CO 5 : Students will be enlightened by learning the dramas

CO 6 : They will develop critical thinking among them

S.Y.B.A. Discipline Specific Course (DSC1-B) Appreciating Drama (24331)

Semester IV

CO 1: Students will understand the different cultures of the World

CO 2 : Students will learn to analyse the drama independently

CO 3 : Students will understand the development of the drama over the centuries

CO 4 : Students will able to evaluate the Drama independently

CO 5 : Students will develop language skill

CO 6 : They will be enlightened by reading the drama

S. Y. B. A. Discipline Specific Course (DSC-2A) -Appreciating Poetry (23332)

Semester III

CO.1.Students will be acquainted with the terminology in poetry criticism.

CO 2. Students will be encouraged to make a detailed study of a few sample masterpieces of English poetry.

CO 3. It will enhance the awareness of the students in the aesthetics of poetry and will empower them to read, appreciate and critically evaluate poetry independently.

CO 4. Students will understand the different movements in the English Poetry.

CO.5. Students will understand the metaphysical poetry.

CO.6. Students will critically examine the poems from the Romantic Age.

S. Y. B. A. Discipline Specific Course (DSC-2A) -Appreciating Poetry (33332)

Semester IV

CO 1. Students will be acquainted with the terminology in poetry criticism.

CO 2. Students will be encouraged to make a detailed study of a few sample masterpieces

of English poetry.

CO 3. It will enhance the awareness of the students in the aesthetics of poetry and will empower them to read, appreciate and critically evaluate poetry independently.

CO 4. Students will understand the different movements in the English Poetry.

CO.5. Students will critically examine the Victorian Poems.

CO.6. Students will be able to understand the poems of Modern Age.

S.Y.B.A. Skill Enhancement Course – (SEC -2 A) - Mastering Communication Skills (23334)

Semester III

CO1: Students will get familiarized with the various communication skills.

CO2: Students will develop various communication skills among them

CO3: Students will acquire communicative skills by developing insight into the working of language.

CO 4: Students will learn how to introduce themselves

CO 5: students will learn new things through communication

CO 6: Students will be able to improve their personality.

S.Y.B.A. Skill Enhancement Course – (SEC -2 A) - Mastering Communication Skills (24334)

Semester IV

CO1: Students will develop competence in the use of English

CO2: Students will learn the necessary skills required for their job

CO3: Students will be able to communicate effectively

CO 4: Students will develop the confidence among them

CO 5: students will be able to improve their personality

CO 6: Students will become a good communicator

TYBA Compulsory English : Exploring the New Horizon (CC) - 35001

Semester V

CO1: Students will get familiarized with the various pieces of prose and poetry

CO2: Students will become competent and effective users of English in real life situations

CO3: Students will be able to develop their overall personality

CO 4 : Students will learn some essential soft skills to enhance their employability

CO 5 : Humanitarian values will be fostered among the students

CO 6 : Students will learn practical writing skills.

TYBA Compulsory English : Exploring the New Horizon (CC) - 35002

Semester VI

CO1: Students will get familiarized with the various communication skills

CO2: Students will be able to communicate in English

CO3: Students will learn different cultures

CO 4 : It will assist them for their employability

CO 5 : Students will be able to analyse the text by themselves

CO 6 : Students will learn oral skills.

Skill Enhancement Course _SEC -1 C and SEC 1-D - Enhancing Employability Skills (35333)

Semester V

CO1: The students will be aware of career opportunities

CO2: The students will to understand the use of English in different careers

CO3: The students will be able to develop competence in using English for the career

of their choice

CO 4 : Students will learn some essential soft skills to enhance their employability

CO 5 : They will be able to use English effectively

CO 6 : They will exercise verbal communication effectively.

Skill Enhancement Course _SEC -1 C and SEC 1-D - Enhancing Employability Skills

(36333)

Semester VI

CO1: The students will be able to seek employment after learning employability skills

CO2: Students will grow in confidence

CO3: Students will learn different skills

CO 4 : It will enable them to gather knowledge of various subjects

CO 5 : They will be able to improve their pronunciation

CO 6 : They will be able to use vocabulary effectively.

SEMESTER - V

T.Y.B.A. Discipline Specific Elective (DSE-1C) - Appreciating Novel (35331)

Students will be able to understand

CO1: the basics of novel as a literary form.

CO2: the historical development and nature of novel.

CO3: different types and aspects of novel.

CO4: the elements of novel.

CO5: literary sensibility and sense of cultural diversity.

CO 6: the historical development and nature of novel.

T.Y.B.A. Discipline Specific Elective (DSE-1C) - Appreciating Novel (36331)

CO 1: Students will get the knowledge of the terms used in appreciation and critical analysis of novel.

CO 2: Students will develop the critical understanding literature.

CO 3: Students will be exposed to Indian writing in English and British/American literature.

CO 4: Students will be exposed to social, political and cultural background of English Literature.

CO 5: Students will be encouraged to study a few masterpieces of English Novel from the world literature.

CO 6: Students will be able to appreciate and analyze novel independently.

Skill Enhancement Course (SEC 2 C and SEC 2 D) - Mastering Life Skills and Values (35334)

Students will ------

Semester V

CO1: be able to learn various social skills

CO2: be able to build self confidence and communicate effectively

CO3: be able to think critically

CO4: be able to manage stress and think positively and also build leadership qualities

CO5: learn interpersonal skills

CO6: learn to think critically

Skill Enhancement Course (SEC 2 C and SEC 2 D) - Mastering Life Skills and Values (36334)

Semester VI

Students will ------

CO1: develop their overall personality

CO2: will be aware of the universal values

CO3: will learn number of new things

CO4: will be able to develop communication skills

CO5: will learn presentation skills

CO6: learn skills of group discussion.

Discipline Specific Elective (DSE-2C) -Introduction to Literary Criticism (35332)

Semester V

CO.1.Students will be introduced to the basics of literary criticism.

CO.2. Students will be made aware of the nature and historical development of criticism.

CO.3.Students will be made familiar with the significant critical approaches and terms.

CO.4. Students will be encouraged to interpret literary works in the light of the critical approaches.

CO.5. Students will develop aptitude for critical.

CO.6. Students will come across different literary terms.

Discipline Specific Elective (DSE-2D) -Introduction to Literary Criticism (36332)

Semester VI

CO.1. Students will be introduced to the different literary critics.

