലയാളസാഹിത്യനിരൂപണം

പഠനോദ്ദേശ്യം:

മലയാളഭാഷയിലെ സാഹിത്യവിമർശനശാഖയെപ്പറ്റി സാമാന്യമായ അവബോധം വിദ്യാർത്ഥികളിലുണ്ടാക്കുക എന്നതാണ് ഈ കോഴ്സിന്റെ ലക്ഷ്യം. മലയാള നിരൂപണത്തിന്റെ ഉൽപ്പത്തിയുടെയും വളർച്ചയുടെയും ഘട്ടങ്ങൾ, പ്രധാന നിരൂപകർ, സമകാലിക നിരൂപണത്തിന്റെ പ്രവണതകൾ എന്നിവ ഇവിടെ പഠനവിധേയമാക്കുന്നു. ഒപ്പം പ്രമുഖ നിരൂപകരുടെ വിമർശനമാതൃകകളും പാഠ്യവിഷയമാക്കുന്നു.

രീതിശാസ്ത്രം

ഈ കോഴ്സ് നാലു മൊഡ്യൂളായി വിഭജിച്ചിരിക്കുന്നു. ആദ്യത്തെ രണ്ട് മൊഡ്യൂൾ ചരിത്രപരമായ പഠനത്തിനും മൂന്നും നാലും മൊഡ്യൂളുകൾ പ്രായോഗിക നിരൂപണത്തിന്റെ പഠനത്തിനും ഇടം നൽകുന്നു. പ്രമുഖരായ നിരൂപകരുടെ വിമർശനകൃതികൾ പരിചയപ്പെട്ടുകൊണ്ടുള്ള ഒരു പഠനരീതിയാണ് അവലംബിക്കേണ്ടത്. അത്തരത്തിലായിരിക്കണം അസൈൻമെന്റും സെമിനാറും സംഘടിപ്പിക്കേണ്ടതും.

സെമസ്റ്റർ	:	IV
കോഴ്സ് കോഡ്	:	ML 1431
കോംപ്ലിമെന്ററി കോഴ്സ്	:	VII
സമയക്രമം	:	ആഴ്ചയിൽ 3 മണിക്കൂർ (18 ആഴ്ചയിൽ 54 മണിക്കൂർ)
ക്രെഡിറ്റ്	:	3

ദലിതെഴുത്ത്, പെണ്ണെഴുത്ത്: സിദ്ധാന്തവും ആവിഷ്ക്കാരവും

പഠനോദ്ദേശ്യം:

ദലിത് പഠനമെന്ന വിജ്ഞാനമേഖലയുടെ പശ്ചാത്തലത്തിൽ മലയാളത്തിലെ ദലിത് സാഹിത്യത്തെ തിരിച്ചറിയുക - മലയാളികളുടെ സാംസ്കാരികവൈവിധ്യം സാഹിത്യ വഴിയിൽ മനസ്സിലാക്കുക - ചരിത്രത്തിന്റെ വ്യത്യസ്ത ഇടങ്ങളിൽ പാർശ്വവൽക്കരിക്ക പ്പെട്ട ജനവിഭാഗങ്ങളെയും അവരുടെ സംസ്കാരത്തെയും സാഹിത്യത്തെയും കുറിച്ച് അറിയുക - മുഖ്യധാരാസംസ്കാരത്തിന്റെ സാഹചര്യങ്ങൾക്കു പുറത്ത് രൂപപ്പെട്ട സംസ് കാരത്തിന്റെ ഒരു ജനകീയധാരയെക്കുറിച്ചു ബോധ്യപ്പെടുക.

സമീപകാല സൈദ്ധാന്തികപഠനങ്ങളിൽ ഏറെ പരാമർശിക്കപ്പെടുകയും വിമർശിക്ക പ്പെടുകയുംചെയ്ത 'സ്ത്രീവാദ'ത്തെ പരിചയപ്പെടുക - ലിംഗപരമായ വ്യത്യസ്തത യുടെ അടിസ്ഥാനത്തിലുള്ള വിവേചനത്തിൽ നിന്നും സ്ത്രീകൾക്കു തുല്യനീതി ഉറപ്പാ ക്കുക എന്ന ലക്ഷ്യത്തോടെ രൂപപ്പെടുത്തിയ ചിന്താപദ്ധതിയും പ്രവർത്തനവും എന്ന നിലയിൽ അതിനെ തിരിച്ചറിയുക - സ്ത്രീകളുടെ വൈയക്തികവും സാമൂഹികവുമായ യാഥാർത്ഥ്യത്തെ വെളിപ്പെടുത്തുകയും ലിംഗകേന്ദ്രിതമായ എല്ലാത്തരം പാർശ്വവല്ക്ക രണത്തെയും ചെറുക്കുകയുമാണ് അതിന്റെ രീതിശാസ്ത്രം എന്നു മനസ്സിലാക്കുക - ഫെമിനിസത്തിന്റെ ചരിത്രവികാസത്തിന്റെയും സിദ്ധാന്തങ്ങളുടെയും പൊതു പശ്ചാ ത്തലത്തിൽ മലയാളത്തിലെ സ്ത്രീപക്ഷരചനകളെ പഠിക്കുക.

സംസ്കാരത്തിലെ വംശ, വർഗ്ഗ, മത, ജാതി, ലിംഗനിർണയനങ്ങളെക്കുറിച്ചുള്ള ധാരണ നവീകരിക്കുകയും മാറുന്ന ലോകത്തിന്റെ പരിതഃസ്ഥിതികളിൽ നിന്നുകൊണ്ട് ഒരു പുതിയ മാനവീയതയെക്കുറിച്ചുള്ള അവബോധം സൃഷ്ടിക്കുകയും ചെയ്യുക എന്നതാണ് ഈ കോഴ്സിന്റെ സവിശേഷ ലക്ഷ്യം.

രീതിശാസ്ത്രം

ഈ കോഴ്സിന്റെ പഠനത്തിനു രണ്ടുതലങ്ങളുണ്ട്. ഒന്ന്: സിദ്ധാന്തതലം. രണ്ട്: ആവിഷ്ക്കാരതലം. സിദ്ധാന്തതലത്തിൽ ദലിതെഴുത്തിനും പെണ്ണെഴുത്തിനും ആസ്പദമായ അവസ്ഥകളെയും സിദ്ധാന്തങ്ങളെയും സാമാന്യമായി പരിചയപ്പെടു ത്തുന്നു. ആവിഷ്ക്കാരതലത്തിൽ ദലിതെഴുത്ത്, പെണ്ണെഴുത്ത് മാതൃകകൾ പരിചയ പ്പെടുത്തുകയും വിശദപഠനം ഏതാനും രചനകളിലായി പരിമിതപ്പെടുത്തുകയും ചെയ്യുന്നു.

സെമസ്റ്റർ : അഞ്ച്

സെമസ്റ്റർ	:	V
കോഴ്സ് കോഡ്	:	ML 1541
കോർ കോഴ്സ്	:	VI
സമയക്രമം	:	ആഴ്ചയിൽ 4 മണിക്കൂർ (18 ആഴ്ചയിൽ 72 മണിക്കൂർ)
ക്രെഡിറ്റ്	:	4

ഭാഷാശാസ്ത്രം - ഭാഷാചരിത്രം

എ - ഭാഷാശാസ്ത്രം

പഠനോദ്ദേശ്യം

ഭാഷയുടെ ശാസ്ത്രീയപഠനമാണ് ഭാഷാശാസ്ത്രം. ഭാഷാസ്വരൂപം അപഗ്രഥിച്ച് ഭാഷാനിയമം രൂപവൽക്കരിക്കുക, കണ്ടെത്തിയ നിയമപദ്ധതി ഭാഷകളിൽ പ്രയോഗിക്കുക എന്നിങ്ങനെ രണ്ടു സുപ്രധാന ലക്ഷ്യങ്ങളാണ് ഭാഷാശാസ്ത്രത്തിനുള്ളത്. ഭാഷാശാസ്ത്രത്തിൽ താല്പര്യമുളവാക്കാൻ പര്യാപ്തമായ പ്രാഥമിക പഠനമാണ് ഇവിടെ ലക്ഷ്യമാക്കുന്നത്.

രീതിശാസ്ത്രം

വിദ്യാർത്ഥികേന്ദ്രിതമായ ഒരു പഠനരീതി ഈ കോഴ്സിലും അനുവർത്തിക്കണം. ഭാഷാശാസ്ത്രസംബന്ധമായ സിദ്ധാന്തങ്ങൾ മനസ്സിലാക്കുതോടൊപ്പം ഭാഷയിൽനിന്ന് പ്രായോഗികമാതൃകകൾ കണ്ടെത്തി, വിശകലനം ചെയ്ത് അറിവ് ആഴത്തിലുള്ളതാക്കാനും പ്രത്യേകം ശ്രദ്ധിക്കേണ്ടതാണ്. അതിനു സഹായകമാകുംവിധത്തിൽ അസൈൻമെന്റും സെമിനാറും ക്രമീകരിക്കാവുന്നതാണ്.

സെമസ്റ്റർ	:	V
കോഴ്സ് കോഡ്	:	ML 1543
കോർ കോഴ്സ്	:	VIII
സമയക്രമം	:	ആഴ്ചയിൽ 3 മണിക്കൂർ (18 ആഴ്ചയിൽ 54 മണിക്കൂർ)
ക്രെഡിറ്റ്	:	2

വിവർത്തനം: സിദ്ധാന്തവും പ്രയോഗവും

പഠനോദ്ദേശ്യം

വ്യത്യസ്ത സമൂഹങ്ങൾ തമ്മിലുള്ള സമ്പർക്കത്തെ ആശയവിനിമയത്തിലൂടെ ദൃഢവും അനായാസവും ആകുന്നതിന് സഹായകമായ മാധ്യമമെന്ന നിലയിൽ വിവർത്തനത്തിന് സുപ്രധാനമായ സ്ഥാനമാണുള്ളത്. സാഹിത്യത്തിന്റെ ആശയപരമായ വികാസത്തിനും സമ്പന്നതയ്ക്കും വിവർത്തനം നല്കുന്ന സംഭാവനകളും അതി പ്രധാനമാണ്. അതിനാൽ വിവർത്തനത്തിന്റെ സ്വഭാവവും പ്രയോജനവും ആധുനിക കാലത്തെ അതിന്റെ സാധ്യതകളും പഠനവിധേയമാക്കേണ്ടതുണ്ട്.

വിവർത്തനത്തിന്റെ സ്വഭാവം, അതിന്റെ വ്യത്യസ്ത സമീപനങ്ങൾ, അതിന്റെ സിദ്ധാന്തങ്ങൾ, സാഹിത്യവിവർത്തനത്തിന്റെ പ്രശ്നങ്ങൾ എന്നിവ മനസ്സിലാക്കുക എന്നതാണ് ഈ കോഴ്സിന്റെ ലക്ഷ്യം.

രീതിശാസ്ത്രം

വിവർത്തനത്തിന്റെ മികച്ച മാതൃകകൾ കണ്ടെത്തിയുള്ള പ്രായോഗിക പഠനത്തിനും, ശൈലി, പഴഞ്ചൊല്ലുകൾ, കടങ്കഥകൾ, സാങ്കേതികപദങ്ങൾ, ഭരണഭാഷാപദങ്ങൾ, പത്രപരസ്യം, വാർത്ത എന്നിവയുടെ വിവർത്തനത്തിനും ഈ കോഴ്സിൽ പ്രത്യേകം ഊന്നൽ നല്കുന്നു. കോഴ്സിന്റെ ഉള്ളടക്കവുമായി ബന്ധപ്പെട്ട വിഷയങ്ങൾ അസൈൻമെന്റ്, സെമിനാർ എന്നിവയ്ക്കായി നല്കേണ്ടതാണ്.

സെമസ്റ്റർ	:	V
കോഴ്സ് കോഡ്	:	ML 1542
കോർ കോഴ്സ്	:	VII
സമയക്രമം	:	ആഴ്ചയിൽ 4 മണിക്കൂർ (18 ആഴ്ചയിൽ 72 മണിക്കൂർ)
ക്രെഡിറ്റ്	:	4

ചെറുകഥാപഠനം

കഥാമാലിക (കേരളസർവ്വകലാശാല പ്രസിദ്ധീകരണം)

പഠനോദ്ദേശ്യം

1. ചെറുകഥാസാഹിത്യത്തിന്റെ ഉദ്ഭവത്തെക്കുറിച്ചും വളർച്ചയെക്കുറിച്ചും മനസ്സിലാക്കുക.
2. മലയാളചെറുകഥാചരിത്രത്തിലെ വ്യത്യസ്ത കാലഘട്ടങ്ങളെയും പ്രവണതകളെയും കുറിച്ച് പഠിക്കുക.
3. സമകാലിക മലയാളചെറുകഥകളുടെ രൂപതലത്തിലും ഭാവതലത്തിലുമുള്ള സവിശേഷതകൾ മനസ്സിലാക്കുക.
4. ചെറുകഥകളെ ചരിത്രപരമായും സാംസ്കാരികമായും വിശകലനംചെയ്യാനും വിലയിരുത്താനും വിദ്യാർത്ഥികളെ പ്രാപ്തരാക്കുക.
5. വിദ്യാർത്ഥികളിൽ ആസ്വാദനശേഷി വളർത്തുക.

സെമസ്റ്റർ	:	V
കോഴ്സ് കോഡ്	:	ML 1545
കോർ കോഴ്സ്	:	X
സമയക്രമം	:	ആഴ്ചയിൽ 4 മണിക്കൂർ (18 ആഴ്ചയിൽ 72 മണിക്കൂർ)
ക്രെഡിറ്റ്	:	4

തിരക്കഥയും സിനിമയും

പഠനലക്ഷ്യം

വർത്തമാനകാലം മാധ്യമങ്ങളുടേതാണ്. മാധ്യമയുഗത്തിന്റെ വേഗതയിൽനിന്നും സംവാദങ്ങളിൽനിന്നും മാറിനിന്ന് കലാസ്വാദനം നിർവഹിക്കുവാൻ ആഗ്രഹിക്കുന്നവർക്ക് ആ കാലഘട്ടത്തിന്റെതന്നെ നിർമ്മിതിയാണ് സിനിമ. രൂപീകരണപക്ഷത്തും ആസ്വാദനത്തിലും സംഘസ്വഭാവമാണ് സിനിമ പുലർത്തുന്നത്. സിനിമാപഠനത്തിന് വിവിധ രീതികളുണ്ട്. സിനിമയുടെ സ്വഭാവവും നിർമ്മിതിയും സൗന്ദര്യശാസ്ത്രവുമെല്ലാമായി ഈ പഠനം ബന്ധപ്പെട്ടുനിൽക്കുന്നു. ഇവിടെ സിനിമയുടെ സാഹിത്യപക്ഷത്തിന് പ്രധാന്യം നൽകി അതിന്റെ സാമാന്യസ്വഭാവം വിദ്യാർത്ഥികളെ പരിചയപ്പെടുത്തുന്നു.

സെമസ്റ്റർ	:	V
കോഴ്സ് കോഡ്	:	ML 1511.1
ഓപ്പൺ കോഴ്സ്	:	I
സമയക്രമം	:	ആഴ്ചയിൽ 3 മണിക്കൂർ (18 ആഴ്ചയിൽ 54 മണിക്കൂർ)
ക്രെഡിറ്റ്	:	2

കേരളീയകലകൾ

പഠനോദ്ദേശ്യം:

കലകളുടെ വിശാലമായ സൗന്ദര്യലോകത്തേക്ക് വിദ്യാർത്ഥികളെ ആനയിക്കുകയും അവരുടെ കലാവാസനകൾക്ക് ഉന്മേഷവും പ്രേരണയുമുണ്ടാക്കുകയും കലാസ്വാദനത്തിലൂടെ മാനസികമായ വികാസം സാധ്യമാക്കുകയും ചെയ്യുകയെന്നതാണ് ഈ കോഴ്സിന്റെ പ്രാഥമികോദ്ദേശ്യം. കേരളീയകലകളുടെ പൊതു അവലോകനത്തിലൂടെ അവയുടെ ഉള്ളിലേക്കിറങ്ങിക്കൊണ്ട് കേരളത്തിന്റെ കലാചരിത്രവും സംസ്കാരവും മനസ്സിലാക്കാനും വാക്കും വസ്തുവും ശരീരവും സമന്വയിക്കുന്ന കേരളീയഭാവനയുടെ ഔന്നത്യം തിരിച്ചറിയാനും വിദ്യാർത്ഥികളെ പ്രാപ്തരാക്കുക എന്നതിനാണ് ഊന്നൽ നല്കേണ്ടത്. അസൈൻമെന്റിന് ഏതെങ്കിലും കലാരൂപത്തിന്റെ അവതരണം നേരിൽക്കണ്ട് വിവരണം നല്കുന്നതിനും പ്രേരിപ്പിക്കാവുന്നതാണ്. പരസ്പരപൂരകങ്ങളാണെങ്കിലും കേരളീയകലകളെ സാമാന്യമായി മാധ്യമത്തെ അടിസ്ഥാനമാക്കി രണ്ടായി തിരിച്ചുകൊണ്ടുള്ള സമീപനമാണ് ഇവിടെ സ്വീകരിച്ചിരിക്കുന്നത്. ഓരോ വിഭാഗത്തിലും ഉൾപ്പെടുന്ന അനേകം കലകളുണ്ടെങ്കിലും പ്രധാനപ്പെട്ടവയെ പരിചയപ്പെടുത്തുകയെന്ന ഉദ്ദേശ്യത്തിലാണ് പേരുകൾ പരാമർശിക്കുന്നത്.

സെമസ്റ്റർ	:	V
കോഴ്സ് കോഡ്	:	ML 1511.2
ഓപ്പൺ കോഴ്സ്	:	I
സമയക്രമം	:	ആഴ്ചയിൽ 3 മണിക്കൂർ (18 ആഴ്ചയിൽ 54 മണിക്കൂർ)
ക്രെഡിറ്റ്	:	2

തിരക്കഥാരചന : തത്വവും പ്രയോഗവും

പഠനലക്ഷ്യം

സിനിമ രൂപീകരിക്കാനുള്ള പാഠമെന്ന നിലയിലാണ് തിരക്കഥയുടെ പ്രഥമ അസ്തിത്വം. സിനിമ ഒരു കലാമാധ്യമവും വ്യവസായ ഉത്പന്നവുമായതോടെ അതിന്റെ നിർമ്മിതിക്ക് മാർഗ്ഗരേഖയായ തിരക്കഥയ്ക്കും പ്രസക്തിയേറി. ടെലിവിഷൻ, മൊബൈൽ ഫോൺ തുടങ്ങിയ മാധ്യമങ്ങൾ ദൃശ്യചാരുതയോടെ കഥാഖ്യാനം നിർവഹിക്കുന്ന കാലത്ത് അവയുടെ പാഠമെന്ന നിലയിൽ തിരക്കഥയ്ക്കും സവിശേഷമായ പ്രസക്തിയുണ്ടായി. തിരക്കഥയുടെ പഠനത്തിന് പ്രധാനമായും മൂന്ന് മേഖലകളാണുള്ളത്. തിരക്കഥയുടെ രചനാശാസ്ത്രം പഠിപ്പിക്കുന്ന രീതി, തിരക്കഥ പരിവർത്തനപ്പെട്ട് സിനിമയാകുന്ന രീതി, തിരക്കഥയെ സാഹിത്യമായി കണ്ട് വായിക്കുകയും, വിശകലനം ചെയ്യുകയും ചെയ്യുന്ന രീതി എന്നിവയാണ് പഠനമേഖലകൾ. തിരക്കഥയുടെ രചനക്ക് ഭാവനയ്ക്കും സർഗ്ഗാത്മകതയ്ക്കുമൊപ്പം പ്രായോഗികമായ കുറെ അറിവുകൾകൂടി ആർജ്ജിച്ചെടുക്കേണ്ടതുണ്ട്.

സെമസ്റ്റർ	:	V
കോഴ്സ് കോഡ്	:	ML 1511.3
ഓപ്പൺ കോഴ്സ്	:	I
സമയക്രമം	:	ആഴ്ചയിൽ 3 മണിക്കൂർ (18 ആഴ്ചയിൽ 54 മണിക്കൂർ)
ക്രെഡിറ്റ്	:	2

മലയാളപത്രപ്രവർത്തനം

പഠനോദ്ദേശ്യം

മലയാള പത്രപ്രവർത്തനമേഖല ഭാഷയ്ക്കും സംസ്കാരത്തിനും സാഹിത്യത്തിനും നൽകിയിട്ടുള്ള സംഭാവന നിസ്സീമമാണ്. ജനതയുടെ ഭാഷയെയും സംസ്കാരത്തെയും സർഗ്ഗചോദനകളെയും പരിപോഷിപ്പിക്കുന്നതിൽ പത്രമാധ്യമങ്ങൾ വലിയ പങ്ക് വഹിച്ചിട്ടുണ്ട്. കേരളത്തിൽ ഒരു പൊതുഭാഷ സൃഷ്ടിക്കുകയും വളർത്തിയെടുക്കുകയും ഭാഷയുടെ പ്രാദേശികഭേദങ്ങൾക്കപ്പുറത്ത് കേരളത്തെ ഒരുമിപ്പിച്ചു നിർത്തുകയും ചെയ്യുന്നതിൽ ഈ മാധ്യമം വഹിക്കുന്ന പങ്ക് വലുതാണ്. ഈ പശ്ചാത്തലത്തിൽ, ഭാഷയുടെയും സാഹിത്യത്തിന്റെയും പഠനത്തിൽ ഒഴിച്ചു കൂടാനാവാത്തതാണ് പത്രമാധ്യമ പഠനം.

സെമസ്റ്റർ	:	V
കോഴ്സ് കോഡ്	:	ML 1511.4
ഓപ്പൺ കോഴ്സ്	:	I
സമയക്രമം	:	ആഴ്ചയിൽ 3 മണിക്കൂർ (18 ആഴ്ചയിൽ 54 മണിക്കൂർ)
ക്രെഡിറ്റ്	:	2

ചലച്ചിത്രപഠനം

സെമസ്റ്റർ : ആറ്

സെമസ്റ്റർ	:	VI
കോഴ്സ് കോഡ്	:	ML 1641
കോർ കോഴ്സ്	:	XI
സമയക്രമം	:	ആഴ്ചയിൽ 5 മണിക്കൂർ (18 ആഴ്ചയിൽ 90 മണിക്കൂർ)
ക്രെഡിറ്റ്	:	4

മാധ്യമലോകം

പഠനോദ്ദേശ്യം:

മാധ്യമങ്ങളുടെ അനന്ത സാധ്യതയുള്ള ലോകം വിദ്യാർത്ഥികൾക്ക് പരിചിതമാക്കുക എന്നതാണ് കോഴ്സിന്റെ പ്രധാനലക്ഷ്യം. ശാസ്ത്രീയവും യുക്ത്യധിഷ്ഠിതവുമായ ചിന്തയിലൂടെ വിവരസാങ്കേതികവിദ്യയുടെ കാലത്ത് ജീവിക്കുവാൻ പഠിതാക്കൾക്ക് അവസരം ഉണ്ടാവണം. നവീനവിജ്ഞാനം പകർന്നുനൽകുന്ന സ്രോതസ്സുകളെക്കുറിച്ച് വിദ്യാർത്ഥികളെ അഭിജ്ഞരാക്കുക, മാധ്യമങ്ങളുടെ വളർച്ചയിലൂടെ സമൂഹത്തിനു കൈവന്ന സാംസ്കാരികോന്നമനത്തെക്കുറിച്ച് അറിവുനൽകുക, റേഡിയോ, ടെലിവിഷൻ പരിപാടികളുടെ ആസ്വാദനത്തിനും വിലയിരുത്തലിനും വിദ്യാർത്ഥികളെ പ്രാപ്തരാക്കുക, പ്രതിഭാധനരായ കുട്ടികൾക്ക് മാധ്യമലോകത്തേക്കു കടന്നുവരാൻ പ്രചോദനമേകുക - ഇതെല്ലാം ഈ കോഴ്സിന്റെ ലക്ഷ്യങ്ങളാണ്.

സെമസ്റ്റർ	:	VI
കോഴ്സ് കോഡ്	:	ML 1642
കോർ കോഴ്സ്	:	XII
സമയക്രമം	:	ആഴ്ചയിൽ 5 മണിക്കൂർ (18 ആഴ്ചയിൽ 90 മണിക്കൂർ)
ക്രെഡിറ്റ്	:	4

മലയാളവ്യാകരണം

പഠനോദ്ദേശ്യം

1. വർണ്ണം, അക്ഷരം, പദം, വാക്യം എന്നീ തലങ്ങളിൽ മലയാളത്തിന്റെ അടിസ്ഥാന സ്വഭാവം എന്തെന്ന് മനസ്സിലാക്കി തെറ്റുകൂടാതെ മലയാളം ഉപയോഗിക്കാൻ പ്രാപ്തരാക്കുക.
2. ഭാഷയുടെ അടിസ്ഥാന തത്ത്വങ്ങളിലൂന്നിയ വ്യാകരണപഠനത്തിലൂടെ ബിരുദ തല മലയാളപഠനം കരുത്തുറ്റതാക്കുക.
3. ഒരു ജീവൽഭാഷ എന്ന നിലയിൽ ചലനാത്മകമായ മലയാളഭാഷയും ഭാഷാ നിയമങ്ങളും നിരന്തരം മാറിക്കൊണ്ടിരിക്കുന്നു എന്ന വസ്തുത ബോധ്യപ്പെടുത്തുക.
4. ഭാഷയെ വിശകലനം ചെയ്ത് ഭാഷാസ്വരൂപം നിർണ്ണയിക്കാൻ പ്രാപ്തരാക്കുക.
5. മലയാളഭാഷയെ അപഗ്രഥിച്ച് പ്രയോഗങ്ങളെ മനസ്സിലാക്കുക.

സെമസ്റ്റർ	:	VI
കോഴ്സ് കോഡ്	:	ML 1643
കോർ കോഴ്സ്	:	XIII
സമയക്രമം	:	ആഴ്ചയിൽ 5 മണിക്കൂർ (18 ആഴ്ചയിൽ 90 മണിക്കൂർ)
ക്രെഡിറ്റ്	:	4

മലയാളകവിത - ഉത്തരഘട്ടം

ഉത്തരകാവ്യമാലിക (കേരളസർവ്വകലാശാലാ പ്രസിദ്ധീകരണം)

ഉദ്ദേശ്യലക്ഷ്യങ്ങൾ

1. ഇരുപതാം നൂറ്റാണ്ടിന്റെ ആരംഭം മുതൽ ഇന്നോളം മലയാളകവിതയിലുണ്ടായ ഭാഷാപരവും ഭാവുകത്വപരവുമായ പരിണാമം മനസ്സിലാക്കുക.
2. മലയാളകവിതയിലെ നവോത്ഥാനാനന്തര പ്രവണതകളെക്കുറിച്ചു മനസ്സിലാക്കുക.
3. പാശ്ചാത്യകവിതാസമ്പർക്കത്തിന്റെ ഫലമായി മലയാളകവിതയുടെ രൂപത്തിൽ സംഭവിച്ച മാറ്റം ഗ്രഹിക്കുക.
4. പ്രതീകം, ബിംബകല്പന തുടങ്ങിയ ആവിഷ്കരണോപാധികളുടെ വിനിയോഗത്തെപ്പറ്റി അറിയുക.
5. ആധുനികതയുടെ കടന്നുവരവിനെ ചരിത്രപരമായും കാവ്യാപഗ്രഥനത്തിലൂടെയും തിരിച്ചറിയുക.
6. ആധുനികാനന്തരകവിതയുടെ സ്വഭാവം മനസ്സിലാക്കുക.
7. സമകാലിക മലയാളകവിതയെ പരിചയപ്പെടുക.