CO.2. Students will be made aware of the nature and historical development of criticism.

CO.3. Students will be made familiar with the significant critical approaches and terms through literary essays.

CO.4. Students will be able to interpret literary works in the light of the critical approaches they learnt.

CO.5. Students will develop aptitude for critical interpretation.

CO.6. Students will come across different literary terms.

Program Outcomes of M.A. ENGLISH

PO 1 : In depth Knowledge of the subject: Students will get thorough knowledge of the subject in their respective subjects. They will enhance their knowledge of the subject and make their study from all aspects of the selected subject.

PO 2 : Employable Skills: Inability to master the various skills related to the subject and the skills which will be useful for them to achieve their desired goal

PO 3 : Creativity: The students are able to create their own ideas and develop those ideas for the further improvements.

PO 4 : Language skills: Essential language and communication skills will be acquired which will make them an effective communicator.

PO 5 : Research Aptitude: Enable the students to get involved in various research activities. Learn various research methodologies

PO 6 : Team spirit: Learn to work in group as a team and help in effective deliberation of the work projects undertaken.

PO 7: Ability to evaluate: Develop the ability to make proper evaluation which will enable them to make proper planning and schedule of the activities undertaken.

M.A. English Program Specific Outcomes

PSO 1: Students are introduced various literary pieces of various literary periods to understand the relationship between literature and its period.

PSO 2: Students learn the evolution of Novel, Drama and Poetry.

PSO 3: The program helps students to enrich their artistic sensibility.

PSO 4: Appreciation of the literary text and its critical evaluation.

PSO 5: Students force to learn the different cultures through literary pieces of different countries.

PSO 6 : Students are exposed to different literary devices to understand work of art.

PSO 7 : Student Learn the role of literature in the society.

PSO 8 : Linguistics concepts are introduced to understand the structural nature of the language.

PSO 9 : Students learn to use English Language in their daily use.

PSO 10 : The course increases the employability of the students.

PSO 11 : Teaching skills of Language and literature is another outcome of the course. Students learn how to deal with language and literature in the classroom.

PSO 12 : The course helps to humanize the minds of young generation. Ultimately it fosters ethical values among students.

M.A. ENGLISH COURSE OUTCOMES

M.A. Part I:

1.1: English Literature from 1550 to 1798) –(10601)

Semester I

CO1: Students will come across the major movements and figures of English Literature through a study of selected literary texts/pieces published during the period prescribed for study.

CO 2 : Students will enhance their literary sensibility and their emotional response to literary texts.

CO3: Students will understand the thematic and stylistic preoccupations of the writers prescribed for study.

CO.4: Students will be enabled to critically examine the writers' thematic concerns and will learn to point out the (in)significance of such concerns in the postcolonial context.

CO.5: Students will recognize the distinctive ways in which the writers differed, in their ideological positions, from their counterparts belonging to different ages.

CO.6: Learners will get some basic information about England's political, social and cultural developments during the period prescribed for study.

CO.7: Students will critically assess the 'universal' values that writers tend to project in their writings.

2.1: English Literature from 1550 to 1798) (20601)

CO.1: Learners will learn to apply the literary-critical principles they study in the paper 'Literary Criticism and Theory' to the texts prescribed or to any other text they read.

CO.2 : Learners will understand the canonical relevance of the texts prescribed for them.

CO.3: Students will critically assess the 'universal' values that writers tend to project in their writings.

CO.4: Students will understand the thematic and stylistic preoccupations of the writers prescribed for study.

CO.5: Students will be enabled to critically examine the writers' thematic concerns and will learn to point out the (in)significance of such concerns in the postcolonial context.

CO.6: Students will recognize the distinctive ways in which the writers differed, in their ideological positions, from their counterparts belonging to different ages.

1.2: English Literature from 1798 to the Present-(10602)

CO.1: Students will learn about the major movements and figures of English Literature through a study of selected literary texts/pieces published during the period prescribed for study.

CO.2 : Students will enhance literary sensibility and emotional response to literary texts.

CO.3: Students will understand the thematic and stylistic preoccupations of the writers prescribed for study.

CO.4: Students will critically examine the writers' thematic concerns and to point out the (in)significance of such concerns in the postcolonial context.

CO.5: Students will recognize the distinctive ways in which the writers differed, in their ideological positions, from their counterparts belonging to different ages.

CO.6 : Learners will get some basic information about England's political, social and cultural developments during the period prescribed for study.

2.2: English Literature from 1798 to the Present (20602)

CO.1: Students will critically assess the 'universal' values that writers tend to project in their writings.

CO2:. Learners can apply the literary-critical principles they study in the paper 'Literary Criticism and Theory' to the texts prescribed or to any other text they read.

CO.3: Learners will understand the canonical relevance of the texts prescribed for them.

CO.4 : Students will identify potential areas of research on which they can work independently for securing a degree or merely for the sake of obtaining knowledge.

CO.5 : Students will enhance their proficiency in English.

CO.6 : Students will understand the literature of Victorian and Modern Age.

1.3: Contemporary Studies in English Language (10603)

CO.1. Students will understand the basic tools essential for a systematic study of language.

CO.2. Students will be introduced with the basic concepts and issues in linguistics.

CO.3.Students will understand various sub-disciplines of linguistics.

CO.4. Students will understand some of the theoretical assumptions underlying language and to enable them to apply the acquired linguistic skills in real life situations.

CO.5. Students will be introduced to the syntactic features of the English language.

CO.6. Students will understand some of the regional features of English pronunciation.

2.3: Contemporary Studies in English Language (20603)

CO. 1. Students will understand the basic tools essential for a systematic study of language.

CO.2. Students will be introduced with the basic concepts and issues in linguistics.

CO.3.Students will understand various sub-disciplines of linguistics.

CO.4. Students will understand some of the theoretical assumptions underlying language and to enable them to apply the acquired linguistic skills in real life situations.

CO.5. Students will be introduced to the syntactic features of the English language.

CO.6.Students will use English with confidence and with a better understanding of its appropriate social applications.

1.4: Literary Criticism and Theory (10604)

CO.1.Students will be introduced to the nature, function and relevance of literary criticism and theory.

CO.2. Students will understand the various important critical approaches and their tenets.

CO.3. Students will be encouraged to deal with highly intellectual and radical content and thereby develop their logical thinking and analytical ability.

CO.4. Students will develop sensibility and competence in them for practical application of critical approach to literary texts.

CO.5. Students will come across different concepts of literary Criticism.

CO.6. Students will understand different literary Theories.

2.4: Literary Criticism and Theory (20604)

CO.1.Students will be introduced to the nature, function and relevance of literary criticism and theory.

CO.2. Students will understand the various important critical approaches and their tenets.

CO.3. Students will be encouraged to deal with highly intellectual and radical content and thereby develop their logical thinking and analytical ability.

CO.4. Students will develop sensibility and competence in them for practical application of critical approach to literary texts.

CO.5. Students will come across different concepts of literary Criticism.

CO.6. Students will understand different literary Theories.

Course Outcomes

3.1: Indian Writing in English (Core Paper)(30601)

CO: 1 Students will be introduced to the various phases of the evolution in Indian Writing in English. (i. e. the major movements and figures of IWE)

CO:2 Students will be made aware of Indian cultural ethos and indigenous belief systems through the study of major literary works in the domain of Indian English literature.

COs3 Students will get acquainted with the writings of different Indian writers and help them to appreciate the variety and diversity of Indian Writing in English.

CO:4 Students will be exposed to the corpus of Indian Writing in English, and explain the sociopolitical and cultural contexts in which the works were written and received.

CO:5 Students will develop the ability to critically examine and restate their understanding of literary texts.

CO: 6 Students will be exposed to the uniqueness of artistic and innovative use of the English language in IWE and to enhance the literary and linguistic competence of students.

CO.7 Students will understand the importance of human values and develop literary sensibility through exposure to IWE texts.

4.1: Indian Writing in English (Core Paper)(40601)

CO: 1 Students will be able to understand the various phases of the evolution in Indian Writing in English. (i. e. the major movements and figures of IWE)

CO:2 Students will be aware of Indian culture through the study of major literary works in the domain of Indian English literature.

CO:3 Students will get acquainted with the different novels of Indian writers and will be able to appreciate the variety and diversity of Indian Writing in English.

CO.4 Students will understand the corpus of Indian Writing in English, and will also be able to explain the sociopolitical and cultural contexts in which the works were written and received.

CO.5 Students will develop the ability to critically examine and restate their understanding of literary texts from Indian Writing in English .

CO: 6 Students will understand the uniqueness of artistic and innovative use of the English language in IWE and to enhance the literary and linguistic competence of students.

CO:7 Students will understand the importance of human values and develop literary sensibility through exposure to IWE texts.

Paper-3.2: Applied Linguistics(30602)

CO:1. Students will understand the basic concepts of Applied Linguistics

CO:2.Students will understand how descriptive linguistics can be used practically to explain the behavioural and social use of language, especially with regard to language acquisition, second language acquisition/learning, language teaching methodology, etc.

CO:3. Students will understand the correlation between the evolution of linguistic theory and the corresponding developments in the field of language learning and teaching.

CO:4. Students will understand the relationship between language learning theories, teaching methods, production of course materials and language testing.

CO: 5. Students will understand the relation between language and culture.

CO:6. Students will understand how linguistic concepts can be applied to the study of literature.

CO:7. Students will be familiarized with the tools of language that may be used in translation, textual analysis, etc

Paper-4.2: Applied Linguistics(40602)

CO:1. Students will be introduced to the field of Applied Linguistics

CO:2. Students will understand how descriptive linguistics can be used practically to explain the behavioural and social use of language, especially with regard to language acquisition, second language acquisition/learning, language teaching methodology, etc.

CO:3. Students will understand the correlation between the evolution of linguistic theory and the corresponding developments in the field of language learning and teaching.

CO:4.Students will understand the relationship between language learning theories, teaching methods, production of course materials and language testing.

CO: 5.Students will understand the relation between language and culture.

CO:6. Students will understand how linguistic concepts can be applied to the study of literature.

CO:7. Students will be familiarized with the tools of language that may be used in translation, textual analysis, etc

Paper-3.4: Indian Literatures in English Translation (30604)

CO1. Students will learn some of the significant Indian regional language writers of various periods and to their works.

CO.2. Students will be acquainted with the major ancient, medieval and modern literary movements in India and their influence on literature.

CO.3. Students will be enabled to compare the features and peculiarities of Indian societies, cultures and languages.

CO.4. Students will be acquainted with the different literary techniques employed by various Indian regional language writers.

CO.5. Students will understand how English gets Indianite in translation.

CO.6. Students will understand the vast possibilities of translating literary texts from their own languages into English and the necessity of undertaking multidisciplinary research projects focusing on the literary-cultural varieties of India.

Paper-4.4: Indian Literatures in English Translation(40604)

CO.1. Students will learn some of the significant Indian regional language writers of various periods and to their works.

CO.2. Students will understand the major ancient, medieval and modern literary movements in Indian regional literature.

CO.3. Students will compare the features and peculiarities of Indian societies, cultures and languages.

CO.4. Students will understand the different literary techniques employed by various Indian regional language writers.

CO.5. Students will understand how English gets Indianite in translation through literary masterpieces.

CO.6. Students will understand the vast possibilities of translating literary texts from their own languages into English and the necessity of undertaking multidisciplinary research projects focusing on the literary-cultural varieties of India.

Paper-3.5: Academic Writing and Critical Reading(30605)

CO.1 Students will be introduced to the concepts of academic writing and critical reading and illustrate their interconnectedness.

CO.2 Students will be introduced to be aware of how to write formal and academic prose in English. 3) Students will be acquainted students how to present their research findings in a clear and structured manner.

CO.3 Students will understand students how to read English texts in their field and discuss them in English.

CO.5 Students will be introduced to the theories of reading.

CO.6 Students will be able to understand the shifts in reading and writing practices with the advent of digital technology and the formation of digital literacies.

CO.7 Students will be acquainted with the different strategies of reading.

Paper-4.5: Academic Writing and Critical Reading(40605)

CO.1 Students will be introduced to the concepts of critical reading and illustrate their interconnectedness.

CO.2 Students will be introduced to be aware of how to read critically.

CO.3 Students will be acquainted students how to read critically to find research findings in a clear and structured manner.

CO.4 Students will understand students how to read English texts in their field and discuss them in English.

CO.5 Students will be introduced to the theories of reading.

CO.6 Students will be able to understand the shifts in reading and writing practices with the advent of digital technology and the formation of digital literacies.

CO.7 Students will be acquainted with the different strategies of reading.