സെമസ്റ്റർ	:	VI
കോഴ്സ് കോഡ്	:	ML 1644
കോർ കോഴ്സ്	:	XIV
സമയക്രമം	:	ആഴ്ചയിൽ 4 മണിക്കൂർ (18 ആഴ്ചയിൽ 72 മണിക്കൂർ)
ക്രെഡിറ്റ്	:	3

നാടോടിവിജ്ഞാനീയം

പഠനോദ്ദേശ്യം

1. കേരളസംസ്കൃതിയും പാരമ്പര്യവുമായി ബന്ധപ്പെട്ട നാടോടി വിജ്ഞാനീയത്തെക്കുറിച്ച് അറിയാനുള്ള അവസരം ഒരുക്കുക.
2. നാടോടിവിജ്ഞാനീയം എന്ന പഠനശാഖയെ ഏറ്റവും പുതിയ ചിന്തകളുടെയും സമീപനത്തിന്റെയും വെളിച്ചത്തിൽ മനസ്സിലാക്കുക.
3. നാടൻ സംസ്കാരരൂപങ്ങളെ വിമർശനാത്മകമായി വിലയിരുത്തുക.
4. നാട്ടറിവുകളുടെ വ്യത്യസ്ത ജനുസ്സുകളും തരതമഭേദങ്ങളും പരിചയപ്പെടുക.
5. ഫോക്‌ലോർ ശേഖരണത്തിനുള്ള ശാസ്ത്രീയമായ പ്രയോഗവൈദഗ്ദ്ധ്യം നേടുക.
6. സാഹിത്യപഠനത്തിന് നാടൻ സാഹിത്യത്തിന്റെയും വാമൊഴി വഴക്കത്തിന്റെയും കരുക്കൾ പ്രയോജനപ്പെടുത്തുക.
7. ഫോക്‌ലോറിന്റെ സൗന്ദര്യശാസ്ത്രപരവും സാംസ്കാരികവുമായ ഘടകങ്ങൾ മനസ്സിലാക്കുക.
8. പഠനയാത്രകളിലൂടെ കേരളത്തിന്റെ സാംസ്കാരിക ബഹുസ്വരതയെ പരിചയപ്പെടുക.

സെമസ്റ്റർ	:	VI
കോഴ്സ് കോഡ്	:	ML 1651.1
ഓപ്പൺ കോഴ്സ്	:	II ഐച്ഛികം (Elective)
സമയക്രമം	:	ആഴ്ചയിൽ 3 മണിക്കൂർ (18 ആഴ്ചയിൽ 54 മണിക്കൂർ)
ക്രെഡിറ്റ്	:	2

താരതമ്യസാഹിത്യം

പഠനോദ്ദേശ്യം:

സാഹിത്യത്തിന്റെ സാമൂഹിക ബന്ധത്തിലും സാംസ്കാരികാടിത്തറയിലും ഊന്നുന്ന പഠനസമ്പ്രദായമാണ് താരതമ്യസാഹിത്യം. സാഹിത്യത്തെ ഉപകരണവും താരതമ്യത്തെ മാർഗ്ഗവും ആക്കുന്ന ഈ അന്വേഷണരീതിയുടെ അടിസ്ഥാനലക്ഷ്യം സംസ്കാരപഠനമാണ്. സാഹിത്യത്തിന്റെ ദേശീയവും അന്തർദ്ദേശീയവും ആയ ഊർജ്ജസ്സുകളെ തിരിച്ചറിയുക, ദേശ, കാല, ഭാഷ, രാഷ്ട്രപരമായ വ്യത്യസ്തതകൾക്കിടയിലും മാനവികമായ മൗലിക സാധാരണതകളെ കണ്ടെത്തുക, ദേശീയതയിൽ ചുവടുറപ്പിച്ചുകൊണ്ട് അന്തർദേശീയവീക്ഷണത്തിലേക്ക് വളരുക, ഭാരതത്തിന്റെ സാംസ്ക്കാരിക സവിശേഷതകളെ മനസ്സിലാക്കുക, സിദ്ധാന്തങ്ങൾ മനസ്സിലാക്കാനുള്ള ശേഷി കൈവരിക്കുക എന്നിവയാണ് ഈ കോഴ്സിന്റെ ലക്ഷ്യം.

സെമസ്റ്റർ	:	VI
കോഴ്സ് കോഡ്	:	ML 1651.2
ഓപ്പൺ കോഴ്സ്	:	II ഐച്ഛികം (Elective)
സമയക്രമം	:	ആഴ്ചയിൽ 3 മണിക്കൂർ (18 ആഴ്ചയിൽ 54 മണിക്കൂർ)
ക്രെഡിറ്റ്	:	2

ഭാഷാസാഹിത്യസംവാദങ്ങൾ

ഭാഷയുടെയും സാഹിത്യത്തിന്റെയും വികാസത്തിനും പരിവർത്തനത്തിനും പല കാലങ്ങളിലുണ്ടാകുന്ന സംവാദങ്ങൾ കാരണമാകാറുണ്ട്. ഭാഷാസാഹിത്യമണ്ഡലങ്ങളെ ചലനാത്മകമാക്കാനും പുതിയതരം അന്വേഷണങ്ങൾക്കും കണ്ടെത്തലുകൾക്കും ആരോഗ്യകരവും കാലോചിതവുമായ മാറ്റത്തിനും സംവാദങ്ങൾ നിർണ്ണായകമായ

സെമസ്റ്റർ	:	VI
കോഴ്സ് കോഡ്	:	ML 1651.3
ഓപ്പൺ കോഴ്സ്	:	II ഐച്ഛികം (Elective)
സമയക്രമം	:	ആഴ്ചയിൽ 3 മണിക്കൂർ (18 ആഴ്ചയിൽ 54 മണിക്കൂർ)
ക്രെഡിറ്റ്	:	2

കേരളീയകലകൾ

പഠനോദ്ദേശ്യം:

കലകളുടെ വിശാലമായ സൗന്ദര്യലോകത്തേക്ക് വിദ്യാർത്ഥികളെ ആനയിക്കുകയും അവരുടെ കലാവാസനകൾക്ക് ഉന്മേഷവും പ്രേരണയുമുണ്ടാക്കുകയും കലാസ്വാദനത്തിലൂടെ മാനസികമായ വികാസം സാധ്യമാക്കുകയും ചെയ്യുകയെന്നതാണ് ഈ കോഴ്സിന്റെ പ്രാഥമികോദ്ദേശ്യം. കേരളീയകലകളുടെ പൊതു അവലോകനത്തിലൂടെ അവയുടെ ഉള്ളിലേക്കിറങ്ങിക്കൊണ്ട് കേരളത്തിന്റെ കലാചരിത്രവും സംസ്കാരവും മനസ്സിലാക്കാനും വാക്കും വസ്തുവും ശരീരവും സമന്വയിക്കുന്ന കേരളീയഭാവനയുടെ ഔന്നത്യം തിരിച്ചറിയാനും വിദ്യാർത്ഥികളെ പ്രാപ്തരാക്കുക എന്നതിനാണ് ഊന്നൽ നല്കേണ്ടത്. അസൈൻമെന്റിന് ഏതെങ്കിലും കലാരൂപത്തിന്റെ അവതരണം നേരിൽക്കണ്ട് വിവരണം നല്കുന്നതിനും പ്രേരിപ്പിക്കാവുന്നതാണ്. പരസ്പരപൂരകങ്ങളാണെങ്കിലും കേരളീയകലകളെ സാമാന്യമായി മാധ്യമത്തെ അടിസ്ഥാനമാക്കി രണ്ടായി തിരിച്ചുകൊണ്ടുള്ള സമീപനമാണ് ഇവിടെ സ്വീകരിച്ചിരിക്കുന്നത്. ഓരോ വിഭാഗത്തിലും ഉൾപ്പെടുന്ന അനേകം കലകളുണ്ടെങ്കിലും പ്രധാനപ്പെട്ടവയെ പരിചയപ്പെടുത്തുകയെന്ന ഉദ്ദേശ്യത്തിലാണ് പേരുകൾ പരാമർശിക്കുന്നത്.

സെമസ്റ്റർ	:	VI
കോഴ്സ് കോഡ്	:	ML 1651.4
ഓപ്പൺ കോഴ്സ്	:	II ഐച്ഛികം (Elective)
സമയക്രമം	:	ആഴ്ചയിൽ 3 മണിക്കൂർ (18 ആഴ്ചയിൽ 54 മണിക്കൂർ)
ക്രെഡിറ്റ്	:	2

തിരക്കഥാരചന : തത്ത്വവും പ്രയോഗവും

പഠനലക്ഷ്യം:

സിനിമ രൂപീകരിക്കാനുള്ള പാഠമെന്ന നിലയിലാണ് തിരക്കഥയുടെ പ്രഥമ അസ്തിത്വം. സിനിമ ഒരു കലാമാധ്യമവും വ്യവസായ ഉത്പന്നവുമായതോടെ അതിന്റെ നിർമ്മിതിക്ക് മാർഗ്ഗരേഖയായ തിരക്കഥയ്ക്കും പ്രസക്തിയേറി. ടെലിവിഷൻ, മൊബൈൽ ഫോൺ തുടങ്ങിയ മാധ്യമങ്ങൾ ദൃശ്യചാരുതയോടെ കഥാഖ്യാനം നിർവഹിക്കുന്ന കാലത്ത് അവയുടെ പാഠമെന്ന നിലയിൽ തിരക്കഥയ്ക്കും സവിശേഷമായ പ്രസക്തിയുണ്ടായി. തിരക്കഥയുടെ പഠനത്തിന് പ്രധാനമായും മൂന്ന് മേഖലകളാണുള്ളത്. തിരക്കഥയുടെ രചനാശാസ്ത്രം പഠിപ്പിക്കുന്ന രീതി, തിരക്കഥ പരിവർത്തനപ്പെട്ട് സിനിമയാകുന്ന രീതി, തിരക്കഥയെ സാഹിത്യമായി കണ്ട് വായിക്കുകയും, വിശകലനം ചെയ്യുകയും ചെയ്യുന്ന രീതി എന്നിവയാണ് പഠനമേഖലകൾ. തിരക്കഥയുടെ രചനക്ക് ഭാവനയ്ക്കും സർഗ്ഗാത്മകതയ്ക്കുമൊപ്പം പ്രായോഗികമായ കുറെ അറിവുകൾകൂടി ആർജ്ജിച്ചെടുക്കേണ്ടതുണ്ട്.

സെമസ്റ്റർ	:	VI
കോഴ്സ് കോഡ്	:	ML 1651.5
ഓപ്പൺ കോഴ്സ്	:	II ഐച്ഛികം (Elective)
സമയക്രമം	:	ആഴ്ചയിൽ 3 മണിക്കൂർ (18 ആഴ്ചയിൽ 54 മണിക്കൂർ)
ക്രെഡിറ്റ്	:	2

മലയാളപത്രപ്രവർത്തനം

പഠനോദ്ദേശ്യം

മലയാള പത്രപ്രവർത്തനമേഖല ഭാഷയ്ക്കും സംസ്കാരത്തിനും സാഹിത്യത്തിനും നൽകിയിട്ടുള്ള സംഭാവന നിസ്സീമമാണ്. ജനതയുടെ ഭാഷയെയും സംസ്കാരത്തെയും സർഗ്ഗചോദനകളെയും പരിപോഷിപ്പിക്കുന്നതിൽ പത്രമാധ്യമങ്ങൾ വലിയ പങ്ക് വഹിച്ചിട്ടുണ്ട്. കേരളത്തിൽ ഒരു പൊതുഭാഷ സൃഷ്ടിക്കുകയും വളർത്തിയെടുക്കുകയും ഭാഷയുടെ പ്രാദേശികഭേദങ്ങൾക്കപ്പുറത്ത് കേരളത്തെ ഒരുമിപ്പിച്ചു നിർത്തുകയും ചെയ്യുന്നതിൽ ഈ മാധ്യമം വഹിക്കുന്ന പങ്ക് വലുതാണ്. ഈ പശ്ചാത്തലത്തിൽ, ഭാഷയുടെയും സാഹിത്യത്തിന്റെയും പഠനത്തിൽ ഒഴിച്ചു കൂടാനാവാത്തതാണ് പത്രമാധ്യമ പഠനം.

BA POLITICAL SCIENCE

SEMESTER I
CORE COURSE I PS 1141
METHODOLOGY AND PERSPECTIVES OF SOCIAL SCIENCES

Aim of the course
The course intends to familiarize the students with the broad contours of social sciences and their methodology.
Objective of the course
Identify the main concerns of social science disciplines
Articulate the basic terminology and theories prevalent across disciplines
Understand qualitative and quantitative models within the social sciences
To learn to apply the methods and theories of social science to contemporary issues
Critically read popular and periodical literature from a social science perspective

COMPLEMENTARY COURSE – I
PS 1131 INTRODUCTION TO POLITICAL SCIENCE

Aim:
The course to intend to familiarize the students with the fundamental Principles of Political Science
Objectives:
To understand the major principles of Political Science
To introduce the major concepts of Political Science
To make aware about various political ideologies.

SEMESTER - II
CORE COURSE –II PS 1241 INTRODUCTION TO POLITICAL THEORY

Aims:
To make a better understanding of the various principles in political science discipline.
To familiarize the students with the various aspects of political theory.
Objective of the course:
To introduce the students Political theory and the basic concepts
To identify various approaches to the study of Political theory
To impart knowledge about various theories and concepts of Political Theory
To familiarize the students about the structure and functions of the organs of government.

COMPLEMENTARY COURSE -II
PS 1231 INDIAN GOVERNMENT AND POLITICS

Aim:

To impart knowledge about the functioning of the constitution of India.

Objectives:

To study the basic principles of the Indian constitution

To impart awareness about the Political System in India.

SEMESTER III

FOUNDATION COURSE II PS 1321 CYBER POLITICS

Aim:

The course intends to offer a broad perspective on Cyber Space and the politics involved in it.

Objectives:

To introduce the student to Information Communication Technology(ICT)

To familiarize the importance of ICT in Governance and Development

To make the student understand the importance of democratization of Cyber Space and its security issues

CORE COURSE – III PS 1341 INDIAN CONSTITUTION

Aim:

To impart knowledge about the legal and ideological framework of the Indian Constitution.

Objectives: .

To create awareness about the political processes and the actual functioning of the political system.

To study in detail the political structure – both constitutional and administrative.

To study the rights and privileges granted by the constitution.

COMPLEMENTARY COURSE-III

PS 1331 PUBLIC ADMINISTRATION

Aim:

The course is intended to create an understanding of the basic elements of Public Administration

Objectives:

To equip the students with some theoretical understanding about Public Administration.

To embody detailed discussion on Organization, Personnel Administration and Financial Administration.

SEMESTER- IV

CORE COURSE – IV PS 1441 DYNAMICS OF INDIAN POLITICS

Aim :
The major aim of the course is to impart knowledge about the actual working of the Indian Political system in a plural set up

.**Objectives:**

To study the unique characteristics of the Indian federal system.
To motivate the students to critically study the functioning of the constitution.
To impart awareness about major issues in Indian Political system.

CORE COURSE – V PS 1442 INTRODUCTION TO COMPARATIVE POLITICS

Aim:
The course intends to highlight the theoretical evolution and approaches to the study of Comparative Politics

Objectives:

To impart skill to analyse in a comparative way political developments across world in the light of various theories.
To familiarize the students basic features about the constitutions of major political systems.

COMPLIMENTARY COURSE VII PS 1431 INTERNATIONAL POLITICS

Aim:
The course seeks to equip the students with the basic concepts, theories, ideologies, and approaches in the study of International Politics

Objectives:

To provide an overview of the changing power relations in the international arena.
To create awareness about major issues in global politics

SEMESTER - V
CORE COURSE –VI PS 1541 PUBLIC ADMINISTRATION

Aim:
The course is designed to inculcate a basic understanding of the fundamental principles of Public Administration

Objectives:

To create awareness about the basic pillars of Public Administration like Organisation, Personnel Administration, Financial Administration.
To impart knowledge about Planning and its machinery.
To create awareness about Citizen's defender mechanisms.

CORE COURSE –VII PS 1542 ANCIENT AND MEDIEVAL POLITICAL THOUGHT

Aim :
To familiarize the Ideas of ancient and medieval political thinkers.

Objectives :

To build in the minds of students an overall outlook about political thought.

To study about the relevance of ancient and modern political thought in the modern world.

CORE COURSE –VIII PS 1543 INTERNATIONAL RELATIONS

Aim:

The course seeks to equip the students with the basic concepts, theories, ideologies and approaches to the study of International Relations.

Objectives:

To familiarize the changing nature of power relations.

To make an understanding about issues in global politics.

CORE COURSE-IX
PS 1544 RESEARCH METHODS IN POLITICAL SCIENCE

Aim:

The course intend to familiarize the students with the research methods in Political Science

Objective:

To enable for the practical use of students in their Project/Dissertation in the Sixth Semester.

To identify the different methods and techniques applicable to Political Science Research.

CORE COURSE –X PS 1545 HUMAN RIGHTS IN INDIA

Aim:

The course is intended to high light the concept of Human Rights, its evolution and importance in our society.

Objectives:

To make an understand about various rights, including political, civil**,** social, economic and cultural rights

To familiarize the Human rights condition in India including constitutional provisions

To equip with the students the skills to evaluate the Human Rights enforcement methods.

OPEN COURSE - I
PS 1551.2 HUMAN RIGHTS IN INDIA

Aim:

To familiarize the concept of Human Rights and impart awareness about the Human Rights conditions in India

Objectives:

To make a detailed understanding about the constitutional provisions dealing with Human

Rights
To make awareness about the Rights of socially excluded people

SEMESTER -VI
CORE COURSE -XI
PS 1641 MODERN POLITICAL THOUGHT

Aim:
The course is intended to provide a detailed understanding about modern political thought.
Objectives:
To equip the student to develop their own ideas about various political and social issues.
To attempt a comparative study of eastern and western political thought,

CORE COURSE -XII
PS 1642 STATE AND SOCIETY IN KERALA

Aim:
The course intended to provide a comprehensive analysis of the socio-political structure of Kerala
Objectives:
To familiarize the students with the state and social structure of Kerala
To make a detailed analysis of the socio-political evolution of the state of Kerala
To equip the students to analyze the key issues in the state and society in Kerala

CORE COURSE
PS : 1643 DECENTRALISATION AND PARTICIPATORY DEMOCRACY

Aim :
The course intends to provide a detailed understanding about democratic decentralization, participatory governance with emphasis on India and Kerala
Objectives :
To impart knowledge about tools of participatory democracy
To inculcate skills for capacity building activities in local self governing institutions.

CORE COURSE – XIV PS 1644 NEW SOCIAL MOVEMENTS

Aim:
The course intended to offer a broad perspective on power and resistance in the era of neoliberal globalisation
Objectives:
To equip the students to understand the dynamics of social conflicts, activism and social change
To familiarize contemporary social movements in the civil society with an emphasis on the movements by the marginalized sections in the era of neoliberal globalization

OPEN COURSE - II (ELECTIVE)
PS 1651.1
GLOBALISATION AND INDIAN POLITICAL SYSTEMS

Aim:
To equip the students to understand the principles and practice of the programe of globalisation and its impact in India.
Objectives:
To impart knowledge about the new global Order with special emphasize on India.
To create awareness about the impact of globalisation on the life of the people of India.

OPEN COURSE - II (ELECTIVE)
PS 1651.2
INTRODUCTION TO PUBLIC POLICY ANALYSIS

Aim:
To equip students to find solutions to practical problems which are brought to the agenda of government.
Objectives:
To familiarize the actual situations of Public Policy formulation.
To create awareness about the determines of public policy.

PS 1645
PROJECT /DISSERTATION

Aim:
To develop an aptitude for research in Political Science
Objective:
To inculcate proficiency to identify appropriate research topics and presentation

B.A. SANSKRIT VEDANTA (2013 Onwards)

Semester I

SAHITYA PARICAYA

Semester	Course title	Course code	L	C
1	Complementary course II	SS.1132	3	2

Aim of the course

To create awareness of Sanskrit poetry

Objectives of the course

1. To introduce the kavya literature.
2. To introduce Sanskrit metres and alamkaras
3. To introduce Sanskrit drama

Samskrita Pravesa

Semester No	Course title	Course Code	L	C
1	Complimentary Course I	SV.1131	3	2

Aim of the Course

This course is designed to import knowledge about the basics of Sanskrit Language.

Objectives of the Course

1. To introduce the essential basic grammar.
2. To impart knowledge about *Sandhi* in Sanskrit Language.
3. To make students aware of *Karakas* in Sanskrit.

Methodology of Vedanta

Semester No	Course title	Course Code	L	C
1	Core Course.I	SV.1141	6	4

Aim of the Course

The Course is intended to introduce the student to the methodology of learning Vedanta. Since the medium of learning is Sanskrit language, the course is intended to make the student capable of using language also.

Objectives of the Course

1. To understand Sanskrit language and its special characteristic features.
2. To familiarize Sanskrit language with emphasis of articulation of Sanskrit words and their easy usage.
3. To introduce the philosophy of Vedanta and its methodology.

Semester II

Linguistics

Semester No	Course title	Course Code	L	C
2	Compl. Course III	SV.1231	3	3

Aim of the course

Aim of the course to make the students aware of the origin of languages, use of speech, organs of pronunciation, grammatical unit of words, construction of sentences, and the change of word meaning.

Objectives of the Course

- To know about the origin and development of languages.
- To compare the language, families with special reference to Indo-Aryan family.
- To understand the structure of different languages.
- To understand the change of meaning due to the semantic change.

Vedantasiksanam

Semester No	Course title	Course Code	L	C

2	Core Course - II	SV.1241	6	4

Aim of the Course

The course is intended to impart basic concept of the Vedanta philosophy.

Objectives of the Course

1. To introduce the life and works of Sankara the great teacher of Advaita.
2. To familiarize the method of teaching Vedanta from gross to subtle.
3. To introduce the concept of Atman.

Vyakaranasikshanam

Semester No	Course title	Course Code	L	C
2	Comp. Course –IV	SY.1232	3	3

Aim of the Course

To make awareness in Sanskrit Grammar through Laghusiddhantakaumudhi of Varadarajacharya.

Objectives of the Course

1. To give knowledge about Subanta.
2. To give knowledge about Tinganta.
3. To make awareness about Samasa.

Semester III

Basics of Nyaya-Vaisesika Philosophy

Semester No	Course title	Course Code	L	C
3	Comp. Course VI	SN.1332	3	3

Aim of the course

To give a general awareness of the fondamentals of Nyaya- Vaisesika philosophies relevant to Vedanta philosophy.

Objectives of the Course

1. To give a precise knowledge of the categorical scheme of Nyaya Vaisesika.
2. To create sensibility of the characteristics of categories with all its subdivisions.
3. General awareness of the sources of knowledge.
4. A precise knowledge of the source of the important tenets.

Informatics for Sanskrit Vedanta

Semester No	Course title	Course Code	L	C
3	Foundation CourseII	SV.1321	4	3

Aim of the course

To introduce students the use of information technology and thus enable them to utilise digital knowledge resources.

Objectives of the Course

- To review the basic concepts & functional knowledge in the field of informatics.
- To review functional knowledge in a standard office package and popular utilities
- To create awareness about nature of the emerging digital knowledge society
- To create awareness about social issues and concerns in the use of digital technology
- To impart skills to enable students to use digital knowledge resources in learning.

Bharatiyadarsanaparicaya

Semester No	Course title	Course Code	L	C
3	Compl. Course V	SV.1331	3	3

Aim of the course

To make an awareness about Indian philosophy in general.

Objectives of the Course

1. To enable the students etymology and division of darsanas.
2. To give an idea about Advaitika darsanas.
3. To make the students aware about the similarities and dissimilarities in Indian philosophy..

ADVAITAPARICAYA

Semester No	Course title	Course code	L	C
3	core course III	SV 1341	5	4

Aim of the course

The course aims at making awareness about the basic principles of advaita Vedanta.

Objectives of the course

1. To enable students to understand the essential eligibility to study advaita.
2. To introduce the basic principles of Advaita.
3. To introduce the philosophy of Sree Narayana Guru through one of his works.

Semester IV

JYOTHISAPARICAYA

Semester No	Course title	Course code	L	C
4	Compl. course VIII	SJ 1432	3	3

Aim of the course

This course aims at imparting knowledge to the students to the basics of Indian Astrology in general.

Objectives of the Course

1. To introduce the Pancanga.
2. General study of Pancanga.
3. To introduce Rasi and Nakshatra.
4. Calculation of Pancanga.

POETICS IN SANSKRIT AND SANSKRIT LITERATURE

Semester No	Course title	Course code	L	C
4	Compl. course VII	SV 1431	3	3

Aim of the course

This course aims at making a basic awareness of Sanskrit poetics.

Objectives of the Course

1. To introduce the Literary theories in Sanskrit in general.
2. To enable the students to evaluate and enjoy the poetic excellence of kavyas.
3. To introduce the classical literature.

SRUTIPRASTHANAM

Semester No	Course title	Course code	L	C
4	Core Course V	SV 1442	4	3

Aim of the course

This course aims at equip the students with the knowledge of Srutis- prominent among the Prasthanatraya and also to give an awareness towards the concepts of Vidya, Avidya and Karma.

Objectives of the Course

1. To create awareness about Vidya and Avidya.
2. To give knowledge about the request for Marga by an upasaka.
3. To equip the students with the knowledge of Para and Apara vidyas.
4. To give the awareness of Karma.

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SMRTIPRASTHANAM

Semester No	Course title	Course code	L	C
4	Core Course IV	SV 1441	5	4

Aim of the course

The aim of the course is to ensure the basic awareness of Smrtiprasthana.

Objectives of the Course

1. To introduce the concept of Dharma
2. To make awareness about the eternity of Atman.
3. To make awareness about the relevance of the theory of karma.
4. To make awareness of contemplation.

Semester V

TATTVAMASIVICHARAH

Semester No	Course title	Course code	L	C
5	Core Course VI	SV 1541	4	4

Aim of the course

This course aims at imparting knowledge about the identity of jivatma and paramatma.

Objectives of the course.

1. To create eagerness towards the knowledge of the self.
2 To refute the principles of sunyavada.
3. To give the students knowledge about the creation on the basis of trivritkarana.
4. To enable the student to acquire the knowledge of one's own self.

MITHYATVANIRNAYAM

Semester No	Course title	Course code	L	C
5	Core Course VII	SV 1542	4	4

Aim of the course

This course aims at imparting knowledge to the students about the four states of atman and also to create the awarenss of mithyatva of external world.

Objectives of the course

1 To give an idea about the four states of atman
2 To give the knowledge about Pranava.
3 To enable the students about the theory of illusion.
4

PRAMANANIRUPANAM

Semester No.	Course Title	Course Code	L	C
5	**Core Course.VIII**	**SV. 1543**	**4**	**4**

Aim of the course

This course aims at the study of the epistemology in Advaita Vedanta.

Objectives of the course

1. Definition of Prama and Pramana.
2. To introduce Pratyaksapramana.
3. To introduce Anumana and Upamana.
4. To introduce the Agamapramana.

VEDANTAVAKYASAMANVAYA

Semester No.	Course Title	Course Code	L	C
5	Core Course IX	SV. 1544	4	4

Aim of the course

This course aims at introducing the Sutraprasthana in Vedanta.

Objectives of the course

1. To introduce the term Adhyasa and its definition.
2. To familiarize the students with the sutra form and the necessity of starting Brahmajijnasa.
3. To familiarize the students with the laksana and pramana of Brahman.
4. To facilitate the students that all the Vedantavakyas are with the same intention to convey the meaning of Brahman.

PRAYOJANASAMIKSHA

Semester No.	Course Title	Course Code	L	C
5	Core Course X	SV. 1545	3	2

Aim of the course

This course aims at the detailed knowledge of vishaya and prayojana in Advaita Vedanta.

Objectives of the course

1. To enable the student to know the two fold validity of Pramanas.
2. Two fold definitions of Brahman.
3. Two fold effects.
4. To make the awareness of liberation.

SANSKRIT TO MODERN AGE

Semester No.	Course Title	Course Code	L	C
5	Open Course I	SV. 1551	3	2

Aim of the course

This course facilitates the students of other faculties to get some general awareness in the rich heritage of Sanskrit and in the various thoughts of Indian Philosophy.

Objectives:

- To make the students of other faculties interested in Sanskrit language and its contribution in various areas of knowledge such as Medical Science , Political Science and philosophical thought.

Semester VI

ATMANAH AVASTHACATUSTAYAM

Semester No.	Course Title	Course Code	L	C
6	Core Course XI	SV 1641	5	4

Aim of the course

To give a brief knowledge about Atmatattvaviveka.

Objectives of the course

1. To introduce Vedanta tattvas in brief.
2. To develop the knowledge of Vedanta tatvas .
3. To find out the difference between Atma and Anatma and to help the students to understand the logical thinking in Vedanta.

Kerala Contribution to Vedanta

Semester No.	Course Title	Course Code	L	C
6	Core Course XII	SV. 1642	5	4

Aim of the course

To impart knowledge about the modern Advaita Vedanta philosophers of Kerala.

Objectives of the course

1. To introduce Advaita tradition in Kerala after the period of Sankara.
2. To make awareness about the life, works and philosophy of Sri Narayanaguru Natarajaguru and Nityacaitanyayati.

3. To make awareness about the life, works and philosophy of Chattampiswamikal, Sri Nilakanta Tirthapada and Tirthapada Paramahamsa.
4. To make awareness about the life, works and philosophy of Vagbhatananda and Swami Cinmayananda.

SPASHTA-BRAHMALINGA-VEDANTA-VAKYANI

Semester No.	Course Title	Course Code	L	C
6	Core Course XIII	SV 1643	5	4

Aim of the course

This course aims at imparting knowledge about the adhikarana method of Sutraprasthana.

Objectives:

- To make students more familiar with adhikaranasastra and Sankara's style in dialectics.

ASPASHTA-BRAHMALINGA-VEDANTA-VAKYANI

Semester No.	Course Title	Course Code	L	C
6	Core Course XIV	SV 1644	4	3

Aim of the Course

This course aims to make students to know about the meaning of certain Upanisadic passages in Sankara's view.

Objectives:

- To enable students how Sankara skillfully determines the meaning of the Upanisadic passages.
- To enable them to study more about the Sutraprasthana.

MIMAMSAPARICAYA

Semester No.	Course Title	Course Code	L	C
6	Elective	SV. 1651	3	2

Aim of the course

To give genral awareness about Mimamsa Philosophy and its main tenets.

Objectives of the course

1. To give general awareness about Mimamsa.
2. To introduce the methodology of Mimamsa.
3. To familiarize students with the terms used in the Mimamsa Philosophy and Sacrifices.

Dissertation /Project

B.Sc. BOTANY

Semester I

Angiosperm anatomy, Reproductive Botany and Palynology. Course code : BO1141.

Aim of the course

To provide the students with basic aspects of Anatomy and the importance of Reproductive Botany.

Objectives of the course.

To learn the basics of plant anatomy and the features of different plant cells.
To develop scientific attitude is the major objective to make the students open minded, critical and curious.
To learn the basics of reproductive Botany and the features of Palynology.

Semester II

Foundation course in Methodology and perspectives in plant sciences. Course code : BO1221

Aim of the course

To introduce the methodology and perspectives of Science in general so as to enable the students to systematically pursue his particular discipline in science in relation to other disciplines that come under the rubric of sciences.

To impart knowledge of Science is the basic objective of education.

To develop scientific attitude is the major objective to make the students open minded, critical and curious.

Objectives of the course.

To learn the fundamental aspects of Science.
To develop scientific attitude and scientific temper.
To impart knowledge of Science .
To develop skill in Practical work and experiments.
To apply scientific methods independently
To interpret scientific data using basic statistical methods

Semester III

Microbiology, Phycology, Mycology, Lichenology and Plant pathology. Course code: BO1341

Aim of the course.
To educate the students on the fundamental aspects of Microbiology and understand the hierarchy lower forms of plants.

Objectives of the course.

To learn the fundamentals of Microbiology.
To introduce and understand the lower forms of plants
To learn the basic aspects of Plant pathology.
To understand scientific terms, concepts, facts, phenomenon and their relationships.
To get a broad understanding of microbes and their economic importance with special reference to pathogenic forms.

Semester IV

Bryology, Pteridology, Gymnosperms and Palaeobotany. Course code : BO 1441

Aim of the course.

To understand the scientific terms, concepts, classification and evolution of different forms of Plants.

Objectives of the course.
The students are expected to acquire knowledge of plants under Bryophytes, Pteridophytes and various types of Gymnosperms.
To learn structure and modification of various types of plants.
To familiarize students with basic aspects of Palaeobotany.

Semester V

Angiosperm morphology, Systematic botany, economic botany and ethno botany
Course code : BO1541
Environmental studies and phytogeographyCourse code: BO1542

Cell biology, genetics and evolutionary biology. Course code : BO 1543
Aim of the course

To educate the students on the fundamentals of Genetics , Systematic Botany and Environmental Studies.

To develop skill in practical work, experiments and laboratory materials and equipments along with the collection of plants.

Objectives of the course

Understand and appreciate the role of biology in societal issues, such as the environment and Biological Resources , biodiversity, ethics , human health and disease. The students are

expected to acquire knowledge of plant and related subjects so as to understand natural phenomenon, manipulation of nature and environment in the benefit of human beings. To create enthusiasm to understand more about the beautiful planet Earth and to give awareness to the public for the need to protect the planet from all kinds of exploitation.

Semester VI

Plant physiology and biochemistry Course code : BO 1641

Molecular biology, general informatics & bioinformatics. Course code : BO 1642

Horticulture, plant breeding & research methodology. Course code : BO 1643

Aim of the course

To provide practical experience to the students as a part of the course to develop scientific ability to work in the field of research and other fields of their own interest and make them fit for society

Objectives of the course

To develop ability for the application of the acquired knowledge to improve agriculture and other related field to make the country self reliant and sufficient.
To keep the scientific temper which the student acquired from school level and to develop a research culture.
To enrich the students with the latest developments in the field of Information technology, Bioinformatics and other related fields of research and development.

Botany Open Course I

Mushroom cultivation and marketing. Course code : BO 1551.2

Aim of the course

To develop ability for the application of the acquired knowledge of Mushroom cultivation and to make the people self reliant .

Objectives of the course

To develop skill in mushroom cultivation.
To give awareness to the public about the importance of Mushroom cultivation.
To get a broad understanding of microbes which infect different types of mushrooms
To give awareness to the students about harvesting and economic aspects.

Botany Open Course II
Biotechnology and Nano Biotechnology Course: BO 1651

Aim of the course

To enrich the students with the latest developments in the field of , Biotechnology and Nano Biotechnology

Objectives of the course.

To impart knowledge of Biotechnology is the basic objective of this course.
To keep the scientific temper which the student acquired from school level and to develop a research culture.
To understand the principles and techniques involved in DNA technology and get an overview of modern techniques like PCR, RFLP,Gene therapy and Plant tissue culture.

B.Sc. CHEMISTRY

The B.Sc. Degree Programme in Chemistry covers three academic years consisting of six semesters and aims to provide the students with an in-depth understanding of and training in chemical sciences. The programme has been designed to stimulate the interest of the students in chemistry and prepared in order to equip the students with a potential to contribute to the academic and industrial requirements of the society. The main objective is to provide to the students an in-depth understanding of the basic concepts of chemical sciences and enable them with tools needed for the practice of chemistry, which remains a discipline with much stress on experimentation. It attempts to provide a detailed knowledge of the terms,concepts, methods, principles and experimental techniques of chemistry.

SEMESTER I

CH 1141 - Inorganic Chemistry -I **Credit: 4**

The main objectives of the course are to make the students to understand the Modern theory of Atomic structure, Periodic propertiesof elements, classification of elements into sblock, position and uniqueness of Hydrogen, Nonaqueous solventsenvironmental pollution. Up on completion of the course, the students appreciate how the inner structure of elements dictates their chemical properties, correlate and predict the electronic configuration, properties and applications of s block elements and also appreciate the different types of hydrides, hardness of water and important properties and applications of heavy water. They identify the reactions in nonaqueous solvents and realize various causes, effects and control measures of air, water and soil pollutions.

SEMESTER- II

CH1221 – Methodology and Informatics **Credit: 3**

The main aim of the course is to give information about the history of evolution of chemistry as a major branch of science, information technology, cheminformatics and analytical chemistry.

Course Objectives

Upon successful completion of the course Students are expected to

CO1. Develop understanding on various kinds of research, objectives of doing research, research process, research designs, data handling, sampling and data documentation.

CO2. Have basic idea about the evolution of chemistry, different branches of chemistry and new trends in chemistry

CO3. Have basic awareness of statistical analysis of experimental data.

CO4. Have understanding about ethical practices in research.

CO5. Familiarize with the use of IT in teaching and learning process

CO6. Have basic knowledge about cheminformatics- structure drawing and molecular visualization tools, file formats, chemical data base

CO7 Develop the ability of effective solving practical problem of analytical chemistry

CO8. Perform experimental parts of the theory by following all the safety measures required for doing chemical experiments.
CO9. Have fundamental idea of modern and widely used separation method-chromatography.
CO10. Learn to access and interpret materials safety data sheets (MSDSs)
CO11. learn the vocabulary, signs, labels of chemical and laboratory safety
CO12. Develop an idea about how to respond towards an emergency situation or accidents caused by chemicals.

SEMESTER-III

CH1341 – Inorganic Chemistry II **Credit: 3**

The main aim of the course is to provide the knowledge of chemical bonding, nuclear chemistry, nano chemistry and chemistry of non-transition elements.
Course Objective
Upon successful completion of the course Students are able to
CO1. Calculate bond order of different molecules.
CO2. Draw MO diagrams of different molecules.
CO3. Tell the name of orbitals by recognizing shapes of orbitals.
CO4. Draw structures of different ionic solids.
CO5. Evaluate the molecular geometry, hybridization and polarity of a covalent molecule
CO6. Evaluate the type of molecular bonding (s or p) in a covalent molecule and identify the orbitals used for bonding
CO7. Describe the term – paramagnetic, diamagnetic and ferromagnetic substances.
CO8. Calculate the percentage of ionic character of molecules.
CO9. Calculate the bonding fundamentals for both ionic and covalent compounds-including electro negativities, bond distances and bond energies using MO diagrams and thermodynamic data.
CO10. Predicting geometries of simple molecules.
CO11. Applying the VSEPR theory to determine molecular shape and bond angles
CO12. Have basic ideaabout synthesis, properties and application of different types of glasses, inorganic polymers etc.
CO13. Have fundamental knowledge about the chemistry and important real-world applications of compounds of non-transition elements.
CO14. Describe the biological effects of radiation exposure
CO15. Predict the possible types of nuclear decay an isotope could undergo
CO16. Identify species that can undergo fusion or fission
CO17. Calculate kinetic parameters for nuclear decay including applications to radioactive dating
CO18. To apply of the nuclear chemistry principles in measuring technology, kinetics, radical chemistry, biotechnology and materials and process technology.
CO19. Skills in handling and measurement of radioactive material.
CO20. Describe the historical evolution and current revolution that is nanoscience
CO21. Provide knowledge about chemistry based nanoprocess
CO22. Design and conduct experiments relevant to nanochemistry

CO23. To improve usage of chemistry for modern technology

SEMESTER – IV

CH1441 - Organic chemistry I **Credit: 3**

The paper introduces the concept of types of organic reaction, their mechanism and imparts the behaviour of aliphatic and aromatic compounds towards organic reactions. Make students understand the stereochemical aspects, photochemical reactions and the concepts of aromaticity

Course outcome

CO1: To impart a concrete idea of the classification, nomenclature of reactions,
CO2: To understand the behaviour of aliphatic and aromatic compounds
CO3: To study the stereochemistry of organic compounds
CO4: To impart knowledge on the mechanism of reactions of organic compounds
CO5: To study the importance of, photochemical reactions and aromaticity.

SEMESTER -V

CH 1541 - Physical Chemistry I **Credit: 4**

Objectives: Students, upon completion of this course, identify, compare and explain the properties and behaviourof ideal and real gases, gain exposure and practice in differentiating the properties of solid, liquid cryatlline states and also in the basic concepts of group theory. They apply the laws of thermodynamics as an appropriate organizational tool to understand the chemistry of bulk systems.

CH 1542 - Inorganic Chemistry III **Credit: 4**

Upon the completion of the course, students should get idea of diverse facets of inorganic chemistry such as transition and inner transition elements, coordination chemistry, organometallic chemistry, bioinorganic and their applications. It also equips the students with general principles of isolation of elements and instrumental analysis AAS, FES, Thermal, XRD, AFM, STM, SCM and TEM. Familiarization of these modern instruments will be much useful in taking up any projects involving these equipment

CH1543- Organic Chemistry II **Credit: 4**

A clear idea about the preparation and properties of organic compounds and mechanism of various organic conversions is provided to students. From an overview of principles of spectroscopy, students are equipped to interpret spectrum of organic molecules. The novel areas of organic chemistry viz. – the supramolecular and green chemistry are also dealt with.

Course outcome

CO1: To impart a concrete idea of the about the preparation and properties, mechanism of reactions.
CO2: To get an understanding of organic conversions and of organic compounds

CO3: To inculcate an overview of the principles of spectroscopy
CO4: To impart knowledge about spectral applications to organic molecules.
CO5: To study organic compounds like alcohols, aldehydes, ketones, ethers, acids and their properties

CH1551.1 - Essential of Chemistry **Credit:2**

Objectives:The student will acquire a foundation of chemistry of sufficient breadth and depth to enable them to understand and critically interpret the primary chemical literature and will develop the ability to effectively communicate scientific information and research results in written and oral formats.

Module 1: Atomic structure and Periodic Classification of Elements:The student will understand the importance of the Periodic Table of the Elements, how it came to be, and its role in organizing chemical information

Module 2: Nuclear Chemistry:In this chapter we consider nuclear reactions, changes in matter originating in the nucleus of an atom and application of nuclear chemistry

Module 3: Polymer Chemistry**:** This module gives the idea about how the monomers combine, and create useful materials with specific characteristics by manipulating the molecular structure of the monomers/polymers used, the composition of the monomer/polymer combinations, and applying chemical and processing techniques that can affect the properties of the final product.

Module 4: Chemistry in Biological Process**:** Aims to provide students with an advanced integrated knowledge and understanding of nucleic acid, proteins, enzymes and vitamins

Module 5: Chemistry in action**:** Students will develop better understanding of the organic chemistry behind everyday observations such as the action of soap, or application of color dyes on variety of fabrics.

Module 6: Environmental Chemistry**:** This module gives an idea of the knowledge of key themes, theories and problems and chemical reactions in the atmosphere and in water, including important chemical reactions in connection with smog formation, ozone chemistry and acid rain chemistry.

SEMESTER VI

CH 1641 - Physical Chemistry II **Credit: 4**

Upon completion of students are expected to have an understanding of the concepts of thermodynamics and statistical thermodynamics, quantum mechanics and spectroscopy. They should be familiar with the mathematical relationships of thermodynamics, quantum mechanics and spectroscopy. They should also be aware of the properties and applications of colloids and adsorption in our daily life

CH1642 – Organic Chemistry III **Credit:4**

Aim of the Course:
The syllabus deals with organic compounds carbohydrates, amino acids, proteins, nucleic acids, oils, fats, detergents, vitamins, terpenes, alkaloids, and polymers and their properties

Objective of the Course: The students will get an interesting idea about the preparation and properties mechanism of reactions of many organic conversions and of organic compound

Module I: Carbohydrates:This module gives an idea about the carbohydrates which provide energy to the body, particularly through glucose, a simple sugar that is a component of starch and an ingredient in many staple foods and its important functions in humans, animals, and plants.
Module II: Heterocyclic compounds and Drugs: This module deals with the application of compounds derived from heterocyclic rings in pharmacy, medicine, agriculture, plastic, polymer and other fields.

Module III: Amino acids, proteins and nucleic acids**:** This module provides an information about the different types of aminoacids and itsgeneral properties, importance of amino acids, biologically important peptides, structures and importance of proteins and nucleic acids.

Module IV: Natural products: This module deals with the properties and functions of alkaloids, fatty acids, fats, vitamins and lipids

Module V: Soaps, Detergents and Polymers: This chapter provides an information about the cleaning action of soap and detergents and the basics of polymers

Module VI: Organometallics, Active methylene compounds and Reagents in Organic synthesis: This module includes the Organometallic compounds of Mg, Li and Zn and their use in synthesis, main active methylene compounds and important reagents like $LiAlH_4$, $NaBH_4$, SeO_2, NBS

CH1643 -Physical Chemistry III **Credit: 4**

The objective of the course is to study the basics of electrochemistry and its importance to modern industry and technology. Students should be familiar with various of types of reactions and the different factors which determines the rate of chemical changes, phase diagrams of 1, 2 and 3 component systems and the elementary ideas of photochemistry

CH1651.3 - Polymer Chemistry(Elective) **Credit: 2**

Aim of the course: To introduce the specialized subject of the chemistry of polymers, and to provide an insight into the brief history of macromolecular science, general characteristics of polymers in comparison with common organic compounds.

Objectives of the course:

1. To provide an insight into the brief history of macromolecular science
2. Differentiate between Natural and synthetic polymers.
3. To understand in detail the kinetics and mechanisms of the polymerisation
4. To learn about polymeric materials such as engineering plastics, elastomers and fibres and to understand the characterisation of polymers
5. To familiarize the students with the types of polymers, the significance and
6. determination of their molecular mass, size and viscosity.
7. To identify the properties of polymers.
8. Overall advantages and disadvantages of using synthetic polymers
9. Make aware of the student about polymer industries in India.

PRACTICALS

Semester I, III.IV Course codeCH1442

can practice the qualitative inorganic analysis using microscale methods of a mixture containing two acidic and two basic radicals

- Can prepare inorganic compiexes in normal laboratory conditions

Semester V course code CH1544 Inoganic Volumetric Analysis

- Able to prepare solutions of different concentrations
- Understand the method standardization and estimation of solutions
- Familiarise with the Quantitative analysis –Volumetric analysis

Semester V course code CH1545 Physical Chemistry Experiments

- Understand the experiment and calculation of molecular masses of solute using depression in freezing point method
- -Familiar with conductometric titrations and potentiometric titrations
- Able to find out the critical solution temperature of phenol-water system
- Able to find out the concentration of acids and bases using conductometric titrations
- Became familiar with potentiometric titrations

Semester VI course code CH1644 Organic Chemistry Experiments

- Able to find out the melting and boiling points of different substances
- practice to prepare different organic compounds
- Understand the qualitative organic analysis

Semester VI course code CH1645 Gravimetry

- Able to understand the difference between volumetric and gravimetric analysis
- Get practice on gravimetric analysis of different metals

Semester V & VI Course code CH1646 Chemistry project and factory visit

- Inculcate proficiency to identify appropriate Project.
- Familarise the prepation of project report and its presentation

B Sc MATHEMATICS

Semester 1

Course: MM 1141 Methods of Mathematics

Aim: To make the students a strong base about differential and integral calculus, their applications

On successful completion of the course students will be able to

CO 1 understand differentiation in an applied sense

CO 2 get the idea about the approximation concept

CO 3 understand the idea of motion in a systematic way.

CO 4 calculate work done, density, mass, etc. Using integration

CO 5 get the idea of improper integrals.

Semester 2

Course: MM 1221 Foundations of Mathematics

Aim: To help the students to identify different methods of proving techniques and give a strongbase on analytic geometry.

On successful completion of the course students will be able to

CO 1 get idea of different proving techniques, that we are used in core papers like real analysis and abstract algebra, etc.

CO 2 get a thorough idea in set theory and function concepts.

CO 3 understand the different co-ordinate systems like polar co-ordinates

CO 4 get a clear idea about conic section and the idea of plotting them in polar andcartesian planes.

CO 5 use of vectors to represent surfaces.

Semester 3

Course: MM 1341 Elementary Number Theory and Calculus I

Aim: This course introduces the fundamental facts in elementary number theory, calculus ofvector valued functions and multi variable calculus.

On successful completion of the course students will be able to

CO 1 know about the divisibility in integers, lcm, gcd and linear Diophantine equations

CO 2 understand the concept of vector valued functions, limits, continuity and derivatives

CO 3 get the concept of functions of more than one variable, limit, continuity and differentiability

Semester 4

Course: MM 1441 Elementary Number Theory and Calculus II

Aim: This course introduces the concept of congruence relation in integers. Apart from thatmultiple integrals and vector integration are also discussed.

On successful completion of the course students will be able to

CO 1 understand the concept of congruence relations in integers, certain tests fordivisibility, linear system of congruence equations and Chinese remainder theorem

CO 2 solve double integrals and triple integrals

CO 3 understand the concept of integrating vector valued functions, the divergence theorem, Gauss's Law, Stoke's Theorem and its applications.

Semester 5

Course: MM 1541 Real Analysis

Aim: Provide a thorough theoretical idea about real number system and number line.

On successful completion of the course students will be able to

CO 1 get the idea of field properties and completeness property of real numbers.

CO 2 get the idea that real numbers are contained with rational and irrational numbers and they are closely packed.

CO 3 get the idea of infinite series and their examples.

CO 4 get the idea of some abstract ideas like compactness and connectedness.

Course: MM 1542 Complex Analysis-I

Aim: The aim of this course is to go through the basic complex function theory.

On successful completion of the course students will be able to

CO 1 understand Analytic functions and Harmonic functions

CO 2 analyse elementary complex functions

CO 3 understand complex powers and inverse trigonometric functions

CO 4 evaluate contour integrals by applying Cauchy's integral theorem or Cauchy's integral formula.

Course: MM 1543 Abstract Algebra- Group Theory

Aim: The aim of this course is to provide a very strong foundation in the theory of groups. Allthe concepts appearing in the course are to be supported by numerous examples.

On successful completion of the course students will be able to

CO 1 understand the symmetries of a square, definition of group, various properties of groups, finite groups, subgroups, cyclic groups and certain examples

CO 2 get the idea of permutation groups, the example of check-digit scheme and the properties of isomorphisms

CO 3 know the concept of Cosets, Lagrange's Theorem and the Rubik's Cube problems

CO 4 understand the concept of group homomorphism, first isomorphism theorem and the fundamental theorem of isomorphism

Course: MM1544 Differential Equations

Aim: The aim of the course is to provide basic ideas about existence and uniqueness of solutionsand various methods to solve ordinary differential Equations.

On successful completion of the course students will be able to

CO 1 define the basic concept of a differential equation, its solution, initial value problems, geometric meaning (direction fields)

CO 2 solve first order homogeneous and non-homogeneous linear ODEs using various methods

CO 3 understand the concept of special equations like Bernoulli equation, orthogonal trajectories, the existence and uniqueness of solutions theorem.

CO 4 define the concept of homogeneous linear ODE of second order, initial value problem, basis, and general solutions.

CO 5 understand the concept of Euler-Cauchy Equations, existence and uniqueness of solutions with respect to Wronskian.

CO 6 solve nonhomogeneous ODE by the method of undetermined coefficients, various applications of techniques, by variation of parameters

Course: MM 1545 Mathematics Software – L A TEX & SageMath

Aim: This course aim to introduce LaTeX, a mathematical typesetting language, including pagelayout commands, typesetting formulae, enumerated lists, tables, arrays, graphics, plus other packages and specialized document classes. Sage is free, open-source math software that supportsresearch and teaching in algebra, geometry, number theory, cryptography, numerical computation,and related areas.

On successful completion of the course students will be able to

CO 1 write mathematical documents via LaTeX. write documents containing complicated mathematical formulas

CO 2 writes articles in different journal styles

CO 3 draws graphs and figures in LaTeX.

CO 4 customize LaTeX documents.

CO 5 familiarity with the SAGE computer algebra system, skills to prepare your own sage notebooks for various purposes, some advanced concepts

Course: MM 1551.1 Basic Mathematics [Open Course]

Aim: To provide other department students concrete idea about basic mathematical concepts likeratio, proportions, number systems, etc.

On successful completion of the course students will be able to

CO 1 understand idea of different number systems and their arithmetics

CO 2 solve basic mathematics problems

CO 3 understand ideas about ratio, proportions and percentile, etc

CO 4 get the knowledge of basic statistics.

CO 5 solve simple equations, quadratic equations and cubic equations

Semester 6

Course: MM 1641 Real Analysis – II

Aim: To make students confident in the topics like functions, limits, continuity, differentiationand integration.

On successful completion of the course students will be able to

CO 1 First module gives the basics of limits of functions

CO 2 The module will gives the theoretical knowledge about the continuity

CO 3 Second module gives the idea of differentiation and application of differentiation in the limit calculation (L'Hospital rule)

CO 4 Third module gives the theory of integration through the real axis, fundamentaltheory, etc.

Course: MM 1642 Complex Analysis-II

Aim: To go through the series representation of analytic functions and evaluation of definiteintegrals.

On successful completion of the course students will be able to

CO 1 Represent Analytic Functions as series

CO 2 Evaluate real definite integrals as application of Residue Theorem

CO 3 Identify conformal mappings

CO 4 Find regions that are mapped under certain transformations.

Course: MM 1643 Abstract Algebra – Ring Theory

Aim: This course is an introduction to ring theory. The philosophy of this subject is that

we focuson similarities in arithmetic structure between sets which might look initially quite different but are connected by the property of being equipped with operations of addition and multiplication.

On successful completion of the course students will be able to

CO 1 can write precise and accurate mathematical objects in ring theory

CO 2 can check the irreducibility of higher degree polynomials over rings

CO 3 To understand the concepts like ideals and quotient rings

CO 4 To understand the concept of a ring homomorphism

Course: MM 1644 Linear Algebra

Aim: The main aim of this course is to introduce linear algebra and methods in it for solvingpractical problems.

On successful completion of the course students will be able to

CO 1 Understand a study on linear equations and their geometry)

CO 2 Understand the basic concepts of Vector space and Linear transformation

CO 3 Make the idea and concepts of determinants

CO 4 Solve the system of equations and find the volume by using matrix method

CO 5 Find the powers of matrices by using the concept of diagonalization.

CO 6 Understand the concepts of similar matrices, and similarity transformation

Course: MM 1645 Integral Transforms

Aim: To make students able to apply Laplace and Fourier transforms in Ordinary differentialequations and basic integral calculus

On successful completion of the course students will be able to

CO 1 solve ordinary differential equation by using Laplace Transforms

CO 2 find the Fourier transforms and integrals of functions

MM 1661.1 Graph Theory

Aim: The course has been designed to build an awareness of some of the fundamental conceptsin Graph theory and to develop better understanding of the subject so as to use

these ideas skillfully in solving real world problems.

On successful completion of the course students will be able to

CO 1 Understand the concept of a graph, its basic definitions, the matrix representation

of graph, and trees and connectivity.

CO 2 Get the idea of Euler Tours and Hamiltonian Cycles, the Chinese postman problems, the travelling sales man problem and planar graphs

B.Sc. PHYSICS

The First Degree Programme in Physics helps to provide a firm foundation in every aspect of Physics and to explain a broad spectrum of modern trends in physics and to develop experimental, computational and mathematics skills of students.

SEMESTER I

Core Course I: PY1141:BASIC MECHANICS & PROPERTIES OF MATTER

(36 HOURS-2 CREDITS)

Aim of the course: To develop knowledge and understanding of the everyday life

Course Objectives:

1. This course would empower the student to acquire engineering skills and practical knowledge,
2. The theoretical basis for doing experiments in related areas helps the student in their everyday life.
3. Students will gain basic knowledge for their higher studies
4. It gives details about physical properties of materials

OUTCOME :

1. Understand the basic laws and concepts of dynamic bodies
2. Student will be able to apply the concept of moment of inertia in the description of the rotation of the rigid body and apply the laws to predict forces in and motions of machines and structures..
3. Acquire basic knowledge of oscillations and wave motion with their applications.
4. Gain knowledge about the properties of materials
5. Understand the basic concepts of elasticity
6. Study the motion of viscous fluids by understanding Poiseuille‟s method

Core Course II: PY1241 –HEAT AND THERMODYNAMICS

(36 HRS-2 CREDITS)

Aim of the course: To find the relationships between heat and other forms of energy. In particular, to identify how **thermal** energy is converted to and from other forms of energy and how it affects matter.

Course objectives:

1. Helps to develop the understanding of mass, energy, heat, work, efficiency,
2. Helps to understand thermodynamic cycles and processes.

Outcome:

1. Students will be able to understand the concepts of heat,work and energy
2. Students can explain basic thermodynamic properties and units.
3. Derive and discuss the first law of thermodynamics.