मराठी विभाग

PSO (UG)

PSO-01 राष्ट्रीय शैक्षणिक धोरणाची उद्दिष्टे प्रत्यक्षात आणताना विद्यार्थी केंद्रित अंतरविद्या शास्त्रीय रोजगाराभिमुख कौशल्याधिष्ठित असे भाषा व साहित्याचे अभ्यासक्रम निर्माण करणे आवश्यक आहे.

PSO-02 जीवन कौशल्य विकासासाठी भाषा साहित्य कला ही माध्यमे अधिक परिणामकारकतेने समजून घेणे आवश्यक झाले आहे.

PSO-03 साहित्य क्षमता, भाषिक क्षमता वाढीसाठी जीवनाच्या आकलनासाठी आणि प्रगल्भतेसाठी विद्यार्थी सिद्ध करणे ही आजची गरज बनली आहे.

F.Y.B.A

सत्र पहिले

विषयाचे नाव:-मराठी साहित्य: कथा आणि भाषिक कौशल्य विकास (CC-1A)

१) CO-01 कथा या साहित्यप्रकाराची ओळख करून देणे.

२) CO-02 कथा या साहित्य प्रकाराचे स्वरूप घटक आणि प्रकार यांची ओळख करून देणे.

३) CO-03 विविध साहित्य प्रवाह मधील कथा या साहित्य प्रकारातील निवडक कथांचे अध्ययन करणे.

४) CO-04 भाषिक कौशल्य विकास करणे

सत्र दुसरे

विषयाचे नाव:-मराठी साहित्य: एकांकिका आणि भाषिक कौशल्य विकास (CC-1A)

१) CO-01 एकांकिका या साहित्यप्रकाराची ओळख करून देणे.

२) CO-02 एकांकिका या साहित्य प्रकाराचे स्वरूप,घटक आणि प्रकार याची ओळख करून देणे.

३) CO-03 मराठी साहित्यातील निवडक एकांकिकाचे अध्ययन करणे.

४) CO-04 भाषिककौशल्य विकास करणे.

सत्र पहिले

विषयाचे नाव:- व्यावहारिक व उपयोजित मराठी भाग १ (CC-1A)

१) CO-01 संज्ञापनातील भाषेची भूमिका विविध भाषिक अविष्काराचे स्वरूप समजून घेणे भाषिक कौशल्य क्षमता विकसित करणे.

२) CO-02 भाषिक कौशल्याचे विविध अविष्कार आणि संपर्क माध्यमे यांचा परस्पर संबंध समजून घेणे व उपयोजन करणे.

३) CO-03 मराठीचा कार्यालयीन व्यावहारिक कामकाजात भाषेचे उपयोजन गरज व स्वरूप या विषयांची माहिती करून घेणे.

४) CO-04 कार्यालय, व्यवसायिक भाषा व्यवहारासाठी आवश्यक लेखन कौशल्याचे संपादन व उपयोजन करणे.

S.Y.B.A

पहिले सत्र

विषयाचे नाव:- भाषिक कौशल्य विकास आणि आधुनिक मराठी साहित्य प्रकार कादंबरी (CC-1c 3)

१) CO-01 कादंबरी या साहित्य प्रकाराचे स्वरूप घटक प्रकार आणि वाटचाल समजून घेणे.

२) CO-02 नेमलेल्या कादंबरीच्या आकलन आस्वाद आणि विश्लेषण करणे.

३) CO-03 भाषिक कौशल्य विकास करणे.

सत्र दुसरे

विषयाचे नाव:- भाषिक कौशल्य विकास आणि आधुनिक मराठी साहित्य प्रकार ललित गद्य (CC-1D 3)

१) CO-01 ललित गद्य साहित्य प्रकाराचे स्वरूप घटक प्रकार आणि वाटचाल समजून घेणे.

२) CO-02 नेमलेल्या अभ्यास्त पुस्तकातील ललित गद्य आकलन आस्वाद आणि विश्लेषण करणे.

३) CO-03 भाषिक कौशल्य विकास करणे.

पहिले सत्र

विषयाचे नाव:- व्यावहारिक उपयोजित मराठी भाग-३ (G2)

१) CO-01 उपयोजित व सर्जनशील लेखकाच्या क्षमता विकसित करणे.

२) CO-02 मराठी भाषेची कार्यालयीन व्यवसायिक कामकाजातील गरज स्वरूप आणि उपयोजन याची माहिती करून घेणे.

३) CO-03 कार्यालयीन व्यावसायिक भाषा व्यवहारासाठी आवश्यक लेखन कौशल्य प्राप्त करणे.

४) CO-04 नवसमाज माध्यमातील विविध भाषिक अविष्काराचे स्वरूप समजून घेणे.

सत्र दुसरे

विषयाचे नाव:- व्यावहारिक उपयोजित मराठी भाग-४ (G2)(CC-1D 3)

१) CO-01 उपयोजित व सर्जनशील लेखनाचे क्षमता विकसित करणे.

२) CO-02 संगणकाची भाषा आणि त्यातील विविध भाषिक अविष्काराचे स्वरूप समजून घेणे.

३) CO-03 विविध कशासाठी नोंद लेखन क्षमता विकसित करणे.

पहिले सत्र

विषयाचे नाव :- आधुनिक मराठी साहित्य : प्रकाश वाटा (S1) (DSE. 1A-3)

१) CO-01 आत्मचरित्र या साहित्यप्रकाराचे स्वरूप संकल्पना समजून घेणे.

२) CO-02 आत्मचरित्र या साहित्य प्रकारांच्या प्रेरणा आणि वाटचाल याची ओळख करून घेणे.

३) CO-03 ललित गद्यातील अन्य साहित्य प्रकारांच्या तुलनेत आत्मचरित्राचे वेगळेपण समजून घेणे.

४) CO-04 नेमलेल्या या आत्मचरित्राच्या आकलन आस्वाद आणि विश्लेषण करणे.

सत्र दुसरे

विषयाचे नाव :- मध्ययुगीन मराठी साहित्य: निवडक मध्ययुगीन गद्य- पद्य (DSE 2A (3))

१) CO-01 मध्ययुगीन गद्य-पद्य साहित्य प्रकाराची ओळख करून घेणे.

२) CO-02 नेमलेल्या अभ्यास पुस्तकातील मध्ययुगीन त्याचे आकलन आस्वाद आणि विश्लेषण करणे.