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Core Course III- PY1341THERMODYNAMICS AND STAT ISTICAL PHYSICS

(54 HOURS-3 CREDITS)

Aim of the course: To provide students a profound understanding of the two fields of Physics : “thermodynamics” and “statistical mechanics”, as well as the relationship between them andto solve relevant problems in these two fields of physics

Course Objectives:
1 Tobe familiar with the first and second laws of thermodynamics and will have a basic awareness of the underlying microscopic origin of thermal quantities such as temperature, pressure and entropy
2. To apply the laws of thermodynamics to real physical systems and processes.

3. To understand the properties of ideal gases using Boltzmann statistics.

4. To deal with both the microscopic and macroscopic description of systems with a large number of degrees of freedom.

Core Course IV- PY1441 ELECTRODYNAMICS

(54 HOURS-3 CREDITS)

Aim of the course: To provide students an understanding of electromagnetism, both in its unified description in terms of Maxwell's equations and at the level of simple phenomena from electrostatics, magnetostatics and wave propagation.

Course Outcome:

1 To have an understanding of electromagnetic phenomena and make them to draw qualitative conclusions about these by handling a small number of physical concepts and laws
2 Be able to make a mathematical description of electromagnetic phenomena based on basic physical quantities through the fundamental equations of electromagnetism (Maxwell equations)
3 Solve problems in electrodynamics by using the fundamental equations

Core Course -PY 1541 METHODOLOGY IN PHYSICS &RELATIVISTIC MECHANICS
(72 HRS.- 4 CREDITS)

The aim of this course is to provide some essential ideas about the methodology of research. It also intends to introduce the concept of relativistic Mechanics.

Course outcomes

1. To get an idea about significance of research
2. To familiarize the different types of scientific research in India
3. To understand the methodology
4. the importance of measurement, measuring instruments, sources of errors and estimation of errors which is central to physics.
5. To get an idea about Thesis writing to present the outcome of research in the prescribed format.
6. Understand the concept of special relativity and its applications to physical sciences.

Core course -PY 1542 QUANTUM MECHANICS
(72 HRS.- 4 CREDITS)

The Aim of the course is to introduce the concepts of quantum mechanics

Course outcomes

Students who completed this course will be able to

1. Understand the development of quantum Physics
2. understand the concept of wave function, uncertainty relations
3. distinguish the formalism of classical and quantum physics
4. solve the Schrodinger equation for simple configurations.
5. develop a knowledge and understanding of the relation between conservationlaws and symmetries.

Core course - PY 1543 ELECTRONICS
(72 HRS.- 4 CREDITS)

Aim of this course is to introduce the student to the basic ideas about electronics and distinguish different electronic circuits

Course outcomes

Student completing the course will be able to-

1. Distinguish different types of semiconducting materials like intrinsic and extrinsic□materials.
2. understand the basic operation and working of different diodes.□
3. understand and use of the device models to explain and calculate the□characteristics of the field effect transistors.
4. Distinguish the different types of semiconductor diodes, BJTs and their small signal and high frequency analysis.
5. Distinguish different fundamental circuits based on op-amps.
6. Design and analysis of nonlinear circuits□□

PY 1544 Atomic and Molecular Physics
(72 HRS.- 4 CREDITS)

Aim of this course is to introduce the student to t the atomic and molecular spectroscopic concepts

Course outcomes

a student will be able to

1. Understand the nature of the energy levels of the hydrogen atom and their effect on optical spectra.
2. Understand the Pauli exclusion principle and the effect of external electric and magnetic fields on atomic spectral lines
3. understand the basic principles of production, properties and applications of X-rays in various fields.
4. distinguish basic principles and use spectroscopic methods for qualitative and quantitative analysis in materials science research.

OPEN COURSE - PY1551.4.ENVIRONMENTAL PHYSICS

(54 HOURS-3 CREDITS)

Aim of the course: To demonstrate the utility of physics in understanding environmental processes

Course Objectives:

1 Identification of physical mechanisms involved in environmental issues
2 Assessment of the complexity of environmental physics problems
3 Analysis of physical processes in environmental problems, e.g. ozone
4 depletion and climate change
5 Design of solutions for environmental degradation

Core course - PY 1641 SOLID STATE PHYSICS
(72 HRS.- 4 CREDITS)

Aim of this course is to study about crystal structure, techniques for analyzing the crystal structure, the concepts about dielectrics, magnetic and super conducting materials

Course outcomes

After this course, the students are able to:

1. distinguish real solid materials based on basic concepts like atomic arrangement, micro

structure and crystal binding.

2. distinguish crystal systems and spatial symmetries.
3. Understand X-ray diffraction in reciprocal space to determine the lattice structure of crystalline materials.
4. understand the concept of reciprocal space and significance of Brillouin□zones.
5. understand the band structure of a crystalline material and the relation between band structure and the electrical/optical properties of a material.
6. Describe and evaluate mechanical electrical and magnetic properties of materials

Core course - PY 1642 NUCLEAR AND PARTICLE PHYSICS
(72 HRS.- 4 CREDITS)

Aim of this course is to introduce the students to different nuclear models and provide some basic concepts about the microscopic world

Course outcomes

On satisfying the requirements of this course, students will be able

1. to understand the concepts, laws and models in nuclear and particle physics.
2. To understand the structure and properties of nucleus
3. To describe experimental techniques developed for nuclear physics
4. To understand the types of nuclear reactions and conservation laws, energetics of nuclear reactions and reactions cross sections.
5. To understand, nucleon-nucleon potential, proton-neutron and neutron-neutron interaction
6. To analyze production and decay reactions for fundamental particles
7. To apply conservation principles to determine the type of reaction taking place and the possible outcomes.

Core course - PY 1643 CLASSICAL &MODERN OPTICS
(72 HRS.- 4 CREDITS)

Aim of this course is to familiarize the student the classical and modern concepts in optics

Course outcomes

After successful completion of this course, students will be able to:

1. understand the basic concepts and principles of geometrical, physical and modern optics and explain everyday optics phenomena.
2. understand the physics behind various properties exhibited by light such as interference, diffraction, polarization etc.
3. to get an idea about the nature of light, its propagation and interaction with matter.
4. Understand principle of propagation of light in optical fibers, holography and its applications.
5. To distinguish modern optical and electro optical devices.

Core course - PY 1644 DIGITAL ELECTRONICS &COMPUTER SCIENCE (72 HRS.- 4 CREDITS)

Aim of this course is to introduce the student to the basics of digitalworld and to study a computer language that has immense applications

Course outcomes

Upon completion of this course

1. understand different number system and their mathematical operations
2. understand Boolean Algebra and logic gates
3. analyze Karnauh's map
4. analyse the arithmetic and sequential circuits
5. get a deep knowledge of various memories
6. a thorough training in C programming

ELECTIVE COURSES- **PY1661.1 ELECTRONIC INSTRUMENTATION (54 HOURS-3CREDITS)**

Aim of the course is to introduce the students about the basic concepts about the working of different electronics instruments

Course outcome:

After completing this course the student will be able to

1. Understand the method of doing the error calculation while doing the experiment.
2. Understand the working of measuring instruments such as ammeter, voltmeter and digital voltmeter
3. Understand the working of cathode ray oscilloscopes
4. Distinguish different types of transducers
5. Understand the working of waveform generators and detectors

COMPLEMENTARY COURSES

Semester 1 (MATHEMATICS MAIN)
PY1131.1 – MECHANICS AND PROPERTIES OF MATTER (36 HOURS-2 CREDITS)

Aim: The goal is to develop knowledge and understanding of the mechanical properties of matter.

Course Objectives:

1. This course would empower the student to acquire engineering skills and practical knowledge,
2. The theoretical basis for doing experiments in related areas helps the student in their everyday life.

Outcome:

1. The properties of solids especially knowledge of elasticity help the students to identify the materials suitable for the construction of buildings, houses etc.
2. Properties of fluids especially knowledge of viscosity and surface tension help the students in their daily life and agriculture.
3. . This course will provide a theoretical basis for doing experiments in related areas.

Semester 2 (MATHEMATICS MAIN)

PY1231.1 – HEAT AND THERMODYNAMICS (36 HOURS- 2CREDITS)

Aim of the course: To find the relationships between heat and other forms of energy. In particular, to identify how **thermal** energy is converted to and from other forms of energy and how it affects matter.

Course objectives:

1. Talks about how one could study systems in terms of their energy interactions with its immediate neighborhood
2. Helps to understand thermodynamic cycles and processes.

Outcome:

1. Students will be able to understand the concepts of heat, work and energy
2. Students can explain basic thermodynamic properties and units.
3. Derive and discuss the first law of thermodynamics.

Semester 3 (MATHEMATICS MAIN)

PY1331.1 – OPTICS, MAGNETISM AND ELECTRICITY (54 HOURS-3 CREDITS)

Aim: To aware the students about various phenomenon of **optics** and describe the phenomenon like Interference, Diffraction and Polarization. To know about magnetic effect of current, thermo electricity etc.

Course Objective:

1. Helps to attain a working knowledge of **optical** physics, atomic physics and **optical** spectroscopy, laser physics and photonics.
2. To enrich their knowledge in thermo electricity and chemical effects on current
3. To learn and understand the magnetic field and magnetic properties of the matter.
4. To familiarize with the laws of electromagnetic induction.

Outcome:

1. A foundation in optics and photonics is gained
2. This course will give knowledge for an intensive study of advanced topics at a later stage.
3. Will give the idea of propagation of light and interaction with matter.
4. Knowledge about the principle of propagation of light in optical fibers, holography and its applications.
5. Gain knowledge of Gauss laws and solve the electric field for various geometric objects
6. Gain knowledge of Seebeck effect, Peltier effect and Thomson effect.
7. Enable to understand the concept of magnetic field.
8. Thorough knowledge in the basic concept of electromagnetic induction.

Semester 4 (MATHEMATICS MAIN)

PY1431.1 – MODERN PHYSICS AND ELECTRONICS (54 HOURS- 2 CREDITS)

Aim: To acquire basic knowledge about relativity, particle properties, quantum theory of light and basic operation in electronic devices

Outcome:

1. Define the Special and general theories of relativity.
2. Comprehend the particle properties of waves.
3. Know the quantum theory of light
4. Understand the wave properties of particles
5. Know the Atomic structure and development.
6. Acquire knowledge about semiconductor physics for intrinsic and extrinsic materials.
7. Understand the basic operation and working of different diodes.
8. Understand the use of the device models and will explain characteristics of the field effect transistors.
9. Learn the basics of semiconductor diodes, BJTs and their small signal and high frequency analysis.
10. This course will expose students to the function and application of the diodes, bipolar junction and field effect transistors in electronic circuits.
11. Identify almost all electronic components and their working principles

SEMESTER 1

CHEMISTRYPY1131.2

ROTATIONAL DYNAMICS AND PROPERTIES OF MATTER

(36 HOURS-2 CREDITS)

Aim of the course: Enable students acquire knowledge about the concepts and mathematically formulated laws of mechanics, which help them to understand mechanical phenomena in nature as well as to solve simple problems.

Course Outcome:
1To attain a common level in basic mechanics and properties of matter and laid a secure foundation in mathematics for their future courses. Describe and understand planar and spatial motion of a rigid body,

2. To understand basic mechanical concepts related to discrete and continuous mechanical systems,
3. To understand the vibrations of discrete and continuous mechanical systems,

CHEMISTRY- PY1231.2THERMAL PHYSICS

(36 HOURS-2 CREDITS)

Aim of the course: To provide students with a solid understanding of the fundamental laws of thermodynamics, kinetic theory and statistical physics.

Course Outcome:
1To understand laws of thermodynamics from both a macroscopic and microscopic point of view.

2. Apply the laws of thermodynamics to real physical systems and processes.

3.To be familiar with the first and second laws of thermodynamics and will have a basic awareness of the underlying microscopic origin of thermal quantities

CHEMISTRY AND POLYMER CHEMISTRY -PY1331.2 OPTICS, MAGNETISM AND ELECTRICITY

(54 HOURS-3 CREDITS)

Aim of the course: It introduces basic concepts, theory, and applications of electromagnetism (electrostatics, circuits, magnetism,
waves) and optics (light, geometric optics, physical optics).

Course Outcome:
1To understand basic physics concepts in electricity, magnetism, and optics.
2.To provides students the fundamental understanding of the principles and laws of classical physics
3. To use the equations of mechanics and electromagnetic field equations to determine the dynamics of physical bodies
4.To understand the basic concepts and laws in optics
5. Demonstrates how observation, experiment, and theory work together to continue to expand the frontiers of knowledge of the physical Universe

CHEMISTRY AND POLYMER CHEMISTRY-PY1431.2ATOMIC PHYSICS, QUANTUM MECHANICS AND ELECTRONICS

(54 HOURS-3 CREDITS)

Aim of the course: The aim is to introduce the students to the basic ideas in quantum mechanics, and provide the student with tools, which he/she can apply in simple spectroscopy experiments and understanding of the basics of modern physics and electronics.

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Course Outcome:

1 To develop an account of Einstein's explanation of photoelectric effect, and give a qualitative account of how results from experiments with photoelectric effect, Compton scattering and the wave nature of particles represent a break with classical physics
2 To manipulate voltages, currents and resistances in electronic circuits
3 To demonstrate familiarity with basic electronic components and use them to design simple electronic circuits

POLYMER CHEMISTRY PY1131.7–MECHANICS AND FLUID DYNAMICS
(36 HOURS 2 CREDITS)

Aim of the course:

1. To give fundamental knowledge of **fluid**, its properties and behavior under various conditions of

internal and external flows.

2. To develop understanding about hydrostatic law, principle of buoyancy and stability of a floating body and application .
3. To develop the basic principles of the dynamics of rigid bodies.

Course outcome:

1. To show how the laws of mechanics can be used to describe and predict the motions of three-dimensional objects.
2. The course on fluid mechanics is devised to introduce fundamental aspects of fluid flow behaviour.
3. Students will learn to develop steady state mechanical energy balance equation for fluid flow systems, estimate pressure drop in fluid flow systems and determine performance characteristics of fluid machinery.
4. The student will understand stress-strain relationship in fluids, classify their behavior and also establish force balance in static systems
5. Students will be able to describe function of flow metering devices and apply Bernoulli equation to determine the performance of flow-metering devices

POLYMER CHEMISTRY PY1231.7 – THERMAL PHYSICS (36 HOURS2 CREDITS)

Aim of the course: To give students a deep understanding of the fundamental principles of thermal physics.

Course Outcome:

1. This course helps to explore various applications related to topics in material science and the physics of condensed matter.
2. The objective of this course is to develop a working knowledge of the laws and methods of thermodynamics
3. The student should have a firm grasp of fundamental principles of thermal physics.
4. Students should be able to simplify and model real systems in a physically reasonable and tractable fashion
5. They should also have a good understanding of the various theoretical and computational techniques of thermodynamics

B.Sc. POLYMER CHEMISTRY

SEMESTER I

PO 1141 - Inorganic Chemistry I **Credit: 4**

The main objectives of the course are to teach the students about the modern theory of atomic structure, periodic properties of elements especially electronegative scales, isolation techniques of elements, chemical bonding, secondary bond forces. M O diagrams of different molecules, Noclear Chemistry and environmental chemistry. Upon the completion of course students appreciate the way of existence of different orbitals, molecular orbital configuration. They identify the mode of radioactive disintegration and nuclear reactions especially fission- Reactors and the reason for causing different types of environmental pollution and how they minimised.

SEMESTER II

PO1221 - Methodology and Informatics **Credit: 3**

The main aim of the course is to give information about the history of evolution of chemistry as a major branch of science, information technology, cheminformatics and analytical chemistry.

Course Objectives

Upon successful completion of the course Students are expected to

- CO1. Develop understanding on various kinds of research, objectives of doing research, research process, research designs, data handling, sampling and data documentation.
- CO2. Have basic idea about the evolution of chemistry, different branches of chemistry and new trends in chemistry
- CO3. Have basic awareness of statistical analysis of experimental data.
- CO4. Have understanding about ethical practices in research.
- CO5. Familiarize with the use of IT in teaching and learning process
- CO6. Have basic knowledge about cheminformatics- structure drawing and molecular visualization tools, file formats, chemical data base
- CO7 Develop the ability of effective solving practical problem of analytical chemistry
- CO8. Perform experimental parts of the theory by following all the safety measures required for doing chemical experiments.
- CO9. Learn to access and interpret materials safety data sheets (MSDSs)
- CO10. learn the vocabulary, signs, labels of chemical and laboratory safety
- CO11. Develop an idea about how to respond towards an emergency situation or accidents caused by chemicals.

SEMESTER III

PO 1341 - Physical ChemistryI **Credit: 3**

The objectives of the course are to provide the student with a deep understanding on the principles and application of thermodynamics, chemical kinetics, chemical and ionic equilibria and properties of binary liquid mixtures. On course completion, the student will appreciate the great significance of the laws of thermodynamics. She/he will also become familiar with the laws that govern and theories that explain the kinetics of chemical reactions, ionic equilibria and binary systems of liquids.

Module 1 Chemical Thermodynamics-1: The primary objective of this module is the establishment of a criterion for determination of the feasibility or spontaneity of a given transformation and to predict the energy exchanges that occur in various processes
Module II Chemical Thermodynamics- 11: This module talks about entropy which dictates whether or not a process or a reaction is going to be spontaneous.
Module III Thermodynamics-III and Statistical Thermodynamics: Statistical thermodynamics provides a connection between the macroscopic properties of materials in thermodynamic equilibrium, and the microscopic behaviours and motions occurring inside the material.
Module IV Chemical and Ionic Equilibria: Through this module students can understand the effect of change in concentration on the equilibrium of a reaction, shift in equilibrium position with respect to the concentration change, and to perform the experiment in the real lab after experiencing it in the virtual lab. Students can also able to know the modern theories defining ionic equilibria and be able to familiar with Sorensen's pH scale and the importance of pH in pharmacy
Module V Chemical kinetics: This module provides evidence for the mechanisms of chemical processes.
Module VI Binary Liquid Systems: The study of the possible changes of thermodynamic properties of mixtures and their degrees of deviation from ideality has been possible through this module and this gives information about the molecular structure and intermolecular forces in liquid mixture

SEMESTER IV

PO 1441 - Organic Chemistry-I **Credit: 3**

The course will enable the student to assimilate the chemistry of carbon based molecules, their structural aspects, reactivity and the related aspects of conformational analysis and the stereochemistry of organic compounds. The concepts of reaction mechanism, conformational

analysis and stereochemistry of simple organic compounds are dealt with. Knowledge about the preparation, reactivity and properties of hydrocarbons and halogen and oxygen containing organic molecules is provided to the students. Students could realise the vastness of the area of the chemistry of carbon compounds, the intricacies of their structure and their reactivity.

Course Objectives

1. To introduce the concepts of reaction mechanism, conformational analysis and stereochemistry of simple organic compounds.
2. To impart knowledge about the preparation, reactivity and properties of hydrocarbons and halogen and oxygen containing organic molecules.

Course Outcome

The course will enable the student to assimilate the chemistry of carbon based molecules, their structural aspects, reactivity and the related aspects of conformational analysis and stereochemistry of organic compounds. S/he will appreciate the vastness of the area of the chemistry of carbon compounds, the intricacies of their structure and the details of their reactivity.

Course Synopsis

Electronic effects in Organic Chemistry, Chemistry of alkanes, cycloalkanes and conformational analysis. Organic stereochemistry and mechanism of organic reactions. Structure, preparation and reactivity of halogen and oxygen containing organic compounds such as halocarbons, alcohols, ethers, phenols, aldehydes, ketones and carboxylic acid derivatives.

PO1442 - Inorganic Qualitative and Volumetric Analysis **Credit: 2**

To equip the students with skill in qualitative and quantitative chemical analysis of inorganic materials. After the course completion, the student will have the necessary training required for laboratory based wetchemical analysis.can practice the qualitative inorganic analysis using microscale methods of a mixturecontaining two acidic and two basic radicals.

SEMESTER V

PO 1541 - Organic Chemistry II **Credit: 3**

Introducing students to the Chemistry of acyclic and cyclic organic compounds containing hetero atoms, organometallic compounds, phytochemicals, secondary metabolites, dyes and drugs is the main objective of the paper. Students are also introduced to the rich Chemistry of carbon-based molecules, especially of natural origin.

Course Objectives

The objective of the course is to introduce the chemistry of acyclic and cyclic organic compounds containing hetero atoms, organometallic compounds, phytochemicals and secondary metabolites, dyes and drugs. The course will enable the student to further appreciate the rich chemistry of carbon based molecules, especially of natural origin.

Course Outcome

This course will be able to provide the significance of many utility materials like carbohydrates, proteins, steroids, drugs, vitamins, terpenes etc to learners. And also get thorough knowledge of organometallic and nitrogen and sulphur containing compounds.

Course Synopsis

Chemistry of amino, mercapto and sulphur-oxygen compounds, Heterocyclic Chemistry, Organometallic compounds, Chemistry of carbohydrates, alkaloids, terpenes, steroids and vitamins, Chemistry of dyes and drugs, Bio-organic Chemistry of amino acids, peptides, nucleic acids and lipids.

PO 1542 -Physical Chemistry II **Credit: 4**

Aim of the Course:Understand the terms, concepts, methods, principles and experimentaltechniques of physical Chemistry. Apply physical and mathematical theories and principles in the context of chemical science.

The course objectives are

- Identify, compare and explain the properties and behaviourof ideal and real gases, knowing kinetic theory ofgasesanddifferenttypesofmolecularvelocitiesand collision properties.
- Perform numerical problems of gases under a set of conditions
- Differentiate between amorphous and crystalline solids, understand anisotropy,symmetryandtypesofcrystals,X- ray diffraction methods of study of crystal structure, identify the imperfections incrystals understand the physical aspects of surface tension and viscosity of liquids and the basics of liquid crystals and their applications
- Representation of lattice planes and calculation of inter planar spacing, draw the crystal structures of NaCl and CsCl
- Recalling the basic concepts of solutions, concentration terms, Raoult's law and colligative properties
- Determination of colligative properties and molecular mass of solute
- Analyze `graphical representations(phasediagrams, two and three components, vapour pressure – composition and boiling point –composition, temperature-composition) present in physical chemistry.
- Understand the working principle Electro-Chemical cells
- Design and Determine the potentials of electrochemical systems
- Assess the nature of electrolytes in terms of dissociation andionicconductanceofelectrolytesintermsofmobility ofions

- Integrate thetheoryintopracticalapplicationsof conductometric titrations

PO1543 - Polymer ChemistryI **Credit: 4**

Aim of the course**:** To introduce the specialized subject of the chemistry of polymers, and to provide an insight into the brief history of macromolecular science, general characteristics of polymers in comparison with common organic compounds.

Objectives of the course:

- To provide an insight into the brief history of macromolecular science
- To understand in detail the mechanisms and kinetics of different types of polymerisations.
- To understand the characterisation techniques of polymers
- To familiarize the students with the types of polymers, the significance and
- determination of their molecular mass, size and viscosity.
- Identify the properties of polymers.

SEMESTER V OPEN COURSE

PO1551 – Chemistry in Everyday Life **Credit: 2**

Upon the completion of the course, students are expected to have an understanding of the contributions of chemistry in making our life pleasant and comfortable, harmful effects of chemicals, recent developments and the three types of environmental pollution

PRACTICALS

PO1544 - Organic Chemistry Experiments **Credit: 3**

The objective of this course is to train the students in qualitative and quantitative chemical analysis of organic materials. On completion, the student will have the necessary expertise in laboratory based organic analysis.

- practice to prepare different organic compounds
- Understand the qualitative organic analysis

PO 1545 - Polymer Chemistry Experiments **Credit: 2**

The objective of this course is to equip the students with skill in polymer related laboratory work

Course Synopsis

1. Laboratory based qualitative and quantitative analysis of polymeric materials.
2.Preparation of polymers

SEMESTER VI

PO1641 – Inorganic Chemistry II **Credit: 3**

The main objective of this course is to give an insight to the students into electronic configuration and properties of transition and inner transition elements, theories of coordination compounds, group theory and compounds of non-transition elements. Students will be acquainted with the role of metal ions in biological systems through bioinorganic chemistry and get information about the chemical reactions which cannot be carried out in aqueous solution through the topic non aqueous solvents

PO1642 – Physical Chemistry III **Credit: 4**

Upon the completion of the course, students are expected to have an understanding of concepts of quantum mechanics, various spectroscopic methods in chemistry, the chemical behaviour of substance in colloidal states, the physicochemical aspects of photochemical catalytic and adsorption phenomena.

PO1643 - Polymer Chemistry II **Credit: 4**

After studying these modules, the learner will be able to:

- Determine Glass transition temperature and Melt temperature
- Describe different molecular forces of polymer
- Evaluate the bonding and their role in structural features of polymers
- Illustrate important polymer reaction
- Design the mechanism involved vulcanization
- Describe the structure and applications of conducting polymers, photo-conducting polymers, and Polymer drugs.
- Explain polymer solution and polymer degradation
- Measure the role of different biopolymer and their application
- Evaluate the application of biodegradable polymer

PO1661 - Advanced Polymer Chemistry (Elective) **Credit: 2**

Course Objectives

1. To introduce the processing and technical aspects of polymers.
2. To learn about polymeric materials such as engineering plastics, elastomers and fibres and to understand the characterization of polymers and
3. To make the students familiar with the properties of macromolecular solutions

After studying this module, the learner will be able to

- Explain the characterization of the polymers using chemical and instrumental techniques
- Identify physical and chemical properties of different polymers
- Appreciate the application of sophisticated instruments like NMR, TGA, and XRD in the characterization of different polymers
- Understand the structure, properties, and preparation of different types of plastics and engineering plastics
- Differentiate plastics and engineering plastics
- Categorize the elastomers and fibres
- Understand the concept of Polymer Processing
- explain the technology of polymer processing

PO1644 – Gravimetric Analysis **Credit: 3**

- To equip the students with skill in the chemical analysis and synthesis of polymeric materials. Able to understand the difference between volumetric and gravimetric analysis
- Get practice on gravimetric analysis of different metals

PO1645 – Physical Chemistry Experiments **Credit: 4**

- To impart better understanding of the theoretical principles of physical chemistry that the student has learned through experimentation. Understand the experiment and calculation of molecular masses of solute using depression in freezing point method
- -Familiar with conductometric titrations and potentiometric titrations
- Able to find out the critical solution temperature of phenol-water system
- Able to find out the concentration of acids and bases using conductometric titrations
- Became familiar with potentiometric titrations

Semester V & VI PO1646 Polymer Chemistry project and factory visit

- Inculcate proficiency to identify appropriate Project.
- Familiarise the preparation of project report and its presentation

B.Sc STATISTICS

Aims:

In this programme, we aim to provide a solid foundation in all aspects of statistics and to show a broad spectrum of modern trends in statistics and to develop experimental, computational and application skills of students. The syllabi are framed in such a way that it bridges the gap between the plus two and post graduate levels of statistics by providing a more complete and logical framework in almost all areas of basic statistics. The programme also aims.

i. to provide education in statistics of the highest quality at the undergraduate level and produce
ii. graduates of the caliber sought by industries and public service as well as academic teachers and researchers of the future.
iii. to attract outstanding students from all backgrounds.
iv. to provide an intellectually stimulating environment in which the students have the opportunity to develop their skills and enthusiasms to the best of their potential.
v. to maintain the highest academic standards in undergraduate teaching.
vi. to impart the skills required to gather information from resources and use them.
vii. to equip the students in methodology related to statistics.

Objectives:

By the end of the second semester, the students should have:

i. attained a common level in elementary and basic principles of statistics and laid a strong foundation in mathematics for their future courses.
ii. developed their experimental and data analysis skills through a wide range of expertise in handling applications of statistics by their training acquired in the statistical lab.

By the end of the fourth semester, the students should have:

i. been introduced to powerful tools for tackling a wide range of topics in statistical methods and distribution theories
ii. become familiar with additional relevant mathematical techniques.
iii. further developed their experimental skills through a series of practical training imparted in the statistical lab, which is an integral apart of the proposed new curriculum.

By the end of the sixth semester, the student should have.

i. covered a range of topics in almost all areas of statistics including a statistical inference, Sample survey, design of experiments, Operation-research, Statistical quality control and other applied areas.
ii. had expertise and independence in handling real life applications of statistics as demonstrated in their project work.
iii. developed their understanding of statistics as an important independent branch of scientific statistics having applications in all areas of learning.

Semester I

Core Course 1: Statistical Methods I

It is an introductory course to learn the fundamental concepts and methods of statistics. Student learn how to interpret graphical and numerical summaries of data.

Semester II

Core Course 2: Statistical Methods – II

In this core course student learn the concepts of Correlation and Regression analysis. Also one gets the detailed knowledge in the topic of Data mining which is one of the important area in data analysis techniques.

Semester III

Core Course 3: Probability & Distribution – I

The foundation of Statistics is based on Probability Theory. In this course basic concepts of Probability Theory will be introduced to develop statistical thinking among students.

Semester IV

Core Course 4: Probability & Distribution – II

This paper will give a thorough knowledge in the statistical distributions and help student to solve the problems of various distributions.

Core Course 5: Practical I

Numerical problems based on core courses of semester I through IVare studied using the R programming.

Semester V

Core Course 6: Limit Theorems and Sampling Distributions

This paper introduces some important theorems in the statistical theory and their applications in different situations. It also gives a detailed discussion about various sampling distributions.

Core Course 7: Estimation

Statistical inference is a vital element in the theory of statistics. It consists of two areas; one of them is Estimation theory. The methods of estimation are taught in this core paper.

Core Course 8: Testing of Hypothesis

One of the important area of statistical inference is testing of statistical hypothesis. Different types of testing procedures are discussed in this course.

Core Course 9: Sample Survey Methods

This course introduces the concepts of sample surveys. Different types of sampling techniques are taught in detail.

Semester VI

Core Course 10: Design of Experiments and Vital Statistics

This course help the student to understand the concepts of Design of Experiments which is one of the important concept in statistics. Also one gets the basic information regarding the topics of vital statistics.

Core Course 11: Applied Statistics

Student learns the concepts of Index numbers, Time series modelling and official statistics in this course.

Core Course 12: Operation Research & Statistical Quality Control

Student can attain a thorough knowledge in the tools and methodologies of Operation Research as well as Statistical Quality Control, which are major topics in the theory of Statistics.

Core Course 13: Practical II

Numerical problems based on core courses of semester Vare done using the R programming.

Core Course 14: Practical III

Numerical problems based on core courses of semester VI are done using the R programming.

Elective: Inventory Control and Queuing Theory

Student can learn the basics of stochastic models and queuing systems.

Open Courses for other Degree Programmes: Essential Statistics for Social Sciences

This Course is designed so that the students can learn the basic statistical methods. It provides the knowledge in the data analysis tools and techniques.

B Sc ZOOLOGY

2019 Admission onwards

Aim and Objectives of the Programme

The FDP in B.Sc. Zoology is designed to provide the students with an in-depth knowledge of the diversity in form, structure and habits and habitats of invertebrates and vertebrates. It introduces the methodology and perspectives of science in general so as to enable the students to systematically pursue Zoology in relation to other disciplines that come under the rubric of science. It helps the students to understand the unity of life with the rich diversity of organisms and their ecological and evolutionary significance. The programme educates the student on the fundamental structure, biochemistry and functioning of the cell, genetic mechanism operating in man, fundamentals of microbiology and clinical immunology. It aims at improving the student's perspective of health and biology through in-depth study of human physiology and expanding the basic informatics skill and attitudes relevant to the emerging society and also to equip the student to effectively utilize the digital knowledge resources for the study of Zoology. The programme also enables the students to acquire basic skills in the observation and study of nature, biological techniques, experimental skills and scientific investigation. The elective course offered in the applied level can help the students to acquire basic knowledge and skills in vermiculture and apiculture enabling them for self-employment. The project can help the students to develop an aptitude for research in Zoology. The open course provided along with the programme also makes the student aware of the essentials of public health and sanitation thereby warding off diseases and uplifting the living standards of the community.

Expected outcomes for each course is given below

Semester I: Core Course I Animal Diversity I Course code – ZO1141

After the successful completion of the course, the students should be able to

· Classify various groups of animals and categorize them in hierarchical order.
· Explain the diagnostic characters of each phyla through brief studies of typical examples.
· List the economically important invertebrate fauna.

Semester II : Zoology Core Course II Animal Diversity II Course Code – ZO1241

After the successful completion of the course, the students should be able to

. Explain the general characteristics and classification of different classes of vertebrates.
. Explain the specific characters of each group of vertebrates.
. Illustrate the vertebrate evolutionary tree.

Semester III: Foundation Course II
Experimental Zoology, Instrumentation, Biostatistics and Bioinformatics

Course code-ZO 1341

After the successful completion of the course, the students should be able to

. Explain the principles and applications of various scientific instruments

· Choose and apply statistical methods to analyze data.

. Define the basic concepts and functional knowledge in the field of informatics.

· Define bioinformatics, its scope and applications .

Semester IV Zoology Core Course III

Ecology, Habitat Destruction and Disaster Management

Course code-ZO 1441

Course Outcomes

. Students get basic knowledge on ecosystem, food chain, food web and energy flow

. Students acquire general awareness on pollution and their impacts

. Imparts basic knowledge on ecosystems and their functioning

. Students learn about various types of anthropogenic pressures on ecosystem, related degradation and management measures

. Students get awareness of toxicants, their impacts on human health and environment and remedial measures

. Create awareness about disasters, prevention and mitigation measures.

Zoology Core Course IV: Practical I - Instrumentation, Animal Diversity I and Animal Diversity II

Course Code ZO 1442

Course Outcomes

• Students learn anatomy by dipping through simple dissections and mountings on permitted species.

· Students get familiarized with various organ systems by examining approved animals.

· Emphasize the adage that 'seeing is believing' by observing typical examples and economically important specimens.

· Students learn the working principle of different scientific instruments.

· Students become familiar with economically important species.

· Strengthen what students studied in theory by giving them an opportunity to have first-hand experience in the lab as well as outside**.**

Semester V Zoology Core Course V

Cell and Molecular Biology Course code – ZO 1541

Course Outcomes

. Students acquire sufficient knowledge on the fundamental structure, function and biochemistry of the cell.

· They understand the principles of molecular biology and gene manipulation.

· Students learn the structure of prokaryotic and eukaryotic cells.

· Students understand the fundamental differences between prokaryotic and eukaryotic cells.

· Students learn the structure, replication and modification of the genetic material of eukaryotes.

· Students understand the mechanism of gene expression and gene regulation.

· Gets an awareness of bacterial recombination.

· Students acquire scientific knowledge on cancer and ageing.

Semester V Zoology Core Course VI

Genetics and Biotechnology Course Code – ZO. 1542

Course Outcomes

· Structure of genes is to be learned.

· Students get educated on the underlying genetic mechanism operating in human and state of the art of bio-techniques
· Students develop a proper understanding on the relation between heredity and variation.
· Learn the mechanism of crossing over and inheritance patterns in humans.

· Students become aware of different genetic syndromes and the possible ways to reduce its occurrence.
· Students understand the principles and techniques involved in DNA technology and get an overview of modern techniques like PCR, Hybridoma technology, gene therapy and human cloning

Semester V

Zoology Core course VII Immunology and Microbiology

Course code – ZO 1543

Course Outcomes

· Students understand the scope and importance of clinical immunology.

· Students understand the principles and mechanisms of immunology.

· Learn the malfunctioning and disorders of the immune system

· Students acquire knowledge on immunodeficiency diseases.

· Transplantation and mechanism of Graft retention and rejection are learned.

· Students get a brief history of microbiology.

· Students develop a broad understanding of the positive as well as negative aspects of microbes.
· Economic importance (applied aspects) of microbes in industry can be studied.

Semester VI

Zoology Core Course VIII
Physiology and Biochemistry Course Code – ZO1641

Course Outcomes

· Students develop a clear understanding of the correlation and coordination between the structure and function of different organs and organ systems of the body.

· Proper study on physiology helps students understand the physiology of different organ systems of the body.
· Students learn the correlation between diseases and the abnormal structure or improper functions of organs.
· Students understand the possible causes of abnormal physiology and the resultant diseases.
·Students understand the structure and functions of biomolecules and their role in metabolism.
· This course opens new areas of research to students.

Semester VI Zoology Core Course IX
Developmental Biology and Experimental Embryology Course code ZO - 1642

Course Outcomes

- Students get a brief idea about the history of developmental biology.
- Provide the students a bird's eye view of sophisticated embryological techniques
- Study the various stages involved in the development of organisms.
- Study the initial developmental procedures involved in Amphioxus, Frog and chick
- Procure information on state- of- the art experimental procedures in embryology.
- Different control mechanisms of development including gene action are studied.

Semester VI

Zoology Core Course X

Ethology, Evolution and Zoogeography

Course Code - Z01643

After the successful completion of the course, the students should be able to
. Define the principles of environmental science and discuss the impacts of human activities on them.
. Explain wildlife conservation and management
· Explain the inherent morphological and physiological bases of behavioral pattern exhibited by vertebrates.
. Explain organic evolution with special reference to man.
. To identify and explain zoogeographical realms and animal distribution.

Zoology Core course XI
Practical II -
Cell Biology, Genetics, Bioinformatics Biotechnology, Immunology and Microbiology Course Code — ZO1644
After the successful completion of the course, the students should be able to
. Demonstrate chromosomal arrangements during cell division.

. Identify and explain chromosomal aberrations in man.
. Identify and explain conventional biotechnological procedures.
. Perform routine blood analysis

Zoology Core Course XII

Practical III - Physiology and Biological Chemistry, Molecular Biology and Biostatistics Course Code ZO1645

After the successful completion of the course, the students should be able to

. Examine blood and urine for various clinical conditions.
· Perform simple biochemical laboratory procedures.
. Identify and explain the structure of DNA and RNA
.construct histograms, Frequency polygon and pie diagrams
. Calculate Mean, Median and Mode

Zoology Core Course XIII

Practical IV - Developmental Biology , Ecology, Ethology, Evolution and Zoogeography
Course Code — ZO1646
After the successful completion of the course, the students should be able to

. Identify and explain different stages of embryo development.
. Demonstrate water quality parameters.
. Identify and explain zoological realms.

Semester VI
Zoology Project and Field study

Course Code - ZO1647
After the successful completion of the course, the students should be able to

- Select a suitable research topic, define its aim and objectives, formulate hypotheses, Design and conduct experiments, or conduct surveys, collect data or make observations, analyse the data using statistical methods, interpret the results and arrive at proper conclusions.
- Write a project report.
- Present a project.

Semester V Zoology Open Course I

Public Health and Hygiene Course Code - Z01551.1
After the successful completion of the course, the students should be able to

· Summarize the principles of nutrition and dietetics.
· Explain the ill effects of modern lifestyle habits.
. List various types of diseases and explain their control and prevention.
· State the advantages of being hygienic.

Semester VI Zoology Elective Subject – I

Economic Zoology – Vermiculture and Apiculture Course Code – ZO1651.1

After the successful completion of the course, the students should be able to
· Explain the basic procedure and methodology of vermiculture.
· Explain the scope and methodology of apiculture.

B.Voc. FOOD PROCESSING AND MANAGEMENT

Semester 1

VFP1S01 – Bakery and Confectionery Technology

VFP1S02 – Principles of Food Preservation

VFP1SO3 – Fundamentals of Food Science

VFP1S04 – Bakery and Confectionery Technology (Practical)

VFP1G05– Food Science and Nutrition

VFP1G06-Entrepreneurship Development and Project Management

EN 1111.4- Language Course 1: Language Skills

VFP 1101- Industrial visit /study tour /Internship

Aim:

- Understand the basic concept, functions, and classification of food
- To develop professional and practical knowledge in bakery and confectionary and make them competent as an entrepreneur
- To make students understand about the mechanism of spoilage and the basic food preservation principles
- To understand the nutrient composition of foods, their functions

Course Objectives:

- To know about the importance of each ingredient in the bakery and how it effects the overall product and its sensory and quality parameters
- To know about the various types of food products made using baking technology
- To understand the principles behind the various methods of food preservation
- To improve the culinary skills of the students
- To have a basic idea about how to prepare a project to start a small scale industry

Semester 2

VFP2S01 – Dairy Technology

VFP2S02 - Packaging Technology

VFP2S03 – Dairy Technology(Practical)

VFP2S04- Food Preservation II(Practical)

EN 1211- Environmental Studies

EN1211- Language Course 2: English for career

VFP2G05-Business Communication

VFP2I02- Industrial visit /study tour /Internship Report

Aim:

- To inculcate the knowledge regarding various dairy products
- To provide knowledge about trends and development in food packaging technologies and materials
- To understand different processing equipment in dairy plant
- To know the application of food preservation methods

Course Objectives:

- To understand the technology behind packaging and packaging materials
- To have a basic idea about the materials used for food packaging and their testing
- To know about the quality control measures applied in dairy industries
- To have a basic idea about their processing and products which can be made at a small scale
- Have better awareness and concern about current environmental issues
- To familiarize students with different modes of general and academic writing

Semester 3

VFP3G01- Applied Microbiology

VFP3S02 – Technology of Fish, Meat and Egg Processing

VFP3S03 – Technology of Spices and Plantation Crops

VFP3S04 – Technology of Fermented Foods

VFP3G05 – Food Microbiology

VFP3S06- Food Microbiology(Practical)

VFP3S07- Food Quality Testing (Practical)

VFP3I03- Industrial visit /study tour /Internship Report

Aim:

- To understand the different food born disease and spoilage of food
- To understand the technology for handling, processing, preservation of meat, poultry and fish products

- To impart basic knowledge about the importance and production technology of spices and plantation crops
- To impart thorough knowledge about various aspects of food fermentation process and technologies involved
- To make students understand the food and industrial microbiology

Course Objectives:

- To understand technology behind preparation of various animal food products and by product utilization
- To know about value added products from spices
- Attain knowledge of production equipment in fermentation industry, substrate preparation and control of fermentative process and isolation of products
- Recognize and describe the characteristics of important pathogens and spoilage microorganisms in foods

Semester 4

VFP4S01 – Technology of Cereals, Pulses and Oilseeds

VFP4S02 –Technology of Beverages

VFP4G03 – By product utilization and Waste management

VFP4G04 – Marketing Management

VFPI04 - Project / Industrial Visit /Study Tour /Internship report

VFP4S05 – Food and Beverages processing (Practical)

VFP4S06– Cereals, Pulses and Oilseeds (Practical)

VFP4G07 - Business Management

Aim:

- To acquaint with production and consumption trends, structure, quality, and processing technologies for product development and value addition of various cereals, pulses and oilseeds
- The aim of the course is to provide the students with general scientific knowledge about processing of alcoholic and non- alcoholic beverages
- To understand about the ways for effective utilization of the byproducts obtained after food processing and also to gain knowledge about characterization of waste products and effluent treatment methods

Course Objectives:

- To study the storage and handling techniques of cereals, oilseed and pulses
- To understand the manufacturing processes in the context of technology
- To gain knowledge in different effluent treatment methods

- To understand the physical properties of cereal flours
- To familiarize the students with concepts and principles of Management
- To have a basic idea about different marketing skills

Semester 5

VFP5S01 – Fruit and Vegetable Processing

VFP5S02 – Food Chemistry

VFP5S03- Food Quality Assurance

VFP5G04 – Computer Applications

VFP5G05– Personality Development

VFP5S06-Food Chemistry (Practical)

VFP5G07 – Food Processing Equipment

Aim:

- To understand about the proper post-harvest handling technologies of fruits and vegetables and to know the process of development of fruit and vegetable processing products
- To explain the chemical composition and functional properties of food
- To acquaint with food quality parameters and control systems, food standards, regulations, specifications
- To introduce basic equipment design and various control mechanisms

Course Specifications:

- To study about the processing of fruits and vegetables
- To study the classification, structure and chemistry of the various food components
- To apply preventive measures and control methods to minimize microbiological hazards and maintain quality of foods
- To enable the student to design and develop equipment used in Food Processing operations
- To bring about personality development with regard to the different behavioral dimensions
- To understand the operations of MS WORD-(Editing , Formatting, inserting)

Semester 6

VFP6G01 - Unit Operations in Food Industry

VFP6G02- Emerging Technologies in Food Industry

VFP6S03-Food Packaging (Practical)

VFP6S04- Snack Food Processing (Practical)

VFP6G05 – Food Service Management

VFP6I06- Major Project

Aim:

- To provide in-depth knowledge in basic concepts of various unit operations in a food industry
- To understand about new developments in food industry and to impart knowledge about the importance and applications of the technology
- To understand the functioning of food service establishments and to acquire knowledge about the services that should be given by a food service establishment
- Project based on the any one subject related to the syllabus/ Scheme

Course Objectives:

- To understand the need for efficient personnel management in the food industry
- To enable the student to understand: Emerging / alternative technologies applied to food processing
- To understand the different operations performed in food industry

B.Voc. SOFTWARE DEVELOPMENT

Semester I

EN1111 : Speaking and Listening skills

On completion of the course, the students should be able to

- Listen to lectures, public announcements and news on TV and radio.
- Engage in telephonic conversation.
- Communicate effectively and accurately in English.
- Use spoken language for various purposes.

VS 311 : Aptitude & Logical reasoning

On successful completion of the course the students will be able to:

- Understand the basic concepts of QUANTITATIVE ABILITY
- Understand the basic concepts of LOGICAL REASONING Skills
- Acquire satisfactory competency in use of VERBAL REASONING
- Solve campus placements aptitude papers covering Quantitative Ability, Logical Reasoning and Verbal Ability
- Compete in various competitive exams like CAT, CMAT, GATE, GRE, GATE, UPSC, GPSC etc.

VS 312 : Managerial Economics

After the completion of the course, students will be able to

- Understand the Macro and Micro economics
- Understand the characteristics and scope of managerial economics
- Analyze the demand and supply conditions and assess the position of a company
- Understand Laws of production–Law of Diminishing Returns–Law of returns.

VS 313 : Introduction to IT

By the end of the course, successful students will demonstrate that they have acquired some of the skills they will need to prepare them for the ongoing process of learning about, evaluating, and using digital information technologies and applications and To give an overview of computer application in various fields and an overall generic awareness about the scope of the field of IT

VS 314 : Programming Principles

Upon completion of this course, students will acquire knowledge about Able to implement the algorithms and draw flowcharts for solving Mathematical and Engineering problems. Demonstrate an understanding of computer programming language concepts

VS 315 : Word Processing & Image editing

At the end of the course the students will be able to Prepare office document, Create presentation, Design multimedia presentation and Edit images

VS 316 : PHOTOSHOP LAB

Students should provide hands-on knowledge with the Photoshop software for editing images

VS 317 PAGEMAKER LAB

Students should provide hands-on knowledge with the Pagemaker software for preparing documents

Semester II

EN 1211: WRITING AND PRESENTATION SKILLS

On completion of the course, the students should be able to

- Understand the mechanism of general and academic writing.
- Recognize the different modes of writing.
- Improve their reference skills, take notes, refer and document data and materials.
- Prepare and present seminar papers and project reports effectively.

VS 321 ENVIRONMENTAL STUDIES

On completion this course, student should:

- Have better awareness and concern about current environmental issues

- Develop a healthy respect and sensitivity to environment
- Develop pride in social and environmental activism.

MM1131.9 MATHEMATICS I

On successful completion of the course the students will be able to:

- Understand the basic concepts of Differentiation and Integration.
- To know about the ordinary differential equation and its application.
- Understand the application of Lebnitz's theorem, Fermat's theorem and Wilson theorem.
- Understand the concepts of Number theory and its applications.

VS 322 ANIMATION SOFTWARES

At the end of the course the students will be able to

- Create objects using 3DMax
- Perform animation
- Add special effects

VS 323 COMPUTER NETWORKS AND INTERNET APPLICATIONS

At the end of the course the students will be able to

- Explain different components for internet
- Discuss different applications of it

VS 324C PROGRAMMING

- To expose students to algorithmic thinking and algorithmic representations
- To introduce students to basic data types and control structures in C.
- To introduce students to structured programming concepts
- To introduce students to standard library functions in C language

VS 325C PROGRAMMING LAB

This course will provide hands-on practice in the following topics, under a variety of programming situations with a focus on writing, debugging and analyzing structured programs:

- Basic data types in C.
- Basic control structures in C.

- Arrays, structures and files
- Standard library functions in C language
- Solving moderately complex problems involving the above and requiring selection of appropriate data structures and efficient algorithms

VS 326 ANIMATIONS LAB

Students should provide hands-on knowledge with the 3D Max software for creating animation

Semester III

VS 331 BUSINESS STATISTICS

- To enable the students to gain understanding of statistical techniques as are applicable to business.
- To enable the students to apply statistical techniques for quantification of data in business.

VS 332 SYSTEM ANALYSIS AND DESIGN

At the end of this course, the students will be able to

- Explain the background study required for developing a system
- Design a new system
- Discuss types of testing
- Select the hardware and software required for a system

VS 333 MANAGEMENT INFORMATION SYSTEMS

- Comprehend Management activities.
- Reproduce a working knowledge of concepts and terminology related to information technology
- Apply Enterprise Resource Planning (ERP) solutions for IT industry.
- Analyze how information technology impacts a firm
- Apply IPRs and institutional support for entrepreneurship.

VS 334 WEB APPLICATION & DEVELOPMENT

To impart basic skills in moderately complex use of the following tools/scripts/languages:

- HTML, DHTML, CGI Script, Perl, CSS, Java script, ASP and JSP.
- To impart necessary ability to choose the appropriate web tools/languages for creating
  state-of-the art web sites
- To Expose students to current trends and styles in web design and applications

VS 334 COMPUTER HARDWARE & MAINTENANCE

At the end of the course the students will be able to

- Explain the working of computers
- Identify different components of computers and explain their uses

VS 336 OPERATING SYSTEMS

At the end of the course the students will be able to

- Discuss the installation of windows
- Explain the ways of diagnosis
- Make a system secure

VS 337WEB DEVELOPMENT– LAB

To practice moderately complex use of the following scripts/languages/technologies:

- HTML, DHTML, CSS,
- Java script,
- CGI Script, Perl,

VS 338 COMPUTER HARDWARE – LAB

Students should be provided with hands-on experience on hardware assembling, trouble shooting, installation of operating system and other softwares, ensure securityof systems and so on.

Semester IV

MM1231.9 MATHEMATICS II

VS 341 BUSINESS INFORMATICS

By the end of this course, the student should be able to:

- Have an awareness about role of IT in business
- Have knowledge of basic concepts of e-commerce

- Be aware of different types of e-commerce web sites and different modes of payments
- Be aware of security and legal issues in e-commerce

VS 342 FINANCIAL ACCOUNTING

Familiarizing the student with the basic accounting terminologies and capable ofjournalizing, posting and preparing final accounts both manually and in computerizedform.

VS 343 NETWORK ADMINISTRATION

- Demonstrate the principles of application layer protocols.
- Distinguish transport layer services and protocols.
- Classify IP and Routing Algorithms in network layer.
- Demonstrate streaming and working of Distribution servers.

VS 344 OBJECT ORIENTED PROGRAMMING

On the completion of this course, the student will be able to

- Understand the concepts of classes and object
- Define classes for a given situation and instantiate objects for specific problem solving
- Reuse available classes after modifications if possible
- Possess skill in object oriented thought process

VS 345 VISUAL TOOLS

At the end of this course, the students will be able to:

- Give an introduction about visual basic
- Explain the fundamentals of visual basic
- Discuss the various controls in visual basic
- Narrate database connectivity in visual basic

VS 347 OOP & NETWORK LAB

This course will provide hands-on practice in a the following topics, under a variety of programming situations with a focus on writing, debugging and analyzing object oriented programs:

- Basic data types and control structures in C++.

- Managing classes and objects in a variety of situations
- Solving moderately complex problems involving the above and requiring selection of appropriate structures and algorithms

VS 348 INDUSTRIAL TRAINING

- Students should go to a software firm and undergo training on an emerging tool.

Semester V

VS 351 INTRODUCTION TO INFORMATION SECURITY

On completion of this course student shall:

- Be aware of principles and protocols of internetworks
- Understand the basic issues in information security
- Understand the concept of ciphers and cryptography.
- To impart an idea on various ciphers
- Understand the concept of digital signatures and e-mail security policies
- Impart an idea on malicious softwares and remedies.

VS 352 PRINCIPLES OF MANAGEMENT

To introduce students to:

- Concept of Management and Organisations
- Planning and decision making strategies
- Concepts of organizational behavior and HR management
- Leadership qualities

VS 353 ENTREPRENEURSHIP DEVELOPMENT

- To familiarize the students with the latest programs of the government authorities inpromoting small and medium industries.
- To impart knowledge regarding how to start new ventures.

VS 354 PROGRAMMING IN JAVA

- Let students install and work with JDK, also make them aware the use of java doc.
- Practice basic data types, operators and control structures in Java
- Practice basic handling of classes and objects in Java

- Introduce the following selected APIs: I/O, Strings, Threads, AWT, Applet, Networking
- Idea to approach and use a new package

VS 355 SOFTWARE TESTING

At the end of this course, the students will be able to

- Discuss the basic concept of testing
- Explain different types of testing
- Describe the tools used for testing

VS 356 SOFTWARE ENGINEERING

- At the end of the course, the students should be able to :
- Appreciate the importance of having a process for software development.
- Understand the various activities undertaken for a software development projectfollowing the Function oriented Design & Object oriented design
- Understand the issues in code design and development
- Test software developed using SSAD and OOAD methodologies.
- Have in depth knowledge about the different OOAD Themes and compare them withSSAD

VS 357 JAVA LAB

This course will provide hands-on practice, under a variety of programming situations with a

focus on writing, debugging and analysing object oriented programs:

- Basic data types and control structures in Java
- Installing and using JDK
- Writing applications and applets
- Managing classes and objects in a variety of situations
- Using i/o, string, threads and net APIs
- Solving moderately complex problems involving the above.

Semester VI

VS 361 HUMAN RESOURCES DEVELOPMENT

On completion of this course, the students will be able

- To develop the understanding of the concept of human resource management and to understand its relevance in organizations.
- To develop necessary skill set for application of various HR issues.
- To analyse the strategic issues and strategies required to select and develop manpower resources.
- To integrate the knowledge of HR concepts to take correct business decisions.

VS 362 FREE AND OPEN SOURCE SOFTWARES (FOSS)

At the end of this course, the students will be able to

- Explain the features of free & open source software
- Familiarization with LINUX
- Work with PHP
- Demonstrate the working of MySQL

VS 363 IT & SOCIETY

By the end of this course, the student should be:

- Having a clear view of what professionalism is
- Aware of ethical issues in computing profession
- Aware of managing quality
- Aware of quality certifications
- Having an Exposure to Cyber law

VS 364 MOBILE APPLICATIONS DEVELOPMENT

This course focuses on developing applications for modern mobile phone operating systems. Most of the course is dedicated to android and Microsoft's Windows.

VS 365 DATABASE ADMINISTRATION

- Basic concepts of relational data model, entity-relationship model, relational database design, relational algebra and SQL.
- Design ER-models to represent simple database application scenarios
- The ER-model to relational tables, populate relational database and formulate SQL queries on data.
- Advanced data modeling concepts like OOD Modeling and ORD Modeling
- Query processing and transaction management concepts for object-relational database and distributed database.

VS 366 ADVANCED JAVA

- Learn the Internet Programming, using Java Applets
- Create a full set of UI widgets and other components, including windows, menus, buttons, checkboxes, text fields, scrollbars and scrolling lists, using Abstract Windowing Toolkit (AWT) & Swings
- Apply event handling on AWT and Swing components.
- Learn to access database through Java programs, using Java Data Base Connectivity (JDBC)
- Create dynamic web pages, using Servlets and JSP.

VS 368 MAJOR PROJECT & VIVA

- To provide an opportunity to apply the knowledge gained through various courses in solving a real life problem
- To provide an opportunity to practice different phases of software/systemdevelopment life cycle
- To introduce the student to a professional environment and/or style typical of aglobal IT industry
- To provide an opportunity for structured team work and project management
- To provide an opportunity for effective, real-life, technical documentation
- To provide an opportunity to practice time, resource and person management.