पहिले सत्र

विषयाचे नाव:- साहित्य विचार (S2 DSE 1B (3))

१) CO-01 भारतीय आणि पाश्चात्त्य विचारांच्या आधारे साहित्याची संकल्पना व स्वरूप आणि प्रयोजन विचार समजून घेणे.

२) CO-02 साहित्याची निर्मिती प्रक्रिया समजून घेणे.

३) CO-03 साहित्याची भाषा आणि शैली विषयक विचार समजून घेणे.

सत्र दुसरे

विषयाचे नाव:-साहित्य समीक्षा (S2-DSE-2B(3))

१) CO-01 साहित्य समीक्षेची संकल्पना व स्वरूप यांचा परिचय करून घेणे.

२) CO-02 साहित्य समीक्षा यांचे परस्परसंबंध समजून घेणे व अभ्यासणे.

३) CO-03 साहित्य प्रकारानुसार समीक्षेचे स्वरूप समजून घेणे व अभ्यासणे.

४) CO-04 ग्रंथपरिचय परीक्षण व समीक्षण यातील फरक समजून घेणे.

पहिले सत्र

विषयाचे नाव:- प्रकाशन व्यवहार आणि संपादन (SEC 2A (2))

१) CO-01 प्रकाशन व्यवहार आणि संपादन या साठी आवश्यक कौशल्य मिळविणे.

२) CO-02 प्रकाशन व्यवहार आणि संपादन यासाठी आवश्यक प्रशिक्षण घेणे.

सत्र दुसरे

विषयाचे नाव:- उपयोजित लेखन कौशल्य (SEC 2B (2))

१) CO-01 जाहिरात मुलाखत लेखन आणि संपादन या साठी आवश्यक कौशल्य मिळवणे.

२) CO-02 जाहिरात मुलाखत लेखन आणि संपादन यासाठी आवश्यक प्रशिक्षण घेणे.

३) CO-03 जाहिरात मुलाखत लेखन आणि संपादन यासाठीप्रात्यक्षिकासह उपयोजनाची कौशल्य मिळविणे.

T.Y.B.A

पहिले सत्र

विषयाचे नाव:- भाषण कौशल्य विकास आणि आधुनिक मराठी साहित्य प्रकार; प्रवास वर्णन (CC-1E (3))

१) CO-01 मुद्रित माध्यमांसाठी लेखन कौशल्य आत्मसात करणे.

२) CO-02 प्रवास वर्णन या साहित्यप्रकाराचे स्वरूप प्रेरणा वैशिष्ट्ये आणि वाटचाल समजून घेणे.

३) CO-03 नेमलेल्या प्रवास वर्णन यांचे आकलन आस्वाद आणि विश्लेषण करणे.

सत्र दुसरे

विषयाचे नाव: भाषिक कौशल्यविकास आणि आधुनिक मराठी साहित्य प्रकार : कविता (CC-1F (3))

१) CO- 01 साहित्य भाषिक कौशल्यविकास आणि शासन व्यवहार यांची माहिती घेणे.

२) CO-02 कविता या साहित्य प्रकाराचे स्वरूप वाटचाल प्रेरणा प्रवृत्ती आणि वैशिष्ट्ये समजून घेणे.

३) CO-03 नेमलेल्या अभ्यास पुस्तकातील निवडक कवितांचे आकलन आस्वाद आणि विश्लेषण करणे.

४) CO-04 कविता या साहित्य प्रकारातील विविध अविष्कार भाषा रूपाची अभ्यास पुस्तकातील कविता च्या आधारे ओळख करून घेणे.

पहिले सत्र

विषयाचे नाव : मध्ययुगीन मराठी वाङ्मयाचा इतिहास प्रारंभ ते इ.स.१६०० (DSE 1C (3+1))

१) CO-01 वांग्मयेतिहास संकल्पना स्वरूप प्रेरणा-प्रवृत्ती समजून घेणे.

२) CO-02 मध्ययुगीन कालखंडाची सामाजिक सांस्कृतिक पार्श्वभूमी समजून घेणे.

३) CO-03 मराठी भाषा साहित्याची कालखंडनुरूप इतिहास समजून घेणे.

दुसरे सत्र

विषयाचे नाव: मध्ययुगीन मराठी वाङ्मयाचा स्थूल इतिहास प्रारंभ ते इ.स.१६०० ते १८१७ (DSE 1D (3+1))

१) CO-01 वांग्मयेतिहास संकल्पना स्वरूप प्रेरणा-प्रवृत्ती समजून घेणे.

२) CO-02 मध्ययुगीन कालखंडाची सामाजिक सांस्कृतिक पार्श्वभूमी समजून घेणे.

३) CO-03 मराठी भाषा साहित्याची कालखंडनुरूप इतिहास समजून घेणे.

पहिले सत्र

विषयाचे नाव : वर्णनात्मक भाषाविज्ञान भाग-१ (DSE 2C (3)+1)

१) CO-01 भाषा स्वरूप, वैशिष्ट्ये व कार्य समजून घेणे.

२) CO-02 भाषा अभ्यासाची आवश्यकता स्पष्ट करणे.

३) CO-03 भाषा अभ्यासाच्या शाखा आणि विविध पद्धतीचा परिचय करून घेणे.

दुसरी सत्र

विषयाचे नाव : वर्णनात्मक भाषाविज्ञान भाग-२ (DSE 2D (3)+1)

१) CO-01 रूपविन्यास आणि मराठीची रूपव्यवस्था समजावून घेणे.

२) CO-02 वाक्यविन्यास आणि वाक्य व्यवस्थेचा मराठी भाषेच्या संदर्भात परिचय करून देणे.

PSOs BA Hindi

PSOs 1 . Understanding the basic concept and subject of Hindi and its origin.

PSOs 2 . To introduce students to the real world situation with the help of poems and stories written by various poets and writers.

PSOs 3 . Understanding various aspects of Hindi literature with process to reach method and giving new mode and direction.

PSOs 4 . To know about Hindi literature its root cause perspective and method.

COs BA Hindi

F.Y.B.A. Hindi General

Vaikalpik Hindi Prashnapatra (11092) SMISTER I

Students Will Able to

COs 1. Students will be able to know Hindi Literature.

COs 2. Students will come to know about Hindi Language.

COs 3. Students will develop the communication skills of Hindi Language.

COs 4. Students will develop the interest in creative writing in Hindi Language.

COs 5. Students will develop the skills of translation, advertisement writing in Hindi.

COs 6.Students will get basic knowledge of computer through Hindi Language.

_Vaikalpik Hindi Prashnapatra (12092) SEMESTER II

Students Will Able to

COs 1. Students will learn about Hindi Poems.

COs 2. Students will learn about Hindi Short Stories.

COs 3. Students will develop essay writing skills in Hindi.

COs 4. Students will develop writing skill of Hindi Language.

COs 5. Students will learn about Hindi Grammar.

COs 6. Students will get information about Hindi Software.

S.Y.B.A. Hindi General

:CC-1C(G-2)Adhunik Kavya Tatha Vyavaharik Hindi.(23093) Semester III

Student will able to

COs 1 : Understand the Basic elements of short stories.

COs 2 : Acquire appropriate communication for effective college learning.

COs 3 : Learn to read literature effectively.

COs 4 : Describe the national, social and cultural environment as described in the poetry by Hindi poet.

COs 5 : Describe various authors (story writers) of of Hindi literature and the stories written by them.

COs 6 : Explain various things and aspects of the through the medium of story writing and develop an aptitude in storytelling and writing.

:CC-1D(G-2)Adhunik Hindi Vyangya Sahitya Tatha Vyavharik Hindi.(24093)
Semester-IV

Students Will Able To

COs 1 :To able to understand the ancient mediaeval period language .

COs 2 : Develop the ability to critically evaluate hindi literature .

COs 3 : Describe the development madam Hindi language.

COs 4 : Identify and use nouns,verbs adjectives etc and their type Hindi language.

COs 5 : To able to understand the meaning, concept and importance of functional

Hindi.

COs 6 : Able to understand the concept of right the information .

S.Y.B.A. Hindi Special
DSE- 1 A (S1) Kavyashastra (23091) Semeter III
Students will able to

COs 1. Students will understand the importance of Hindi Literature.

COs 2. Students will understand the need of Hindi Literature.

COs 3. Students will come to know about Indian Hindi Poetry.

COs 4. Students will understand the different Rasa of literature.

COs 5. Students will understand the information related to Hindi Poetry.

COs 6. Students will develop interest in Indian Poetry and also develop critical attitude about Hindi literature

DSE 1 B (S1) Sahitya Ke Bhed (24091) Semester IV
Students Will Able to

COs 1. Students will come to know about different types of literature.

COs 2. Students will come to know about prose Fiction.

COs 3. Students will come to know about poetry as a major form of literature.

COs 4. Students will come to know about Drama as a major form of literature.

COs 5. Students will develop interest in Acting.

COs 6. Students will come to know about different types of Drama as a major form of literature.

DSE 2A (S2)Madhyayugin kavya Tatha Upanyas Sahitya.(23092)

Semister III

student will be able to

COs 1:Learn the basic elements of poetry.

COs 2: Understand and inter the concept structure and the meaning of poetry.

COs 3 :Acquaint with different elements of the novel.

COs 4: Describe the mediaeval era as the described in mediaeval poetry.

COs 5 :Learn the criticism of a novel as per the elements of the novel.

COs 6 :Describe what a novel and how it relates human life with literature..

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Students will able DSE 2 B (S-2) Madhyayugin Kavya Tatha Natak Sahitya.(24092)

Semister IV

to

COs 1 :Introduce the mediaeval bhakti movement and the poets and writer's associated with it.

COs 2 :Familiarise the student with the mediaeval period.

COs 3 : By reading and observing Drama and novel's one act plays.

COs 4 :Describe the drama form of literature and the country's political,social and cultural environment as shown in various dramas.

COs 5 :Learn the basic elements of play.

COs 6 :Describing the progressive nature of sant Kabir and his writing.

Hindi SEC

SEC-2A Anuvad swarup Avam Vyavhar (23096) Semester III

Students will able to

COs 1 : Make use of translation techniques in a text.

COs 2: Utilise technical terms in translating a text.

COs 3: Language difficulties in the skills of listening, reading ,writing and speaking can be understood and solved.

COs 4 : Students will write a compare and contrast paragraph using vocabulary associated with the language function.

COs 5 : Speak grammatically correct Hindi.

COs 6 : Translate from Hindi to Marathi and Marathi to Hindi.

SEC-2B Madhyam lekhan. (24096) Semester-IV

Student will able to

COs 1:Undertake creative writing for audio medium(Radio).

COs 2:Acquaint with basic concept of jingle writing for an advertising of a product.Understand the basic workings of television and film industry.

COs 3: Know the history effect,ethics and creative writing in television and film.

COs 4:Acquainted with concepts of television and films like television serials, interviews film reviews, dialogue writing and screenplay writing.

COs 5: To be able to understand various kinds of writing in the media.

COs 6:To be able to understand the concept of information technology..

S.Y.B.A. MIL

Hindi Bhasha Shikshan (23012) Semester III

Students will able to

COs 1. Students will develop the listening skill of Hindi Language.

COs 2. Students will develop the Communication skills of Hindi Language.

COs 3. Students will develop the Reading skill of Hindi Language.

COs 4. Students will develop the Writing skill of Hindi Language.

COs 5. Students will be able to use Hindi Language in daily life.

COs 6. Students will develop the listening Short story skill of Hindi Language.

(Hindi Bhasha Shikshan) (24012) Semester IV

Students Will Able To

COs 1. Students will come to know about different types of literature.

COs 2. Students will understand the syntax of Hindi Language.

COs 3. Students will understand the importance of Hindi Songs.

COs 4. Students will develop the creative song writing Skill in Hindi.

COs 5. Students will be able to identify different types of sentences.

COs 6. Students will come to know about the poetry of Kavi Gopaldas Neeraj.

T.Y.B.A General

:CC-1E(G-3) Kathettar vidhayen (35093) Semester-V

Students will able to

COs 1 : To able to the understand the concepts of linguistic.

COs 2 :Have a basic knowledge of Hindi language which will help the student in their day to day life.

COs 3 :Enhance the ability to draft official and scientific documents in Hindi.

COs 4 :As they are practising Translation from Hindi to English and English to Hindi and some other languages.

COs 5: Get acquainted with literature critical terminology used in Hindi literature.

COs 6 : Understanding the importance of translation

:CC-1F(G-3) Gazal vidha aur patrachar (36093) Semester-VI

Students will able to

COs1:Understanding the spirit of nationalism of Dushyant kumar.