B.COM (CO-OPERATION)

The First Degree Programme in Commerce is designed with the objective of equipping the students to cope with the emerging trends and challenges in the industrial and business world.

Programme Outcomes

After completing a successful B.Com (Co-operation) degree programme:

1. The students will be able to understand and interpret the financial statements of a company registered in India.
2. The student will be in a position to understand the general economic and business environment.
3. The student will able to understand and interpret Indian Accounting Standards and IFRS.
4. The student will be clear regarding the rules and regulations prevailing in the co-operative sector.
5. The students will be equipped to work in a co-operative sector and will be clear regarding co-operative management and administration.
6. The students will be able to discuss the business regulatory framework which also includes the regulation involved in banking business, insurance business and cyber laws
7. The student will be in a position to deal with financial instruments via stock market.
8. The student is exposed to income tax and he will be in a position to do e-filing.

SEMESTER I

Foundation Course I: CO 1121
METHODOLOGY AND PERSPECTIVES OF BUSINESS EDUCATION
No of instructional hours per week: 4 No of credits: 2
Aim of the course: To provide the methodology for pursuing the teaching learning process with a perspective of higher learning in business education.
Course Objectives:
1. To create a basic awareness about the business environment and the role of business in economic development.

2. To provide a holistic, comprehensive and integrated perspective to business education
3. To give a fundamental understanding about ethical practices in business.

Learning Outcomes

1. The students will get a holistic idea and peripheral view about various areas covered under business education that are to be pursued in detail in due course

2. The course enables the students to create a strong foundation for learning this programme by focussing on all the major terminologies in commerce education.

Core Course I: CO 1141 – ENVIRONMENTAL STUDIES

No. of instructional hours per week: 4 No. of Credits: 3

Aim of the course: To develop knowledge and understanding of the environment and enable the students to contribute towards maintaining and improving the quality of the environment.

Course objectives:

1. To enable the students to acquire basic ideas about environment and emerging issues about environmental problems.
2. To give awareness about the need and importance of environmental protection

Learning Outcomes

1 Students get familiarised with the basic idea about the environment and its implications.
2 They get the awareness about the need and importance of environmental issues.

Core Course II: CO 1142 MANAGEMENT CONCEPTS AND THOUGHT

No: of instructional hours per week: 4No: of credits: 3

Aim of the course: To provide a comprehensive perspective on management theory and practice

Course objectives:

1) To equip learners with knowledge of management concepts and their application in contemporary organizations
2) To facilitate overall understanding of the different dimensions of the management process.

Learning Outcome:

1. The student will understand the relevance of effective management for the success of a business entity.
2. The student will be aware of the management theories and practices followed in the industry.
3. The student will get a professional outlook regarding the conduct and behavior expected in a corporate environment.

Complementary Course I: CO 1131 – MANAGERIAL ECONOMICS

No. of instructional hours per week: 4 No. of credits: 3

Aim of the course: To acquaint the students with the application of economics in managerial decision making.

Course objectives:

1. To familiarise students with the economic principles and theories underlying various business decisions.
2. To equip the students to apply the economic theories in different business situations.

Learning Outcomes

1) Apply the economic way of thinking to individual decisions and business decisions
2) Measure the responsiveness of consumers' demand to changes in the price of a good or service, the price of other goods and services, and income
3) Distinguish between the different market structures and pricing practices available to and used by firms
4) Use the tools of marginal analysis to explain the optimal allocation of resources within the firm.
5) Use the tools of estimation and forecasting to support decision-making.
6) Appraise some of the current and emerging issues in managerial economics at the national and international levels.
7) Formulate and apply the right economic tools for business decision making.

SEMESTER II

Foundation Course II: CO 1221-INFORMATICS AND CYBER LAWS

No. of instructional hours per week: 4 No. of credits: 3

Aim of the course: To update and expand informatics skills and attitudes relevant to the emerging knowledge society and to equip the students to effectively utilise the digital knowledge resources.

Course objectives:

1. To review the basic concepts and fundamental knowledge in the field of informatics and to create an awareness about the nature of the emerging digital knowledge society and the impact of informatics on business decisions.
2. To create an awareness about the cyber world and cyber regulations.

Learning Outcomes

1. Students learn about the application of ICT in all aspects of their life and environment
2. The learner gets aware about the various cyber crimes and IT laws prevalent in India
3. The students get equipped with the precautions that help them to protect themselves from cyber attacks

Core Course III: CO 1241 - FINANCIAL ACCOUNTING

No. of instructional hours per week: 4 No. of credits: 3

Course Objectives

1. To familiarize the students with different methods of depreciation.
2. To equip the students to prepare the accounts of specialised business enterprises.

Learning Outcome:

1. The student will be able to understand a normal Trading and Profit & Loss a/c of a sole proprietor business.
2. The student will be exposed to depreciation and the relevance of depreciation in the profitability and growth of the business.

3. The student will be able to calculate the profitability of any investment in financial market.
4. The student will know the method to calculate insurance claims.

Core Course IV: CO1242- BUSINESS REGULATORY FRAMEWORK
No. of instructional hours per week: 4 No. of credits: 3
Aim of the course: To acquaint the students with the legal framework influencing business decisions and operations.
Course objective:
1. To provide a brief idea about the framework of Indian business Laws
2. To enable the students to apply the provisions of business laws in business activities

Learning Outcomes
1. Students will be able to identify the laws existing in India for governing business
2. They shall be equipped with the procedures that are undertaken to legal proceedings relating to business activities.

Complementary Course II: CO 1231 - BUSINESS MATHEMATICS
No. of instructional hours per week: 4 No. of Credits: 3
Aim of the Study: To enable students to acquire knowledge in applying basic mathematical tools in practical business decisions.
Objectives:
1. To familiarise the students with the basic mathematical tools.
2. To impart skills in applying mathematical tools in business practice

Learning Outcomes
1) Analyse the real life situation and recognize the basic concept of numbers to apply it in business transaction
2) Apply basic mathematics including addition, subtraction, multiplication, division, decimals, fractions and percentages to solve business problems.
3) Demonstrate the methods of calculating gross earnings for salaries and wages.
4) Work with simple and compound interest, annuities, payroll preparation , pricing, invoice preparation, trade discount, taxes and depreciation problems in various situations and use correct mathematical terminology , notation and symbolic process in order to be prepared for future course of work in business

SEMESTER III

CORE COURSE V: CO 1341-ENTREPRENEURSHIP DEVELOPMENT
No of instructional hours per week: 4 No. of credits: 3
Aim of the Course: To equip the students to have a practical insight for becoming an entrepreneur
Course Objectives:
1. To familiarize the students with the latest programmes of Government in promoting small and medium industries.
2. To impart knowledge regarding starting of new ventures.

Learning Outcome:-
1.Students shall be equipped in starting new venture.
2. Drive to become an Entrepreneur and the steps to commence a business
3.The financial aids and support provided for entrepreneurship by the government is made clear

Core Course VI: CO 1342 - ADVANCED FINANCIAL ACCOUNTING
No. of instructional hours per week: 5 No. of credits: 4
Aim of the course: To equip the students with the preparation of accounts of various business areas.
Course Objectives
1. To create awareness of accounts related to dissolution of partnership firms.
2. To acquaint students with the system of accounting for different branches and departments.
3. To enable students to prepare accounts of consignments.

Learning Objectives:

1. The student will know the accounting process to be followed in dissolution of a partnership business.
2. The student will know of consignment business and the accounting treatment of consignment business.
3. The student will be aware of the accounting treatment to be followed by head office and its branches.
4. The student can make out the business model of joint venture business and its accounting treatment.
5. The student can understand the way of treating a department in accounting angle.

Core Course VII CO 1343: COMPANY ADMINISTRATION
No: of Instructional Hrs per week – 4 No: of credits: 3
Objectives:
1. To familiarize the students about the salient provisions of Indian Companies Act 2013.
2. To acquaint the students with Management and Administration of Companies, Compliance requirements, investigation into the affairs of the company and Winding up procedure.

Learning Outcomes

1) Describe, explain and apply fundamental concepts of company administration and also help to aware about changes in legal frame work of company administration.
2) Apply qualitative skills to analyse and solve management problems and discover opportunity.
3) Identify the theories and practices of business ethics and social responsibility.

Elective Course I: Stream 2 - Co-operation
CO 1361.2 - PRINCIPLES OF CO-OPERATION
No. of instructional hours per week: 5 No. of credits: 4

Aim of the course: To give knowledge about the development of co-operative movement in India and abroad.
Course objectives: To inculcate the principles of co-operation among the students.
To acquaint the students with the management and working of co-operatives

Learning Outcomes
1 Students get the basic idea about the concepts of Co-operation and its after effects.
2 They get the real picture of Co-operation and its working in our country

Complementary Course III: CO 1331 - E-BUSINESS
No of instructional Hours per week: 4 No. of credits: 3
Aim of the Course: To expose the students to e- business and its potentialities.
Course Objectives
1. To provide students a clear-cut idea of e-commerce and e-business and their types and models.
2. To acquaint students with some innovative e-business systems.
3. To impart knowledge on the basics of starting online business.

Learning Outcomes
1. The students can perform e commerce and e banking transactions
2. They procure knowledge about application of ICT in business
3. Learn how to start an online business by building a website

SEMESTER – IV

Core Course VIII CO 1441 - INDIAN FINANCIAL MARKET
No. of instructional hours per week 4 No. of credits: 3
Aim: To provide an in-depth knowledge on Financial Market and its Operations
Course Objectives: To provide a clear-cut idea about the functioning of Indian Financial Market in general and Capital market operations in particular.

Learning Outcomes
1. The students can identify the various sources of finance to start and run a business
2. Procures knowledge on trading in stock market
3. Learn about using derivatives as hedging instruments

Core Course IX:CO1442 BANKING AND INSURANCE
Number of instructional hours per week: 4Number of Credits: 3
Aim of the course:To expose the students to the changing scenario of Indian banking and Insurance.
Course objectives:
1. To provide a basic knowledge about the theory and practice of banking
2. To provide a basic understanding of Insurance business.
3. To familiarize the students with the changing scenario of Indian Banking and Insurance.
Learning Outcome:-
1. This course will enable students to handle bank accounts and become satisfied account holder.
2. Learn strategies to reduce the risk associated with life and property as far as possible.

Core Course X: CO 1443 - CORPORATE ACCOUNTING

No of instructional hours per week: 5 No of credits: 4
Aim of the course: To expose the students to the accounting practices prevailing in corporate.
Course Objectives:
1. To create awareness about corporate accounting in conformity with the provisions of Companies Act, IAS and IFRS.
2. To help the students in preparation of accounts of banking and insurance companies.
3. To enable the students to prepare and interpret financial statements of joint stock companies.

Learning Outcome:

1. The student will know the relevance of IFRS in modern business environment.
2. The student will be able to understand and interpret the financial statements of a company registered in India.
3. The student will be able to understand and interpret the financial statement of a banking company.
4. The student will be able to understand and interpret the financial statement of an insurance company.

Elective Course II: Stream 2 - Co-operation
CO 1461.2 - CO-OPERATIVE MANAGEMENT AND ADMINISTRATION
No. of instructional hours per week: 5 No. of credits: 4
Aim of the course: To provide knowledge about the system of management and administrative set up of co-operatives.
Course objectives:
1. To familiarise the students with the principles and practice of co-operative management and administration.
2. To enable the students to identify the issues in the process of management and administration of co-operatives.

Learning Outcomes

1 Students got well aware of the Principles and practice of co-operative management and administration.
2 They understood the issues and challenges regarding the process of co-operative management and administration

Complementary Course IV: CO 1431 - BUSINESS STATISTICS
No. of instructional hours per week: 4 No. of credits: 3
Aim of the course: To develop the skill for applying appropriate statistical tools and techniques in different business situations.
Course Objectives:
1. To enable the students to gain understanding of statistical techniques those are applicable to business.
2. To enable the students to apply statistical techniques in business.

Learning Outcomes

1) How to calculate and apply some measures of location and measures of dispersion for grouped and ungrouped data

2) Data description and data presentation in a business environment Measures of Central Tendency
3) How to apply discrete and continuous probability distributions to some business problems.
4) Based on the acquired knowledge to interpret the meaning of the calculated statistical indicators
5) Choose a statistical method for solving practical problems

SEMESTER V

Core Course XI: CO – 1541: FUNDAMENTALS OF INCOME TAX
No. of Instructional Hours per Week: 5 No. of Credits: 4
Aim of the Course: To impart basic knowledge and understanding of the concepts and practices of Income Tax law in India.
Objectives
1. To familiarize the students about the fundamental concepts of Income Tax.
2. To enable the students to acquire the basic skills required to compute the tax liability of individual assessee with more emphasis on Income from Salaries and Income from House property.

Learning Outcomes
1. Identify the various heads of income under Direct tax
2. Compute tax liability of Individual assessee
3. Determine residential status of an individual based on Income Tax Act
4. Idea about various provisions for tax planning for individuals

Core Course XII: CO 1542 - COST ACCOUNTING
No of instructional hours per week: 5 No of Credits: 4
Aim of the Course: To impart knowledge of cost accounting system and acquaint the students with the measures of cost control.
Objectives:
1. To familiarize the students with cost and cost accounting concepts
2. To make the students learn cost accounting as a distinct stream of accounting
Learning Outcome:-
1.Motivate the Students to become a Cost Accountant
2.Practical Know how in preparing Cost Sheets and cost control measures

Core Course XIII CO 1543: MARKETING MANAGEMENT
No: of instructional hours per week: 4No: of credits: 3
Aim of the course: To impart the knowledge of various concepts of modern marketing management
Course objectives:
1) To provide an understanding of the contemporary marketing process in the emerging business scenario.
2) To study various aspects of application of modern marketing techniques for obtaining a competitive advantage in business organizations.

Learning Outcomes

1. Students get the idea of the essential P's of successful marketing mix for a business
2. Identify the new trends in digital marketing
3. Scope for CRM practices for a business organisation
4. Marketing strategies for successfully placing an organisation

Open Courses (For students from Disciplines other than Commerce)

Open Course 1. CO 1551.3 CAPITAL MARKET OPERATIONS
No. of instructional Hours per week: 3No of Credits: 2
Aim: To create an interest among students towards stock market investment
Objective: To familiarize the students with capital market operations
Learning Outcomes
1. Students will get an overview the capital market instruments available for investment
2. It opens an investment avenue for the students and also a means of earning income while contributing to the development of the economy

Elective Course III: Stream 2 - Co-operation
CO 1561.2 - CO-OPERATIVE LEGAL SYSTEM
No. of instructional hours per week: 5 No. of credits: 4
Aim of the course: To give knowledge of the legal system prevailing in India for the management
and administration of co-operatives.
Course objectives:
1. To give an insight into the prevailing co-operative legal system.
2. To enable the students to understand the legal framework of co-operation.

Learning Outcomes
1. To describe the legal provisions of co-operative societies in Kerala
2. To analyse various provisions from the registration to the winding up of co-operatives.
3. To explain the legal procedure for the working of co-operative societies.

SEMESTER VI
Core Course XIV: CO 1641 AUDITING
No of instructional hours per week:4 No. of credits:4
Aim of the Course: The acquaint the students with the principles and practice of auditing
Course Objectives
1. To provide students the knowledge of auditing principles, procedures and techniques in accordance with current legal requirements and professional standards.
2. To familiarize students with the audit of Companies and the liabilities of the auditor

Learning Outcomes
1. Understand various steps in the auditing of Companies
2. To assess the qualities required for a good auditor

Core Course XV:CO 1642: APPLIED COSTING
No of instructional hours per week: 5 No of credits:4
Aim of the Course: To develop the skill required for the application of the methods and techniques of costing in managerial decisions.
Course objectives:

1. To acquaint the students with different methods and techniques of costing.
2. To enable the students to apply the costing methods and techniques in different types of industries.

Learning Outcome:-

1. To develop the Skill in the Preparation of Various Methods of Costing
2.To develop skill in Making Managerial Decisions

Core course XVI: CO 1643 - MANAGEMENT ACCOUNTING

No. of instructional hours per week: 5 No. of credits: 4

Aim of the course: To develop professional competence and skill in applying accounting information for decision making.

Course objectives:

1. To enable students to acquire sound knowledge of concepts, methods and techniques of management accounting
2. To make the students develop competence with management accounting usage in managerial decision making and control.

Learning Outcomes

1. To described different tools in management accounting for decision making.
2. To calculate different ratios for financial statement analysis.
3. To make recommendations to the management regarding their financial position.

Open Course II: CO 1651.3 - MANAGEMENT OF FOREIGN TRADE

No. of instructional hours per week: 3 No. of credits: 2

Aim of the course: To expose the students to the overall management of foreign trade affecting International business.

Course objectives:

1. To acquaint the students with India's foreign trade.
2. To familiarise the students with international trade and services.

Learning Outcomes

1. To understand India's export-import scenario.
2. To gain knowledge in global trade environment.

Elective Course IV: Stream 2 -Co-operation

CO 1661.2 - CO-OPERATIVE ACCOUNTING

No. of instructional hours per week: 5 No. of credits: 4

Aim of the course: To impart knowledge about the system of maintaining books and accounts in cooperatives and to develop the skill in undertaking co-operative audit.

Course objectives:

1. To familiarise the students with the special features of accounting and audit in co-operatives.
2. To enable the students to understand the procedures of co-operative audit.

Learning Outcome

1. To compare co-operative accounting with other business accounting system.
2. To prepare final accounts of a co-operative society.
3. To differentiate co-operative auditing with company auditing.

KSMDB COLLEGE, SASTHAMCOTTA

Post Graduate PROGRAMMES

MA ECONOMICS

CORE PAPERS IN FIRST SEMESTER

EC 211: MICRO ECONOMICS – I

Objectives
The purpose of the course is to provide an understanding of the principles of economics in application to individual decision makers, both consumers and firms. This course equips the students themselves with the various aspects of the conventional as well as the recent developments in microeconomic theory.

EC 212: ECONOMICS OF GROWTH AND DEVELOPMENT
Objectives
Development Economics represents an engaging branch of Economics. A course on the Economics of Growth and Development connects students of Economics to academic concerns,
policies and practical solutions relevant for progression of all economies. The objective of this paper is to familiarizing students with the conceptual routes, theoretical dynamics and practical
strategies of growth and development. It is expected that this course would orient them towards
major themes of development, lead them towards more methodical probes and equip them with
adequate analytical knowledge.

EC 213: INDIAN ECONOMIC POLICY - I
Objectives
The Purpose of this course on Indian Economy is to enable the students to have an understanding of the various issues of the Indian Economy with a policy perspective. The focus of the syllabus is on the development perspectives of Indian Economy during the post Liberalization period since 1991.

EC 214: QUANTITATIVE METHODS FOR ECONOMICS

Objectives
The key objective of this paper is to provide the students an insight into the importance of quantitative methods in Economics and enable them to introduce and apply these techniques in finding solutions to economic problems. The course also aims at: (1) familiarizing the students the basic quantitative techniques used in economic analysis, (2) enabling the students in making use of a quantitative approach in formulating economic problems, and (3) inculcating analytical ability in finding solutions to mathematically formulated economic problems.

CORE PAPERS IN SECOND SEMESTER

EC 221: MICRO ECONOMICS - II
Objectives
This course is intended to give insights into developments in the areas of theories of distribution, general equilibrium, welfare economics, uncertainty and informational asymmetry and behavioral economics.

EC 222: ECONOMICS OF SOCIAL SECTOR AND ENVIRONMENT
Objectives
This course is designed to enable students to: (1) Understand and apply the key economic concepts in the context of social sectors like education, environment and healthcare, (2) Appreciate how economic factors contribute to the development and implementation of educational policies, (3) Identify the major theories governing the development of human resources, school improvement and development, (4) Recognize the important linkages between
the environment and economics, (5) Be aware of the key environmental issues around the globe, and (6) Understand approaches to identify and value costs and outcomes to include in economic evaluation of the environment through benefit cost analysis.

EC 223: INDIAN ECONOMIC POLICY - II
Objectives
The objectives of this course are: (1) to introduce the basic concepts of economics to the students so as to enable them for further learning in Indian and Kerala Economy, (2) to equip the students with the basic idea for further learning, and (3) to help them to analyze the sectoral development that has taken place India as well as in Kerala economy.

EC 224: ECONOMETRICS AND RESEARCH METHODOLOGY
Objectives
The objectives of this course are: (1) to create an understanding among the students on basic econometric methodology, (2) to train the students in applying economic theories to real economic data by means of empirical models, and (3) to give a comprehensive idea on the process of doing research in economics.

CORE PAPERS IN THIRD SEMESTER

EC 231: MACRO ECONOMICS - I
Objectives
Macro Economics paper has two parts, spread across third and fourth semesters. In the third semester, the important areas covered under Macro Economics I are development of macro

economics after Keynesian revolution including Neo-classical and Keynesian synthesis, behaviour foundations of macro economics, theoretical foundations of demand and supply of money and macroeconomic model in an open economy context. The important objective of the paper is that the students should able to understand the structural underpinnings of theoretical development of macroeconomic thoughts and their application.

EC 232: INTERNATIONAL ECONOMICS – I
Objectives
This course offers an introduction to the main theoretical tools and policies that are central to the study of international trade, but with an emphasis on application to the trade flows, trading
blocks and international macroeconomic events that characterize the global economy today. The
ability to use economic analysis to reach a deeper understanding of international trade will be an
important formative element for those who intend to develop careers in international business
and management.

EC 233: PUBLIC ECONOMICS
Objectives
The important objective of this course is that the student should able to understand the regulatory and developmental responsibilities of government in a democratic country like India.
It covers the theoretical and empirical dimensions of public goods and public choice, fiscal instruments and fiscal federalism with special reference to Indian context. It also covers the present fiscal management issues of India.

EC 201: AGRICULTURAL ECONOMICS (Elective)
Objectives
The objective of this course is to develop the knowledge and understanding of basic principles and practice of Economics as required in Agricultural Economics. The course also aims at equipping the students with the knowledge and skills required to analyze the agricultural economic issues for efficient use of scarce resources in agriculture sector and its development, consistent with the interest of all stake holders.

CORE PAPERS I N FOURTH SEMESTER
EC 241: MACRO ECONOMICS - II
Objectives
The important areas included in this portion are the theoretical development of the macroeconomic issues of inflation, unemployment and business fluctuations. The development of macro economics after Keynesian revolution, divided into classical school and Keynesian school, and the impacts of various macroeconomic policies in the society are also covered here. By learning this paper, the students should able keep abreast with the latest development of macroeconomics development.

EC 242: INTERNATIONAL ECONOMICS - II
Objectives
The objective of this course is to introduce to students the theories of international finance flows, determination of interest and exchange rates in interconnected economies,

macroeconomic policies available to the government, and the nature of financial crises. The course also aims to provide a framework for consistent reasoning about international flows of goods, factors of production, and financial assets, trade policy and monetary policy in open economy.

EC 243: FINANCIAL SECURITIES MARKET ANALYSIS
Objectives
This course is designed to provide comprehensive study of the significance of Securities Market in modern financial system. It includes a discussion of the efficient securities markets theory in finance, covers bond pricing, price-earnings models of share valuation, and introduces the top down approach to investment decisions. The emphasis is on a thorough coverage of modern finance theory as applied to investment analysis, balanced with a consideration of new developments in the discipline, and of the application of both old and new theoretical perspectives to understand the current environment for financial investment decisions.

EC 244: DISSERTATION
Objectives
The objective of dissertation work is to develop research aptitude and skills among the students.

EC 2010: INDUSTRIAL ECONOMICS
Objectives
The course is designed to use theoretical models to understand industries and regulatory decision making and so students should expect to use diagrams and some basic mathematical models. It also provide guidelines to urge through knowledge to the students on the basic issues in the industrial development of India. In addition, course aims for the students acquire fair knowledge of international experience of industrial progress.

MA ENGLISH

SEMESTER I

Paper I - EL 211: Chaucer to the Elizabethan Age

Course Objectives:

1: To display an awareness of the major historical events and the socio-cultural context which shaped the medieval and early Renaissance period and literature

2: To explain the impact of the Renaissance on the thought and literature of the period

3: To explain how socio-historical factors have influenced individual texts and how individual texts are representative of their age

4: To identify and explain the formal and literary features of each genre and text, and how they contribute to the complexity of values and emotions represented in the texts

5: To analyze and explain the similarities and differences between various types of the drama of the age

6: To demonstrate how different critical perspectives have resulted in various readings of selected texts

Paper II- EL 212: Shakespeare Studies

Course Objectives

1. To evaluate the significance of the socio-political and historical events which shaped the perspective of the Elizabethan Age.

2. To relate the texts selected for study to the genres/ subgenres they belong to and identify and explain their formal/ stylistic/ literary features.

3. To identify discourses addressed in the plays and critically evaluate them.

4. To analyze the similarities and differences between the various types of drama.

5. To attempt critical reviews of Shakespearean plays.

Paper III – EL 213: The Augustan Age

Course Objectives

1: To understand the power of satire as a weapon to correct society.

2: To gain a comprehensive understanding of Puritanism, its aftermath and subsequent fall and the restoration of the monarchy in England

3: To display an awareness of specific features of Neo-Classicism in English literature

4: To acquire a critical understanding of the emergence and popularity of prose and novel in England, during the period

5: To assess critically the conflicting trends in the literature of the age.

Paper IV - EL 214: Romantics and Victorians

Course Objectives

1: To explore how the topics as diverse as scientific discoveries, philosophy and religion impacted the writers of the time.

2: To evaluate the impact of cultural intellectual and historical contexts on the 19th century culture.

3: To relate the texts selected for study to the genres they belong to and identify and explain the structural, formal, stylistic and literary features.

4: display an awareness of the contributions of the poets, novelists and prosewriters.

5: explain and analyze the similarities and differences between the different typesof novels of the Romantic and Victorian ages.
6: understand the social and literary changes that influenced drama in the century.

7: evaluate the implications of the critical responses of the period.

SEMESTER II

Paper V - EL 221: From Modernism to the Present

Course Objectives

1: To understand the mechanism of general and academic writing.

2: To understand the richness and variety of modern literature.

3: To demonstrate an understanding of how the age affected the literature and the various genres

4: To demonstrate a knowledge of the major movements that influenced British and European literature

5: To analyze critically and explain the features of Modernism

6: To evaluate critically the texts in terms of their stylistic and formal features.

7: To understand the society's social and political points of view and to respond critically to the world around.

Paper VI – EL 222: Indian Writing in English

Course Objectives

1: To develop a literary sensibility and display an emotional response to the literary texts and cultivate a sense of appreciation for them.

2: To analyze how the sociological, historical, cultural and political context impacted the texts selected for study.

3: To evaluate critically the contributions of major Indian English poets, dramatists, prose writers, novelists and short story writers.

4: To display an in-depth awareness of the major historical events and the socio-cultural contexts which moulded the various genres in Indian Writing in English.

5: To apply the ideas encapsulated in Indian Aesthetics to literary texts.

Paper VII – EL223: American Literature

Course Objectives

1: To demonstrate an awareness of the socio-political and cultural history of America.

2: To identify key ideas and characteristic perspectives or attitudes as expressed in American literature.

3: To demonstrate knowledge of the contributions of major literary periods, works and persons in American literature and recognize their continuing significance.

4: To evaluate the thoughts, beliefs, customs, struggles, and visions of African American writers.

5: To compare/contrast literary works through an analysis of genre, theme, character, and other literary devices.

Paper VIII – EL 224: Critical Studies I

Course Objectives

1: To sharpen their analytical and critical faculties drawing inspiration from the readings provided.

2: To gain an idea of the evolution of critical thinking in Europe and India in the 20th and 21st centuries.

3: To understand the function of language in the construction and analysis of literary and cultural phenomena.

4: To gain an insight into the interconnected nature of these major theories

SEMESTER III

Paper IX – EL 231: Linguistics and Structure of the English Language

Course Objectives

1: To develop an awareness of the basic nature, branches, and history of linguistics.

2: To become familiar with contrastive linguistics.

3: To be able to analyse language units based on their phonological, morphological and syntactical features.

4: To develop an awareness of the principles and limitations of ICA and PSG.

5: To be able to explain the transformation of sentences based on TG grammar.