COs 2 : Describing the philosophy of life as well as Gajal sangrha'Saye Me Dhup' writer's Dushyant kumar.

COs 3 : Describing the nature of revolt of Dushyant kumar
through his Gajal ' Ho Gayi hai Peer Parvat Si'

COs 4 : Developing skill of writing official letters in function 'Hindi'.

COs 5 : Describing the poems of Ahet in context with his experience of life.

COs 6 : Understand the origin of Hindi language and it's literature.

Hindi Special

:DSC-1C(S-3) Hindi Sahitya ka itihaas (adi , bhakti , ritikaal).(35091) Semester-V

Students will able to

COs 1 : To be able to understand the concept of history of literature.

COs 2 : Compare and differentiate between the ancient and mediaeval authors and poets.

COs 3 : Describe the effect of the mediaeval era on Hindi Literature and explain the history of medical literature.

COs 4 : Understand the importance and basis of the names given to each period of Hindi literature.

COs 5 : Understand the features of AdikalBhakti kal , Ritikal and Adhunik kal, in context of socio - cultural and political condition of that period .

COs 6 : Identify eminent Hindi writers of each period.

:DSC-1D(S-3) Hindi sahitya ka itihaas (adhunik kaal) (36091) Semester-VI

Students will able to

COs 1 : Described the development of modern Hindi prose writing.

COs 2 : Familiarize with the rich history and tradition of Hindi literature.

COs 3 : Relation between Hindi literature and real life.

COs 4 : introduce students to Hindi as the national language.

COs 5 : Identify and understand the various phases in

the history of Hindi literature and the salient features of each of these phases.

COs 6 :To be able to the understand reason of emergence of Adhunik kal in Hindi literature.

T.Y.B.A. Special Paper IV

DSE 2 C (S4) Bhasha Vidyan (35092) (Semester V)

Students will able to

COs 1. Students will understand the importance of Hindi Bhasha Vidyan.

COs 2. Students will understand the nature of Hindi Bhasha Vidyan.

COs 3. Students will understand the different dimension of Hindi Bhasha Vidyan.

COs 4. Students will understand the different branches of Hindi Bhasha Vidyan.

COs 5. Students will understand the utility of Hindi Bhasha Vidyan in the study of literature.

COs 6. Students will understand the different dimension which are related with Hindi Bhasha Vidyan.

DSE 2 D (S4) Hindi Bhasha Aur Usaka Vikas (36092)

Semester VI

Students will able to

COs 1. Students will understand the scope of Hindi Bhasha Vidyan.

COs 2.Students will get knowledge about Hindi Language.

COs 3. Students will get knowledge about different branches of Hindi Bhasha Vidyan.

COs 4. Students will understand the different dialects of Hindi Language.

COs 5. Students will get knowledge about different vocabulary of Hindi Language.

COs 6. Students will get knowledge about Devnagari Script.

T.Y.B.A

SEC 2 C Patkatha lekhan (35096) Semister V

Students Will Able To

COs 1 . Students should know about script.

COs 2 . Students should be familiar with story , screenplay and rhetoric with examples .

COs 3. To develop the art of drafting (indoor / outdoor) in the students.

COs 4 . To develop students knowledge of script writing in different ways through audio

– visual media

COs 5 . To make students aware of necessary software in script format .

COs 6 . To develop in the students in the art of making films like documentaries , telefilms , short films and advertisement etc .

SEC 2 D : Sahitya aur filmantran (36096) Semester IV

Students Will Able To

COs 1 . Introducing students to the cinema genre .

COs 2 . To introduce students to the interrelationship of literature and cinema .

COs 3 . Knowledge of films based on Hindi stories and novels for students .

COs 4 . To acquaint the students with Hindi cinema of the 21 st century .

COs 5 . To acquaint students with the evolution and development of Indian cinema .

COs 6 . To make students aware of filming of literature .

PSOs

B. A. in History

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

PSO1: Learn the socio-political and cultural background of the Indian History.

PSO2: Learn various perspectives of history and historiography.

PSO3: Prepare for Competitive Examinations like UPSC, MPSC, SET/NET etc.

PSO4: Understand various concepts in Social Studies through the Indian History.

PSO5: Learn developments of mankind.

FYBA History (11171)

Semester-I (3): Early India: From Prehistory to the Age of the Mauryas

Students will able to

CO1: Understand the history of early India from the prehistoric times to the age of the Rashtrakutas.

CO2: Learn the concepts of civilization and culture.

CO3: Understand the factors and forces behind the rise, growth and spread of civilization and culture of India along with the dynastic history.

CO4: Understand the contribution of Early Indians to polity, art, literature, philosophy, religion and science and technology.

CO5: Instill the spirit of enquiry among them.

CO6: Understand the ancient map of the Indian Subcontinent.

Semester-II (3): Early India: Post Mauryan Age to the Rashtrakutas (11172)

Students will able to

CO1: Understand the developments in early India after the Mauryas, which finally led to the transition to medieval India.

CO2: Understand the political as well as social history of regional kingdoms up to the tenth century.

CO3: Understand the economy of north India as well as south India in ancient times.

CO4: Learn the consequences of the foreign invasions, particularly on the polity, economy, society and art and architecture.

CO5: Know the Science and Technology in Early India.

CO6: Instill the spirit of enquiry among them.

SYBA:

Semester-III: CC-1(3) History of the Marathas: (1630-1707) (23174)

Students will able to

CO1: Develop the ability to analyse sources for Maratha History.

CO2: Learn significance of regional history and political foundation of the region.

CO3: Enhance their perception of 17th century Maharashtra and India in context of Maratha history.

CO4: Appreciate the skills of leadership and the administrative system of the Marathas.

CO5: Evaluate the contribution of Chhatrapati Shivaji Maharaj and his successors.

CO6: Learn the ideas and institutions of the Maratha state.

Semester-IV: CC-2 (3) History of the Marathas: (1707-1818) (24174)

Students will able to

CO1: Analyze the Marathas policy of expansionism and its consequences.

CO2: Understand the role played by the Marathas in the 18th century India.

CO3: Acquaint with the art of diplomacy in the Deccan region.

CO4: Enrich the knowledge of the administrative skills and profundity of diplomacy.

CO5: Understand the changed nature of Maratha Polity during the Peshwa Period.