Paper X – EL – 232 - Critical Studies II

Course Objectives

1: To familiarize with the latest emerging fields of critical theories.

2: To sharpen their analytical and critical faculties drawing inspiration from the readings provided.

3: To gain an idea of the evolution of critical thinking in Europe and India in the 20th and 21st centuries.

4: To understand the function of language in the construction and analysis of literary and cultural phenomena.

5: To gain an insight into the interconnected nature of these major theories

PAPER XI - EL 233.5 – Elective - Women's Writing

Course Objectives

1: To have an excellent grounding in the practice and study of feminist literary theory alongside the historical, cultural and political contexts of women's writing.

2: To describe and evaluate the roles of such categories as race, gender and sexuality, disability, class, ethnicity, and religion.

3: To demonstrate an advanced critical understanding of the cultural history of women's writing.

4: To demonstrate the ability to use and respond to historicist, feminist and other critical approaches to women writers.

5: To pursue research and build a successful academic career in women's studies.

PAPER XII: EL 234.2 – Elective - African and Carribean Literature

Course Objectives

1. To gain experience of a range of colonial and postcolonial discourses.

2. To explore issues arising from colonization, independence and diasporic migration in African and Carribean countries.

3. To develop knowledge and understanding of the roles played by various forms of writing in representation of postcolonial subjectivity.

SEMESTER IV

Paper XIII – EL 241: English Language Teaching

Course Objectives

1: To acquire knowledge about the evolution of English language study and teaching in India.

2: To acquire knowledge of the historical and current theories in ELT.

3: To develop the ability to critically evaluate syllabi, teaching materials, and evaluation procedures.

4:To be able to assess critically the implications of the various approaches, methods, techniques.

Paper XIV – EL 242: Cultural Studies

Course Objectives

1. To develop interest in popular culture and the cultures of everyday life.

2. To know the ways identities are constructed and maintained through everyday practices and engagement with material culture.

Paper XV - EL 243.1 - Elective Course: Comparative Literature

Course Objectives

1. To get an awareness of major transformations in the concept of comparative literature.

2. To assess the cultural similarities and dissimilarities represented in the literature of different languages.

3. To demonstrate the ability to analyze texts across languages and cultures.

Paper XVI – EL 244.4 – Elective Course: Dalit Writing

Course Objectives:

1. To enable students understand major issues of the marginal community.

2. To evolve among students subaltern aesthetics.

3. To know about the varied concepts of modern Dalit writers.

4. To enlighten students about the need of 'inclusiveness'.

5. To extend their awareness about the dalit community in India and their issues as a marginalized group.

6. To promote global perspectives on the marginalized groups in the light of Dalit Literature.

EL 245 Paper18- Project & Project based Viva Voce

Course Objectives:

1: Sharpens the research capabilities of the students by analyzing and arriving at their findings regarding various topics of literature.

2: Sums up the learning output the student has achieved through the learning of literature.

3: Tests the students' cognitive abilities in this regard.

MA Sanskrit (Vedanta)

Sem	Course Code	Course Title	Course Name	Outcome	L
1	SV - 211	Core Course Vedanta I	Samkhya & Yoga	To study Interdisciplinary nature among philosophical systems.	7
1	SV - 212	Core Course Vedanta II	Linguistics	To understand holistic concepts about languages.	6
1	SV - 213	Core Course Vedanta III	History of Advaita Vedanta	To understand historical development of Advaita Vedanta	6
1	SS - 214	Com. Course I Sahitya	Poetics & Poetry	To know about the aesthetic dimension of Sanskrit	6
2	SV - 221	Core Course Vedanta IV	Visistadvaita & Dvaita	To acquire knowledge of complementary systems of philosophy	7
2	SV - 222	Core Course Vedanta V	Veda & Mimamsa	To study Interdisciplinary nature among philosophical systems.	6
2	SV - 223	Core Course Vedanta VI	Bhagavadgitasankarabhashya	To study in deep about the core of Advaita Vedanta on	6

				the background of Smritiprasthana.	
2	SY - 224	Com. Course II Vyakarana	Vakyapadiya & Lakararthaprakaranam	To acquire knowledge of complementary subjects.	6
3	SV - 231	Core Course Vedanta VII	Vedantavakayatatparyanirnaya	To study in deep about the core of Advaita Vedanta on the background of Sutraprasthana.	7
3	SV - 232	Core Course Vedanta VIII	Advaitasiddhi	To study in deep about the core of Advaita Vedanta on the background of Uttaragranthas.	6
3	SV - 233	Core Course Vedanta IX	Siddhantabindu	To study in deep about the core of Advaita Vedanta on the background of Uttaragranthas.	6
3	SN - 234	Com. Course III Nyaya	Tarkabhasa	To acquire knowledge of complementary systems of philosophy	6
4	SV - 241	Core Course Vedanta X	Brahmasamanvayasiddhinirasa	To study in deep about the core of Advaita Vedanta on the background of Sutraprasthana.	7
4	SV - 242	Core Course Vedanta XI	Bhamati	To study in deep about the core of Advaita Vedanta on the background of Uttaragranthas.	6
4	SV - 243	Core Course Vedanta XII	Research & Modern Perspectives in Sanskrit	To understand and do research works in Sanskrit	6
4	SJ – 244	Com. Course IV Jyotisha	Kalavijnanam	To acquire knowledge of complementary subjects.	6

4	SV - 245	Project		To practice research work .	

MSc CHEMISTRY

SEMESTER I

CH 211 INORGANIC CHEMISTRY I

Upon Completion of this course, the students understand the different type of isomerism exhibited by coordination compounds, employ crystal field theory in analysing the splitting of d orbitals in octahedral, tetragonal, square planar, tetrahedral, trigonal bipyramidal and square pyramidal fields, realise the covalency in metal –ligand bonds by M.O. and Ligand Field Theories and illustrate and construct MO diagrams. They identify point groups and construct character table and predict hybridisation and spectral properties of molecules, critically evaluate data from a variety of analytical chemistry techniques and apply knowledge of the statistical analysis of data, interpret complexometric titrations, redox titrations, gravimetric titrimetry and titrations in non-aqueous solvents, apply TG, DTA and DSC in the study of metal complexes. Students explain the preparation, properties and structure of isopoly acids of Mo, W and V and heteropoly acids of Mo and W and also identify the chemical processes occurring naturally in earth's atmospheric, aquatic and soil environments and evaluates the impacts of human perturbations to these processes.

CH 212 ORGANIC CHEMISTRY-I

Students, on completion of this course, write down the IUPAC name of cyclic, fused and bridged polycyclic hydrocarbons, bridged, fused and spirocyclic hydrocarbon systems, heterocyclic systems containing Nitrogen and Oxyge and draw the structures from the IUPAC name of these compounds, identify molecular symmetry and types of chirality namely, helicity, axial and planar chiralities and also determine R and S, P and M, E and Z configuration of compounds with chiral centres. They detect prochirality in a compound and explain relevance of prochirality, explain stereotopicity and stereoprojections, axial stereochemistry with atropisomerism and its designation and stability of conformations. The students evaluate stereoselectivity: enatioseelctetivity, diastereeoselectivity, stereoconvergence stereoselective and stereospecific reactions and Non-carbon chiral

centres with Nitrogen, phosphorus and sulphur. They realise the various chiral separation methods, conformational analysis of alkanes, cycloalkanes, decalin and biased systems, along with the effect of conformation on reactivity of cyclohexanes. They apply ORD, CD, sector rules namely, octant and axial haloketone rules in assigning configuration and calculate Cotton effect of a compound from its structure and configuration and also discuss the basic concepts of chiral drugs Ibuprofen, Methyldopa, and Thalidomide. They predict the differences between transition state and intermediates, Homolytic and heterolytic bond fissions, different methods of generation of carbocations, carbanion, carbens, nitrenes, arynes and free radicals and the various factors controlling their stabilities. They describe different types mechanism of substitution, elimination, hydrolysis and addition reactions, differentiate the rate, mechanism and stereochemistry influenced by solvent, substrate structure, intermediate stability, predict the products or reactants or reagents in selected types of reactions and design the mechanism of selected reactions. They critically evaluate the applications of specific catalysts and synthetically important oxidation reactions and the regioselectivities.

CH213 PHYSICAL CHEMISTRY –I

On completion of this course, the students, outline the development of quantum mechanics and its tools and apply them in determining the wave functions and energies of moving particles, recognize the nature of adsorption and propose theories and choose theoretical and instrumental methods of measurements of surface property and understand theory and mechanism of catalytic action. They correlate thermodynamic properties and apply them in systems by understand theories, mechanism and, kinetics of reactions and solve numerical problems. They understand the properties of gases and liquids and the nature of the intermolecular forces in them, describe the principle behind the determination of surface tension and coefficient of viscosity.

CH 214 –INORGANIC CHEMISTRY PRACTICALS -I

Separation and identification of rare/less familiar cations such as Ti, W, Mo, Th, Zr, V, U and Li

- Volumetric estimation using EDTA, ammonium vanadate, ceric sulphate etc.
- Colorimetric estimation of Cr, Fe, Mn, Ni, Cu etc.
- Preparation of metal complexes: selection can be made from the following or any other from the existing literature.
    - $[Co(NH_3)_6]Cl_3$
    - $[Cu(NH_3)_4]SO_4$
    - $K_3[Cr(C_2O_4)_3]$
    - $K_3[Fe(C_2O_4)_3]$
    - Cis and trans isomers of $[Co(en)_2Cl_2]Cl$
    - $[Cr(en)_3]Cl_3$

CH 215 ORGANIC PRACTICALS-1

- **Separation and identification of organic compounds**
  - Quantitative wet chemistry separation of a mixture of two components by solvent extraction
  - TLC of the purified samples along with the mixture in same TLC **plates (component 1 with mixture and component 2 with mixture on separate TLC plate) and** calculation of $R_f$values- Reporting and recording TLC in standard formats- preparation of sample solution, adsorbent, dimensions of the plate, saturation time, developing time, visualization and detection, R_f Value, Drawing - in the form of a table.

- **Separation of a mixture of by column chromatography (not for End semester evaluation)**
  - Malachite green and methylene blue
  - *o*-nitroaniline and *p*-nitroaniline.

- **Preparation of compounds by two stages.**
  - Recording/downloading UV,IR,^{1}H NMR and ^{13} C NMR and EI mass spectra of synthesized compounds.
  - TLC analysis- stage 1 reactants and products on TLC plate 1 and stage 2 reactants and products on plate 2)- Record TLC in standard format as in separation

All preparations must be restricted to 1 g level

Nitration

1) Acetanilide- ⟶ *p*-nitroacetanilide⟶ *p*-nitroaniline

2)Methylbenzoate ⟶ methyl *m*-nitrobenzoate⟶ *m*-nitrobenzoic acid

Bromination

3) Acetanilide- ⟶ *p*-bromoacetanilide⟶ *p*-bromooaniline

Aldol condensation- Synthesis of heterocycles

4) benzaldehyde⟶ Dibenzylideneacetone⟶ 1,5-Diphenyl-3-styryl-2-pyrazoline

Diazocoupling

5) Aniline ⟶ Diazoaminobenzene⟶ *p*-aminoazobenzene

Rerrangement

6) Pthalic anhydride - ⟶ Pthalimide⟶ anthranilic acid

Synthesis of Dyes

7) N,N-Dimethylaniline ⟶ N,N-dimethyl-4-nitrosoaniline -⟶ methylene blue

CH 216 PHYSICAL PRACTICALS –I

Adsorption

Freundlich and Langmuir isotherms for adsorption of acetic/oxalic acid on active charcoal. Determination of concentration of acetic/ oxalic acid.

Kinetics

Determination of rate constant of acid hydrolysis of methyl acetate.

Determination of Arrhenius parameters.

Determination of concentration of given acid.

Determination of rate constant of the saponification of ethyl acetate and evaluation of Arrhenius parameters.

Determination of rate constant of reaction between $K_2S_2O_8$ and KI.

Study the kinetics of iodination of acetone in acid medium.

Phase rule

Solid-liquid equilibria

Construction of phase diagram and determination of the composition of unknown mixture (naphthalene/biphenyl, naphthalene/benzophenone, naphthalene/diphenyl amine)

Construction of phase diagram with congruent melting point- naphthalene/metadinitrobenzene

Partially miscible liquid pairs- CST of phenol-water system.

Effect of impurities (KCl/ NaCl/ succinic acid) on the miscibility temperature of phenol-water system and hence the determination of concentration of given unknown solution.

Three component system- Construction of ternary phase diagram of acetic acid chloroform-water system and hence the composition of given homogeneous mixture. Construction of tie-line.

Distribution law

Distribution coefficient of ammonia between chloroform and water.

Determination of equilibrium constant of copper- ammonia complex by partition method or coordination number of Cu^{2+} in copper-ammonia complex.

Distribution coefficient of benzoic acid between toluene and water.

Distribution coefficient of iodine between hexane and water/$CHCl_3$ and water/ CCl_4 and water

Determination of the equilibrium constant of the reaction $KI + I_2 \leftrightarrow [KI_3]$ and hence the concentration of given KI in hexane and water/$CHCl_3$ and water/ CCl_4 and water.

Determination of hydrolysis constant of anilinium hydrochloride.

Dilute Solutions

Determination of K_f of solid solvent, molar mass of non-volatile solute, mass of solvent and composition of given solution (Solvent- Naphthalene/Biphenyl/ Benzophenone etc. Solute- Naphthalene/ Biphenyl/ Diphenylanmine etc)

Determination of vant Hoff's factor for benzoic acid in Naphthalene.

Determination of atomicity of sulphur.

Transition temperature

Determination of K_T of salt hydrate, molar mass of solute, mass of salt hydrate and composition of given solution (Solvent- $Na_2S_2O_3.5H_2O$/$CH_3COONa.3H_2O$, Solutes glucose,sucrose, urea)

Thermochemistry

Determination of the concentration of given strong acid/alkali.

Thermometric titration of NaOH Vs standard HCl.
Heat of displacement of Cu^{2+} by Zn.
Determination of the heat of ionisation of acetic acid.

SEMESTER II

CH 221 INORGANIC CHEMISTRY-II

The students are expected to have an understanding of S, N, P and B compounds, spectral and magnetic properties of transition metal compounds, crystalline state, lanthanides and actinides and solid-state chemistry after the completion of this course. They must be familiar with the topological approach of boron hydrides & different types of carborines, different types of electronic spectra of complexes, Orgel diagrams and TS diagrams and Gouy's method and different types of magnetic properties. They should be able identify different types of lattice structures and their defects, spinals and inverse spinal structures, important properties of transition elements and their occurrences. They should understand the band theory of solids and their classification, superconductivity, photoconductivity and the applications of ferro, piezo and pyro electrics.

CH 222 ORGANIC CHEMISTRY-II

The main objective of this course is to familiarize the students with molecular rearrangements, aromaticity, organic photochemistry, biomolecules, natural products and physical organic chemistry. Upon the completion of this course, students will be able to understand different molecular rearrangements and reactions catalyzed by cations, free radicals, anions and the mechanism of Wagner- Meerwein, Fries, Pinacol, Curtius, Wittig and BV rearrangements. Students should be able to get an idea about aromaticity and different types of electrocyclic and cycloaddition reactions, fluxional molecules, different photochemical reactions of Vit D, photosynthesis, photochemistry of vision, characterization of alkaloids, turpenes by colour reactions, structure of beta-carotene, nicotine, atropine etc. The conformation of organic molecules, Taft equations, salt effects, kinetic isotopic effects and the methods of determining reaction mechanism

CH223 PHYSICAL CHEMISTRY -II

Upon completion of the course, students should be able to understand the concepts of quantum mechanics, the wave equation in spherical polar coordinates, polar diagrams of spherical harmonies, radial and angular wave functions, HF-SCF method for atomsand the Fock operator. Different types of spectroscopy, i.e. microwave, vibrational, Raman, electronic spectra. Application of thermodynamics for irreversible processes, three component systems

and solid liquid systems. Relationship between partition function and thermodynamic properties, ionic solutions, electrodics and electrokinetic phenomenon

SEMESTER III

CH231 INORGANIC CHEMISTRY -III

On the completion of this course, students should be able to comprehend organometallic compounds, polynuclear carbonates, structure and bonding in ferrocene, polymerization reactions of Z-N catalyst. Factors affecting stability of complexes, kinetics and mechanism of ligand substitution reactions, Marcus theory, photochemical reactions, sodium potassium pump, photosynthesis, different types of iron proteins and biological nitrogen fixation and toxic effects of Cd, Hg, Cr and Pb. The structural elucidation of complexes, by IR spectra, CD and ORD spectra, ESR spectra, NMR and Mossbauer spectroscopy and about nuclear chemistry

CH232 ORGANIC CHEMISTRY -III

The main objective of this course is to familiarize the students with UV-Visible, IR and Mass spectral analysis of different organic compounds, characteristic EIMS fragmentation modes and MS rearrangement, theories of NMR spectroscopy and applications of NOE, DEPT,INEPT, 2D NMR-COSY, HMQC and HMBC. They should understand different types of reactions in organic synthesis, Li-AlH_4 and $NaBh_4$ as reductants, applications of HIO_4, OsO_4 and mCPBA etc., stereospecific and stereoselective synthesis in organic synthesis, reductive coupling reactions, introduction of combinatorial synthesis and different types of separation techniques

CH233 PHYSICAL CHEMISTRY -III

The students are expected to have an understanding of chemical bonding, Born-Oppenheimer approximation, LCAO-MO Theory, Computational Chemistry – STO orbitals, GTO orbitals, SCF introduction, molecular mechanics, Z-metrics of different molecules. They should be able to recognize 2D and 3D NMR, ESR spectroscopy, Mossbauer and NQR spectroscopy. They should be familiar with MB, FD and BE statistics, Debye theory and Einstein theory of heat capacities, different types of spectroanalytical methods like potentiometry, electrogravimetry, coulometry and voltammetry.

SEMESTER IV

CH241 CHEMISTRY OF ADVANCED MATERIALS

The main objective of this course is to familiarize the students with 0D, 1D, 2D and 3D nanomaterials, synthesis of nanomaterials their characterisation and properties, different tools and applications of nanotechnology like TEM, AFM, SEM, EDAX, X-ray diffraction and UV-visible and IR spectroscopy. Fullerenes and nano sensors, different types of

polymerization processes catalyzed by free radicals and ions, types of polymerization, configuration and conformations, industrial & conducting polymers, their applications, piezoelectric halochromic, eletrochromic and thermo chromic materials, pH sensitive polymers, polymorphism in polycaprolatone.

CH 242(a) INORGANIC CHEMISTRY -IV

Upon completion of course, the students should be able to understand the applications of group theory, molecular orbital theory of different metal sandwich compounds, Ligand field theory, application of character tables to IR, Raman spectroscopy. They should identify metal clusters of transition metals, molecular receptors, synthesis of coreceptors, molecular recognition, supramolecular photo chemistry. They detect metal carbonyl clusters, Capping rule, Chevrel phases. They aware about the structure and functions of Cu proteins, transporation of Cu enzymes., inorganic medicinal chemistry, chelation therapy and chemotherapy and anti cancer and vanadium-based diabetics drugs.

CH242 (b) ORGANIC CHEMISTRY -IV

Upon completion of the course, students should be able to understand the concepts of organometallic compounds of Mg, Al, Li, Cu, Zn, Cr, Fe, Ce and S stabilized compounds, Tebe's reagent, Glaser coupling, Silane carbanions and its reactions, molecular recognitions and supramolecular chemistry, molecular receptors, tweezers, cryptands, carcerands, molecular recognition in DNA and protein. They should be familiar with drug design, pharmacophore identification, hammet equation, Taft equation, synthesis of paracetamol and chloramphenicol, SPPS, synthesis of ADP, ATP, A, G, C, T, U and polymers in organic synthesis. Twelve principles of green chemistry, microwave synthesis, application of sonication in synthesis of organic compounds

CH 242(c) PHYSICAL CHEMISTRY -IV

Students get an understanding of applications of group theory in spectroscopy, symmetry selection rules for IR, Raman and Electronic spectra, identification of IR and Raman active vibrations, mutual exclusion and complementarity principle. They aware about MO theory, LCAO, Schrödinger equation, variation theorem, SCF method, computational chemistry – z-matrix of simple molecules, Ab-intio method, perturbation method in quantum chemistry.

CH 234- INORGANIC CHEMISTRY PRACTICALS -II

1. Estimation of simple mixture of ions (involving quantitative separation) by volumetric and Gravimetric methods.
2. Analysis of typical alloys and ores
3. Ion exchange separation of binary mixtures.
4. Spectral Interpretation of metal complexes using IR, UV-Vis. spectral data. Supplementary information like metal estimation, CHN analysis, conductivity measurements and magnetic measurements to be provided to the students.

Assessment is based on arriving at the structure of the complex and assignment of IR spectral bands.

5. Interpretation of TG and DTA curves of metal oxalate hydrates. Assessment is based on the identification of various stages.

CH 235 ORGANIC PRACTICALS-II

- **Volumetric estimation of**
  1) Aniline 2) Phenol 3) glucose 4) Ascorbic acid 5) Aspirin

- **Colorimetric estimation**
  6) paracetamol with potassium ferricyanide
  7) protein by biuret method
  8) Ascorbic acid by folin-phenol reagent or phosphotungstic acid methods

- **Spectral identification**
  9) UV, IR, ^{1}H NMR, ^{13}C NMR, EI mass spectral identification of Organic compounds from a library of organic compounds (Each students have to record the spectral analysis of a minimum of 40 compounds)

- **Separations of mixtures by Paper Chromatography**
  10) Identification of amino acids

- **Single stage preparation of organic compounds by green chemistry**
  11) Preparation of *p*-bromoacetanilide using CAN
  12) Radical coupling – 1,1-Bis-2-napthol
  13) Synthesis of dihydropyrimidinone
  14)Synthesis of dibenzalacetone- with lithium hydroxide
  15) Photoreduction of benzophenone to benzopinacol (not for end semester evaluation)

CH 236 PHYSICAL PRACTICALS –II

Conductometry

Determination of strength of strong and weak acids in a mixture
Determination of strength of a weak acid.
Determination of solubility product of a sparingly soluble salt ($PbSO_4$, $BaSO_4$ etc.)
Hydrolysis of NH_4Cl or CH_3COONa or aniline hydrochloride
Determination of order of reaction, rate constant and energy of activation for saponification of ethyl acetate

Precipitation titrations.

Determination of critical micellar concentration (CMC) of sodium lauryl sulphate from measurement of conductivities at different concentrations.
Equivalent conductance at infinite dilutions and verification of Kohlrausch's law.

Determination of Onsager constants.

Potentiometry

Determination of emf of Daniel cell.

Determination of the emf of various $ZnSO_4$ solutions and hence the concentration of unknown $ZnSO_4$ solution.

Determination of valency of mercurous ion.

Determination of temperature dependence of EMF of a cell

Determination of stoichiometry and formation constant of silver-ammonia complex.

Determination of activity and activity constant of electrolytes.

Determination of thermodynamic constants of reactions.

pH metric titrations.

Acid alkali titrations using Quinhydrone electrode.

Titrations(double) involving redox reactions – Fe^{2+} Vs $KMnO_4$, $K_2Cr_2O_7$, $Ce(NH_3)SO_4$ and KI Vs $KMnO_4$

Determination of strengths of halides in a mixture.

Determination of pH of buffer solutions and hence to calculate the E^0 of quinhydrone electrode

Spectrophotometry

Verification of Beer-Lambert's law.

Absorption spectra of conjugated dyes.

Determination of concentration of potassium dichromate and potassium permanganate in a mixture.

To study the complex formation between Fe^{3+} and salicylic acid.

Determination of pKa of an indicator.

Polarimetry

Measurement specific rotation of glucose.

Determination of specific rotation of sucrose

Determination of unknown concentration of glucose solution. and rate constant of its hydrolysis in presence of HCl

Polarography :

Determination of half wave potential $E_{1/2}$ and unknown concentration of Cd^{2+} ion.

Determination of concentrations of metal ions in a mixture.

Surface tension

Determination of surface tension of various liquids (water-ethanol, water-glycerol, water-sorbitol, nitrobenzene- toluene) by Stalagmometric method (drop number/ drop weight)

Determination of parchors of molecules and various groups.

Determination of concentration of a mixture.

Determination of surface tension and parachor of liquids using double capillary method.

Variation of surface tension with concentration. Unknown concentration of a mixture. Interfacial tension. Determination of surface excess and area per molecule.

Viscosity: Viscosity of liquids and mixtures of liquids. Verification of Kendall's equation. Composition of unknown mixtures. Determination of molecular masses polymers by viscosity measurements.

Refractometry
Determination of molar refraction of pure liquids
Determination of concentration of KCl solution/glycerol solution
Determination of solubility of KCl in water.
Determination of molar refraction of solid KCl
Study the stoichiometry of potassium iodide-mercuric iodide complex.
Determination of concentration of KI solution.

CH 242 DISSERTATION

Each of the students has to carry out original research in a topic in accordance with the Elective paper chosen for Semester IV under the guidance and supervision of a teacher in the concerned Department of the College.

M.Sc MATHEMATICS

Semester 1

Course: MM 211 LINEAR ALGEBRA

Aim: The main aim of this course is to understand the concepts of vector space, Linear maps andLinear operators

On successful completion of the course students will be able to

CO 1 Interpret the idea of vector space, subspace, base and its properties

CO 2 Understand the concepts of linear maps and matrices of linear maps

CO 3 Understand the basic ideas of invariant subspaces, eigen values and eigen vectors

CO 4 Construct diagonal matrices.

CO 5 Interpret the concept of generalised eigen vectors.

CO 6 Understand the concept of trace of a vector, determinant of an operator

CO 7 Perform mathematical operations such as trace of a matrix, determinant of an operator

Course: MM 212 Real Analysis I

Aim: The Aim of this course is to provide the idea of functions of bounded variation, the Riemann-Stieltjles integral, sequences of functions and multi variable Differential Calculus.

On successful completion of the course students will be able to

CO 1 Understand the concept of functions of bounded variation and rectifiable

curves

CO 2 Determine the Riemann-Stieltjles integral, reduction to a Rieman integral, Reduction of a Riemann Stieltjles integral to a finite sum, Upper Lower integrals,Riemann's conditions and sufficient conditions for the existence of Riemann-
Stieltjles integral.

CO 3 Recognize the difference between pointwise and uniform convergence of sequence/series of functions

CO 4 Illustrate the effect of uniform convergence on the limit function with respect tocontinuity, differentiability, and integrability

CO 5 Analyze and interpret the sequences, continuity and limits

CO 6 Gain knowledge on partial derivatives and directional derivatives

Course: MM 213 Ordinary Differential Equations -2020 Admission

Aim: The aim of the course is to provide ideas about Picards theorem, special functions,systems of first order equations and the stability for Linear Systems.

On successful completion of the course students will be able to

CO 1 understand the method of successive approximation

CO 2 understand the concept of Picards theorem

CO 3 identify ordinary points and regular singular points

CO 4 understand Gauss Hyper geometric equation, Legendre polynomials

CO 5 understand the special functions; Bessel functions, Gamma functions

CO 6 understand systems of first order equations- homogeneous linear systems with
constant coefficients, Volterra's Prey-Predator Equations.

CO 7 understand the concept of Critical Points and the Stability for Linear Systems,
Liapunov's Direct Method , Simple Critical Points of Nonlinear Systems.

Core Course: MM 214 Topology – I

Aim: Aim of this course is to provide the abstract analysis components to gain some

familiaritywith the axiomatic method in analysis. It provides a logically tight investigation of a basically simple abstract structure that manifests itself in a number of diverse examples.

On successful completion of the course students will be able to

CO 1 can work with sets and functions, images and preimages, and you can distinguish between finite, countable, and uncountable sets

CO 2 can work with sets and functions, images and preimages, and you can distinguishbetween finite, countable, and uncountable sets

CO 3 know the definition and basic properties of connected spaces, path-connectedspaces, compact spaces, and locally compact spaces

CO 4 know what it means for a metric space to be complete, and you can characterizecompact metric spaces

Semester 2

Course: MM 221 Abstract Algebra

Aim: The aim of the course is to provide knowledge about splitting fields, extension fields,Galois fields etc. and their applications

On successful completion of the course students will be able to

CO 1 acquire knowledge about external and internal direct product of groups

CO 2 learn application normal subgroups and factor groups

CO 3 apply Sylow Theorem in the study of simple groups.

CO 4 understand the application of algebra in finding the roots of polynomials

CO 5 conceive the concept of field extensions and discuss Galois Theory.

CO 6 study the solvability of polynomials by radicals, insolvability of quintic.

Course: MM 222 Real Analysis II

Aim: The Aim of this course is to get the concept of Lebesgue outer measure, measurable sets,measurable function and measure spaces.

On successful completion of the course students will be able to

CO 1 understand the concept of Lebesgue outer measure, measurable sets and

measurable functions.

CO 2 understand integration of functions, difference between Riemann and Lebesgue

integrals and differentiation.

CO 3 understand the concept of Abstract Measure Spaces, Measure and outer Measure,

Extension of a Measure, Uniqueness of extension, Completion of Measure,

Measure spaces, Integration with respect to a Measure.

CO 4 understand The Lp spaces, Convex functions, Jensen' Inequality, The

Inequalities of Holder and Minkowski, Completeness of Lp(μ).

CO 5 understand the Convergence in Measure, Signed Measures and HahnDecomposition, The Jordan Decomposition, The Radon – Nikodym Theorem.

Course: MM 223 Topology – II

Aim: This course aims to understand the significance of the classic theorems characterizing normality and apply them to various spaces and provides a logical investigation of classifyingand connecting geometry with topological spaces.

On successful completion of the course students will be able to

CO 1 define and categorize the separation axioms which separate a point from anotherpoint, a point from a set that does not contain this point, and a set from another set.

CO 2 express T-1,T-2,T-3 and T-4 separation axioms and use them to prove various properties

CO 3 express regularity and normality separation axioms and use them to provevarious properties.

CO 4 are familiar with the Tietze extension theorem, and you can characterizemetrizable spaces

CO 5 How to mix algebraic group structure with topological structure and itsapplication

CO 6 are familiar with the construction of the fundamental group of a topologicalspace and applications to covering spaces and homotopy theory

Course: MM224 Partial differential Equations and Calculus ofVariation

Aim: The aim of the course is to provide ideas about existence and uniqueness of solutions andvarious methods to solve Partial differential Equations.

On successful completion of the course students will be able to

CO 1 understand the method of characteristics to solve first order partial differential equations.

CO 2 understand the concept of existence and uniqueness theorem, the Lagrange method.

CO 3 classify Second-order linear equations in two indenpendent variables, its canonical form.

CO 4 identify the properties of the solutions of one dimensional wave equation - domain of dependence and region of influence.

CO 5 understand the method of separation of variables - heat equation ,the energymethod and uniqueness, the maximum principle and applications

CO 6 understand the concept of analytic function as mapping, Mobiustransformations, The maximum principle, Schwarz's Lemma.

CO 7 understand the method of calculus of variations ,Euler differential equation foran extremal, isoperimetric problems

Semester 3

Course: MM 231 Complex Analysis- I -2017 Admission

Aim: The aim of the course is to provide an introduction to the theories of functions of complex variables, analytic functions, contour integration and to furnish an introduction to their applications.

On successful completion of the course students will be able to

CO 1 understand the concept of Analytic functions

CO 2 evaluate Riemann Stieltjes integrals.

CO 3 understand the power series representation of an analytic function, zeros of an analytic function, the index of a closed curve.

CO 4 evaluate complex integrals using Cauchy's Theorem and integral formula.

CO 5 understand the concept of simple connectivity, the Goursat theorem and the open mapping theorem.

CO 6 understand the concept of Singularities, its classification, Residues andthe argument principle

CO 7 understand the concept of analytic function as mapping, Mobiustransformations, The maximum principle, Schwarz's Lemma.

Course: MM 232 FUNCTIONAL ANALYSIS- I

Aim: The main aim of this course is to understand the concepts of normed space, Banach spaceand compact linear maps.

On successful completion of the course students will be able to

CO 1 understand the concepts of Normed space and continuity of linear maps

CO 2 have a knowledge of Banach spaces.

CO 3 get the idea of uniform boundedness principle, closed graph and open mapping theorems

CO 4 catch the concepts of bounded inverse theorem and spectrum of a bounded operator.

CO 5 understand the idea of weak convergence, reflexivity and compact linear maps.

Course: MM 233 OPERATIONS RESEARCH – ELCTIVE I – 2017ADMISSIONS

Aim: The main aim of this course is to make the students able to solve Linear and non-linearprogramming problems, transportation problems, project management problems etc.

On successful completion of the course students will be able to

CO 1 Solve linear programming problems

CO 2 Solve Transportation and assignment problems

CO 3 Solve project management problems using PERT and CPM

CO 4 Solve non-linear programming problems

CO 5 Solve dynamic programming problems.

Course: MM 234 GRAPH THEORY – ELCTIVE II – 2017 ADMISSIONS

Aim: The aim of the course is to provide basic ideas about Eulerian graphs, Hamilton graphs,graph isomorphism and colouring of graphs.

On successful completion of the course students will be able to

CO 1 Define the basic concepts -Graphs, Connected graphs, Multi graphs, Degree of a vertex, Degree Sequence, Trees

CO 2 Define isomorphism, Isomorphism as a relation, Graphs and groups, Cut-vertices, Blocks, Connectivity.

CO 3 Understand the concept of Eulerian graphs, Hamilton graphs, Hamilton walks and numbers.

CO 4 Identify strong diagraphs, tournaments, matching and factorization.

Semester 4

Course: MM241 Complex Analysis-II -2017 Admission

Aim: The aim of the course is to provide ideas about Riemann Mapping Theorem, Wierstrassfactorization Theorem, Monodromy Theorem and basic properties of Harmonic functions.

On successful completion of the course students will be able to

CO 1 Understand the concept of Compactness and Convergence in the space of Analytic functions

CO 2 Understand the concept of Riemann Mapping Theorem.

CO 3 Understand the concept of Wierstrass factorization Theorem, Factorization of sin function, The Gamma function.

CO 4 Define the concept of Simple connectedness.

CO 5 Understand the concept of Riemann Zeta function, Runge's Theorem, Mittag-Leffler's Theorem

CO 6 Understand the concept of Schwarz Reflexion Principle, Analytic continuation along a path, Monodromy Theorem.

CO 7 Define basic properties of Harmonic functions and Harmonic function on a disc.

CO 8 Understand the concept of Jensen's formula, The genus and order of an entirefunction, Hadamard factorization.

Course: MM 242 FUNCTIONAL ANALYSIS- II

Aim: The main aim of this course is to catch the concepts of Inner product space, orthonormalsets and bounded operators.

On successful completion of the course students will be able to

CO 1 Be aware of Spectrum of a compact operator

CO 2 Recognize the definitions of Inner product spaces and orthonormal sets

CO 3 Get the idea of projection and Riesz representation theorems..

CO 4 Catch the concepts of bounded operators, adjoints, normal, unitary and self-adjoint operators.

CO 5 Understand the idea of Spectrum and compact self-adjoint operators

Course: MM 243 Field Theory

Aim: Aim of the course is to get theoretical knowledge about field and its different extensions.

On successful completion of the course students will be able to

CO 1 understand the idea of solvable groups and examples

CO 2 understand the concepts like Ideals, principle ideals and polynomial rings

CO 3 get the idea about splitting fields and Galois field

CO 4 get the idea of solvability by radicals.

CO 5 understand the concrete idea about the well-known Galois theorem on solvability.

Course: MM 244 ANALYTIC NUMBER THEORY

Aim: Aim of the course is to get the concepts of number theory and apply congruence, quadraticresidues and primitive roots to solve numerical problems

On successful completion of the course students will be able to

CO 1 review some basic concepts and results of number theory such as divisibility,

greatest common divisor, prime numbers, Euclidean algorithm etc.

CO 2 study arithmetical functions and its applications

CO 3 learn the application of congruence, quadratic residues and primitive roots for solving numerical problems

MSc PHYSICS (with Specialization in Nanoscience)

Major objective of the M. Sc Physics program is to equip the students for pursuing higher studies and employment in any branches of Physics and related areas. The program also envisages developing thorough and in-depth knowledge in Mathematical Physics, Classical Mechanics, Quantum Mechanics, Statistical Physics, Electromagnetic Theory, Nuclear Physics, Atomic and Molecular Spectroscopy and Electronics. The program also aims to enhance problem solving skills of students so that they will be well equipped to tackle national level competitive exams.The program also acts as a bridge between theoretical knowhow and its implementation in experimental scenario. Since the specialization of this program is nanoscience it covers basic ideas of nanostructured materials, physics of nanosolids and nanoelectronics. The program also introduces the students to the scientific research approach in defining problems, execution through analytical methods, systematic presentation of results keeping in line with the research ethics through M. Sc dissertations.

Program Outcome

(i) Define and explain fundamental ideas and mathematical formalism of theoretical and applied physics.

(ii) Identify, classify and extrapolate the physical concepts and related mathematical methods to formulate and solve real physical problems.

(iii) Identify and solve interdisciplinary problems that require simultaneous implementation of concepts from different branches of physics and other related areas.

(iv) To define and explain fundamental ideas of size effect in materials science and propose new applications of nanoscience and nanotechnology.

(v) To define a research problem, translate ideas into working models, interpret the data collected draw the conclusions and report scientific data in the form of dissertation.

(vi) To disseminate scientific knowledge and scientific temper in the society to contribute towards greater human cause.

SEMESTER I

PH211:CLASSICALMECHANICS

Objectives: This course is aimed to provide basic and advanced concepts in classical mechanics. The course discusses Lagrangian and Hamiltonian formalisms, central force problems, theory of small oscillations, Hamilton -Jacobi equations, Kepler's problem, Rigid body dynamics and Euler's equations, Concepts of special and general theory of relativity, Non linear dynamical systems and chaos.

Course Outcome

(i) Students are able to learn the concepts of Lagrangian and Hamiltonian mechanics and use them to solve problems in mechanics. Able to learn concepts of generating functions, Poisson brackets Hamilton Jacobi equations and action angle variables.

(ii) To equip the students to deal with central force problem and analyzing Kepler's laws.

(iii) To inculcate the students the concepts of special and general theory of relativity and related problems.

(iv) To acquaint the students about the theory of small oscillations and Euler's equations of motions of rigid bodies.

(v) To analyze nonlinear dynamical systems and to explain the concepts of classical chaos.

PH212:MathematicalPhysics

Objectives: This course is aimed to equip the students with the mathematical techniques used for developing strong back ground in the basic and advanced level problems. The course describes about curvilinear coordinates, Fourier series and transforms, probability distributions, partial differential equations and different integral transforms, special functions, tensors and group theory.

Course Outcome

(i) To apply and analyze the various vector and matrix operations and to perform complex analysis for solving physical problems.
(ii) To demonstrate and utilize the concepts of Fourier series and its transforms.
(iii) To explain and differentiate different probabilistic distributions.
(iv) To apply partial differential equations and special functions for solving mathematical problems.
(v) To illustrate and apply concepts of group theoretical operations and tensors.

PH213:BASICELECTRONICS

Objectives: This course is aimed to introduce the students with the basic knowledge of analog and digital circuits. The course illustrates the concepts of various amplifier circuits, solid state electronic devices, sequential digital circuits, optoelectronics devices and measurements using electronic instruments.

Course Outcome

(i) To equip the students design and analyze different analogue and digital circuits.
(ii) To summarize the knowledge of basic arithmetic and data processing circuits and memory devices.
(iii) To equip the students to explain various components in optical communications systems and microwave devices.

(iv) To measure and analyze the different electronic signals.

SEMESTER II

PH221:MODERNOPTICSANDELECTROMAGNETICTHEORY

Objectives: This course covers linear and non-linear optical phenomenon, propagation of electromagnetic waves, relativistic electrodynamics, radiation and antenna theory.

Course Outcome

(i) To demonstrate the linear and nonlinear optical phenomena.
(ii) To explain and discuss propagation of electromagnetic waves through different media.
(iii) To restate formulations and relativistic effects in electrodynamics.
(iv) To analyse the propagation of electromagnetic waves through waveguides.
(v) To use radiation theory in developing different antennas.

PH222:THERMODYNAMICS,STATISTICALPHYSICSANDBASICQUANTUM MECHANICS

Objectives: This course is aimed to introduce the concepts of thermodynamic equations, foundations of classical and quantum statistics, theory of phase transitions and foundations quantum mechanics together with problems.

Course Outcome

(i) To explain the basic thermodynamic relations, Maxwell's equations and its consequences.
(ii) To equip the students to demonstrate and apply classical and quantum statistics in different physical phenomena.
(iii) To distinguish the different phase transitions using Ising model.
(iv) Outline and apply foundations of quantum mechanics.

PH223:COMPUTERSCIENCEANDNUMERICALTECHNIQUES

Objectives: This courseprovides introduction to computer architecture, microprocessors, programming in python and C++ and computational numerical methods.

Course Outcome

(i) To summarize computer hardware and its operating systems

(ii) Explain internal architecture of microprocessors 8085 and create assembly language programing.

(iii) To develop and compile programs in python and C++.

(iv) Apply numerical methods to solve physical problems.

SEMESTER III

PH231: ADVANCED QUANTUM MECHANICS

Objectives: This course describes a thorough conceptual understanding ofadvanced quantum mechanics covering variation method, WKB approximation, perturbation theory, symmetry and conservation laws, theory of scattering, system of identical particles, angular momentum and relativistic quantum mechanics.

Course Outcome

(i) To extend the use of approximation methods viz variation, WKB, time dependent and time independent perturbations.

(ii) To summarize different types of symmetry, conservation laws and quantum theory of scattering.

(iii) To distinguish different approximation methods, to study the structure and properties of many electron systems.

(iv) To compute eigen values of angular momentum and evaluation of CG coefficients.

(v) Infer the requirements of relativistic quantum mechanics.

PH232:ATOMICANDMOLECULARSPECTROSCOPY

Objectives: This course provides an overview of symmetry of molecules, concepts of atomic spectra, Photoelectron and photo acoustic spectroscopy, Rotational, vibrational, electronic, Raman, Mossbauer, nuclear and electron spin resonance spectroscopic techniques.

Course Outcome

(i) Explain different symmetry operations and deduction of molecular structure.
(ii) Distinguish and classify the different spectra shown by atoms and molecules
(iii) Illustrate the various spectroscopic experimental techniques.

PH233:CONDENSED MATTER PHYSICS

Objectives: To understand and familiarize fundamentals of crystals, lattice vibrations, band theory, dielectric, magnetic and superconducting properties of materials. To introduce the synthesis and characterization techniques of nanomaterials.

Course Outcome

(i) Discuss crystal physics, lattice vibrations, models of thermal properties and band theory of solids.
(ii) Explain the theoretical concepts of semiconductors, dielectric, magnetic and superconducting materials.
(iii) To describe the synthesis and characterization techniques of nanomaterials.
(iv) To apply the concepts in condensed matter physics to meet the challenges.

PHN 234: Nanostructured Materials

Objectives: This course is to introduce the student to the world of nanostructured materials. Different types of nanostructured materials, their general and specific characteristics will be discussed. Understanding the optical properties of metal nanoparticles and excitation processes in nanosystems is also intended. A broad

understanding of different chemical and physical techniques employed for the synthesis of different types of nanomaterials and nanostructures is also envisaged through this course.

Course Outcome

(i) Distinguish between different classes of nanostructured materials and nanostructures based on dimension.

(ii) Understand the surface Plasmon resonance phenomena in metal nanoparticles as well as excitation processes involved in upconversion and down conversion.

(iii)Gain a broad understanding of the different chemical synthesis techniques of different types of nanostructured materials.

(iv)Gain broad understanding of advanced physical techniques employed for the preparation of 1D and 2D nanostructures including lithography.

SEMESTER IV

PH241:NUCLEAR AND PARTICLE PHYSICS

Objectives: To familiarize the fundamental properties of nucleus, its structure, models, nuclear reactions, nuclear detectors and accelerators. To introduce the concept of elementary particles and their interactions.

Course Outcome

(i) To describe and analyze nuclear structure, models and reactions.

(ii) To illustrate the mechanisms of nuclear fission and fusion reactions.

(iii) Discuss various nuclear detectors and particle accelerators.

(iv) To classify elementary particles and discuss their interactions.

PHN 242: PHYSICS OF NANOSOLIDS

Objectives: This course will discuss the physical and chemical aspects of nanosolids starting from the dependence of electronic energy band structure on dimensionality. Understanding of the electrical and magnetic properties of nanomaterials that has both theoretical and practical importance is also envisaged. Nanophotonics, which is an emerging area of research that deals with light matter interaction at nanoscale is also discussed.

Course Outcome

(i) Explain the electronic band structure and density of states of different types of nanostructures.
(ii) Understand how the magnetic properties of materials change due to nanometer crystallite sizes
(iii) Understand the effect of small size of the electrical response of semiconductors
(iv) Discuss superconductivity in nanomaterials
(v) Understand basic ideas about nanophotonics- phenomena and systems

PHN 243: NANOELECTRONICS

Objectives: This course will provide basic and advanced concepts on nanoelectronics. Understanding quantum electronic devices including single electron transistor is also intended. Basic ideas of the use of carbon nanostructures in electronic devices is also included. A detailed discussion of the spintronic devices of practical importance is also included.

Course outcome

(i) Understand the idea of miniaturization of electronic devices
(ii) Understand the basic phenomena and devices in nanoelectronics.
(iii)Understand the working of a single electron transistor and circuits involving it
(iv)Familiarize nanoelectronic devices employing carbon nanostructures
(v) Understand spintronic devices and phenomena involved such as giant magnetoresistance.

PH251:GENERAL PHYSICS PRACTICALS

Objectives: Demonstrate and understand various general physics experiments for acquiring fundamental concepts.

Course Outcome

(i) To measure and analyze various physical quantities.
(ii) To calculate error in various general physics experiments.
(iii) To develop experimental skills

PH252: Electronics and ComputerScience Practicals

Objectives: Design, construct and verify various electronics circuits and object oriented programing using C++ to solve numerical problems.

Course Outcome

(i) To design and construct various electronic circuits and its validation.
(ii) To calculate error in various electronics experiments.
(iii) To develop experimental and programming skills

PHN 244: Lab. NANOSCIENCE

Objectives: This course will provide basic ides about the phenomena, physical parameters and characterization techniques relevant to the study of nanostructures materials.

Course Outcome

(i) Measure crystallite size and microstrain from XRD analysis
(ii) Interpret the results of experiments commonly employed for characterization og nanomaterials.
(iii) Do and interpret results of various characterization techniques commonly required for understand physics at nanoscale.
(iv) Do some basic preparation/synthesis techniques on nanomaterials/nanostructures

M.COM – 2018 Admission onwards

The M.Com degree programme with finance specialization would equip the students with better analytical and skill oriented abilities in a globalised environment and creates a strong base for exploiting research and employment opportunities.

Programme Outcomes

Students will become experts in financial area related matters. The specific outcomes are:-

1. Get a thorough knowledge about social science research methodology and able to apply various hypotheses tests in the research studies.
2. Able to explain the financial market scenario in a global level.
3. Analyse the changes happening in the capital market and able to built portfolios on the basis of risk return trade off.
4. Appraise different investment avenues and able to make personal investment decisions.
5. Able to judge better business governance practices and inculcate personal values in life.
6. Able to combine various regulations relating to the business and finance area.
7. Describe the international financial reporting system and able to relate it with Indian system.
8. Evaluate the cost aspects of business organisations and make recommendations for taking decisions.
9. Able to perform individual tax planning.
10. Able to assess and interpret the changes happening in the business environment.

SEMESTER I

Paper 1: CO 211 – BUSINESS ETHICS AND CORPORATE GOVERNANCE
Objectives:

1. To convey basic understandings on the theories of Business Ethics
2. To provide an understanding on Corporate Governance practices and the provisions of the Companies Act relating to corporate governance.

Learning Outcomes

1) Analyze the Role of values for managers
2) Analyze Corporate Social Responsibility initiatives
3) Analyze the problem of whistle blowing.
4) Recognize the ethical issues in employer – employee relation
5) Critically evaluate the range of ethical issues that arise in management and business organisations and the theories that are used to model these issues and demonstrate an ability to propose solutions to those issues.

6) Demonstrate detailed knowledge of the development of Corporate Social Responsibility and the responsibilities of business corporations beyond profit maximisation.
7) Critically evaluate the theory of corporate governance and apply this theory in analysing corporate structures, board composition and how boards of directors conduct their affairs.

Paper 2: CO 212- LEGAL FRAMEWORK FOR BUSINESS
Objectives:
1. To enable student acquire updated knowledge and develop understanding of the regulatory framework for business
2. To make students aware of opportunities available in various legal compliances so as to enable them employable.
3. To expose students in emerging trends in good governance practices including governance.

Learning Outcomes
1. To describe various business laws enacted in India.
2. To judge the better governance practices and inculcate values in life.
3. To identify various employment opportunities available in the legal scenario.

Paper 3: CO 213- RESEARCH METHODOLOGY
Objectives:
1. To provide an insight into the fundamentals of social science research.
2. To understand the need, significance and relevance of research and research design.
3. To acquire practical knowledge and required skills in carrying out research.

Learning Outcomes
1. Students get well aware about the research and its importance.
2. Able calculate different test statistics
3. They are able to prepare a mini research report on the basis of their understanding

Paper 4: CO 214- PLANNING AND DEVELOPMENT ADMINISTRATION
Objectives:
1. To generate an overall insight on planning process in Indian Economy
2. To make the students aware about new planning initiatives in India

Learning Outcomes
1. To discuss various planning initiatives in India.
2. To summaries the public finance system in our country.
3. To critically evaluate the budgets of the Govt.
4. To analyze the changes happening in our economic environment.

Paper 5: CO215- ADVANCED CORPORATE ACCOUNTING AND REPORTING
Objectives:
1. To acquaint the students about important accounting standards

2. To gain ability to prepare financial statements including consolidated financial statements of group companies and financial reports of various types of entities by applying relevant accounting standards.
3. To expose the students to advanced accounting issues and practices such as insurance claims, investment accounting and liquidation of companies.

Learning Outcome:

1. The student will describe the relevance of IFRS in modern business environment.
2. The students will be able to understand and interpret the financial statements of a holding company and its subsidiary companies.
3. The students can make out the financial significance of inorganic growth like mergers and acquisitions and its accounting treatment.
4. The students will be clear in calculating the return of any investment made by him.
5. The students will be able to launch a claim before an insurance company in case a fire accident occurs in their place of work in future.
6. The students will be in a position to prepare the accounts of a liquidating company.

SEMESTER II
Paper 1: CO 221- E-BUSINESS & CYBER LAWS
Objectives:
1. To equip the students with the emerging trends in business
2. To equip the students to introduce and explore the use of information technology in all aspects of business.
3. To familiarise with the students cyber world and cyber regulations

Learning Outcomes

1) Know the concept of electronic commerce and also helps students to identify the reasons and benefits of web promotion
2) Know about cyber law and various issues in E Commerce
3) Develop the Understanding Of relationship between Commerce And Cyberspace
4) Give learners In depth knowledge of Information Technology Act And legal frame work of right to privacy, data security and data protection.

Paper 2: CO 222- STRATEGIC MANAGEMENT
Objectives:
1. To create a conceptual awareness on various strategies.
2. To familiarise students with the formulation, implementation and evaluation of Strategies

Learning Outcomes
1 Students get clear-cut understanding about the different types of strategies.
2 They get the idea about formulation, implementation and evaluation of strategies adopting in different organisations.

Paper 3: CO 223- QUANTITATIVE TECHNIQUES AND FINANCIAL ECONOMETRICS

Objectives:

1. To impart expert knowledge in the application of Quantitative Techniques and Business Econometrics in research.
2. To impart knowledge in the use of SPSS in processing and analysis of data.

Learning Outcomes

1. To identify various probability distributions.
2. To apply econometrics tools in data analysis.
3. To test hypothesis.

Paper 4: CO 224 - INTERNATIONAL BUSINESS

Objectives:

To introduce the concept of international business and to create awareness on the changes in the international business arena

Learning Outcome:

1. The students will get a bird's eye view of the global business environment.
2. The students will get exposed to the business strategies and challenges faced by an MNC
3. The students will also know about the institutions and economic treaties that influence international business.

Paper 5: CO 225- INVESTMENT MANAGEMENT

Objectives:

1. To provide a general understanding about investment avenues and personal finance.
2. To give a broader understanding about behavioural finance and how it equip to decide personal investment.

Learning Outcomes

1. To identify various investment alternatives.
2. To describe various psychological factors affecting investment decision.
3. To evaluate various investment alternatives for personal investment decisions.
4. To compare and assess better investment decisions.

Elective: FINANCE

SEMESTER III

Paper 1: CO 231U -INCOME TAX PLANNING AND MANAGEMENT

Objectives:

1. To impart deep knowledge about the latest provisions of Income Tax Act
2. To develop application and analytical skill of the provisions of Income Tax Law for Income Tax planning and Management.

Learning Outcomes

1. To gain knowledge about various provisions in Income Tax Act.
2. Able to calculate individual tax liability and recommend tax planning of individuals.
3. To assess the tax liability of business entities.

Paper 2: CO 232F- SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT
Objectives:
1. To provide a comprehensive understanding on the principles of security analysis and develop the skill in portfolio management.
2. Equip the students to value the real worth of securities.

Learning Outcomes
1. Knowledge about online trading in stock market
2. Develop and manage investment portfolio through risk return analysis of securities
3. Conduct fundamental and technical analysis for stock market investing
4. Prepare charts for analysing trends and investment decision making

Paper 3: CO 233 F- INTERNATIONAL FINANCIAL MANAGEMENT
Objectives:
1. To familiarise the students with the international financial markets and instruments.
2.To convey an understanding about foreign exchange risk management
Learning Outcomes
1. To identify and analyse various instruments available in the global financial market.
2. To comprehend the financial management of business in a global perspective.
3. To equip with the risk management aspects of foreign exchange.
4. To analyse the FDI scenario in India.

Paper 4: CO 234F- STRATEGIC COST AND MANAGEMENT ACCOUNTING
Objectives:
(i) To comprehend and familiarize the established techniques, methods and practices in Strategic Cost and Management Accounting to the students.
(ii) To introduce the evolving Strategic approaches and techniques in Cost and Management field and to developed industrial behaviour among the students in the emerging business areas.
Learning Outcome:-
1. Enable them to Strategic Decision Making
2.Develop Familiar with Industrial Behaviour

SEMESTER IV
Paper 1: CO 241W- GOODS AND SERVICE TAX & CUSTOMS DUTY- LAW AND PRACTICE
Objectives:
1. To gain expert knowledge of the principles and law relating to Goods and Service Tax and Customs Act.
2. To impart skill in applying and analysing the provisions of Goods and Service Tax Act and Customs Act in handling practical situations.

Learning Outcomes

1. To assess and interpret the various provisions in GST Law
2. To analyse the appeals and revision under GST.
3. To appraise the indirect tax scenario in India.

Paper 2: CO 242F- RISK MANAGEMENT AND DERIVATIVES
Objectives:

1. To understand the risk management process and its application
2. To give a broader awareness on derivatives and its applications

Learning Outcomes

1. Practical learning about investment in various derivatives
2. Strategies for hedging risk using derivatives
3. Option pricing models for investing in derivatives

Paper 3: CO 243F- ACCOUNTING STANDARDS
Objectives:

1. To acquaint the students to understand the structure, process and organizational set up involved in evolving accounting standards in India.
2. To enable the students to apply some key standards while preparing and presenting the financial statements.

Learning Outcome:-

1. Developing Skill in Various Accounting Standards
2. Developing Skill in Preparing the Accounts with Accounting Standards

Paper 4: CO 244S- MANAGEMENT OPTIMIZATION TECHNIQUES
Objectives:

1. To convey basic principles and application of optimization tools of resource utilization.
2. To provide an insight into optimal project implementation Techniques under deterministic and probabilistic conditions.

Learning Outcomes

1. To associate and compare various optimization tools.
2. To compute transportation and assignment problems.
3. To determine optimal solution for projects using PERT and CPM