CO6: Learn the concept of Maratha Confederacy.

Semester-III: DSE-1A (3) Medieval India - Sultanate Period (23171)

Students will able to

CO1: Know the various sources of Historiography of Sultanate Period.

CO2: Learn foundation of Delhi Sultanate and its Administration.

CO3: Understand the socio, economic condition of Delhi Sultanate.

CO4: Evaluate the foreign invasion and the achievement of rulers.

CO5: Understand the Administrative Reforms of the Sultanate.

CO6: Understand the role of Vijayanagar and Bahamani in the History of India.

Semester-IV: DSE-1B (3) Medieval India - Mughal Period (24171)

Students will able to

CO1: Know the various sources of Historiography of Mughal Period.

CO2: Learn foundation of Mughal Empire.

CO3: Evaluate the administrative reforms of the Mughals.

CO4: Understand the Religious Policy of the Mughals.

CO5: Understand the Economy of the Mughals.

CO6: Learn the social condition of Medieval India.

Semester-III: DSE-2A (3) History of East Asia (23173)

Students will able to

CO1: Develop the overall understanding of the East Asian countries.

CO2: Acquaint with the Communism in China & Imperialism of Japan.

CO3: Enhance their perception of the developmental Policies of the Asian Countries.

CO4: Understand the significance of China and Japan in the Modern World.

CO5: Understand the economic transition in Asia during 20th century and the impact of all this on world politics.

CO6: Learn the Map of the Asia.

Semester-IV: DSE-2B (3) History of West Asia (24173)

Students will able to

CO1: Develop the overall understanding of the West Asian countries.

CO2: Acquaint with the the modernization of Turkestan, Arab Nationalism and the Arab-Israel Conflict.

CO3: Enhance their perception of the developmental Policies of the Asian Countries.

CO4: Understand the significance of Oil Diplomacy.

CO5: Understand the significance of the West Asian countries in the Modern World.

CO6: Enhance their perception of the developmental policies of the Asian Countries.

Semester-III: SEC-1A (2) Art &Architecture in Early India (23176)

Students will able to

CO1 Understand the chronological framework for the development of the art and architecture in Early India.

CO2: Understand the political, social and religious contexts of the art and architecture in Early India.

CO3: Analyse the Pottery, Terracotta figures, Ornaments, Town Planning, preparation of seals and coins.

CO4: Understand the significance Temple architecture of the Early India.

CO5: Differentiate among various styles of architecture.

CO6: Analyse critically sculpture and architecture in Early India.

Semester-IV:

SEC-2B (2) Medieval Indian Arts and Architecture (1206 To 1857) (24176)

Students will able to

CO1 Understand the chronological framework for the development of the art and architecture in Medieval India.

CO2: Understand the political, social and religious contexts of the art and architecture in Medieval India.

CO3: Understand the impact of the Persia on the Mughal Art and Architecture.

CO4: Get acquainted with the development of Indo-Persian style of Painting.

CO5: Understand the changing patterns of the Art and Architecture during the Medieval India.

CO6: Get an overall understanding of the development of the Medieval Art and Architecture.

TYBA:

Semester-V: CC-3 (3) Indian National Movement (1885-1947)

Students will able to

CO1: Understand the making of Modern India and the struggle for independence.

CO2: Understand the multi-dimensionality of Modern India.

CO3: To highlight the ideas, institutions, forces and movements that contributed to be shaping of Indian Modernity.

CO4: Get acquainted with various Interpretative and Analytical perspectives.

CO5: Develop an overall understanding of Modern India.

CO6: Increase among themselves, the spirit of healthy Nationalism, Democratic Values and Secularism.

CO7: Understand various aspects of the Indian Independence.

Semester-VI: CC-4 (3) India after Independence- (1947-1991)

Students will able to

CO1: Understand the making of Contemporary India and events that panned out in the Post-Independence Era.

CO2: Understand the multi-dimensionality of Modern India and Contemporary India.

CO3: To highlight the ideas, institutions, forces and movements that contributed to be shaping of Indian Modernity.

CO4: Get acquainted with various Interpretative and Analytical perspectives.

CO5: Develop an overall understanding of the Contemporary India.

CO6: Understand various aspects of India’s domestic and foreign policies that shaped Post-Independence India.

Semester-V: DSE-3C (3) Introduction to Historiography

Students will able to

CO1: Understand the meaning and importance of Historiography.

CO2: Learn the different Methods and Tools of data collection.

CO3: Learn the interdisciplinary approach of History.

CO4: Learn about the usefulness of History in the 21st century.

CO5: Learn the changing perspectives of history, the new ideas that have been invented, and the importance of History in a competitive World.

CO6: Develops Research ability and process of Research Methodology in History.

Semester-VI: DSE-3C (3) Applied History

Students will able to

CO1: Understand the meaning and importance of Applied History.

CO2: Learn the historical significance of Archaeology and Archives.

CO3: Know the opportunities in the field of Archaeology and Archives through this course.

CO4: Know the opportunities in the field of Media, Museums through this Course.

CO5: Learn the changing perspectives of history, the new ideas that have been invented, and the importance of History in a competitive World.

CO6: Get Acquainted with the experiential learning through the Project-work.

Semester-V: DSE-4D (3) Maharashtra in the 19th Century

Students will able to

CO1: Know the Maharashtra in the 19^{th} Century.

CO2: Get acquainted with the analytical approach towards 19^{th} century Maharashtra.

CO3: Develop the ability to analyse sources for 19th century Maharashtra.

CO4: Evaluate contribution of 19th century in Maharashtra to the establishment of Maharashtra state.

CO5: Understand Socio-religious System of the 19th Century in Maharashtra.

CO6: Learn significance of Regional History and Socio- religious reforms.

Semester-VI: DSE-4D(3) Maharashtra in the 20th Century

Students will able to

CO1: Know the Maharashtra in the 20^{th} Century.

CO2: Get acquainted with the analytical approach towards 20^{th} century Maharashtra.

CO3: Develop the ability to analyse sources for 20^{th} century Maharashtra.

CO4: Evaluate contribution of 20^{th} century in Maharashtra to the establishment of Maharashtra state.

CO5: Understand Socio-religious System of the 20^{th} Century in Maharashtra.

CO6: Learn significance of the leadership skills in 20^{th} Century in Maharashtra.

Semester-V: SEC-2C (2) Research Paper Writing

Students will able to

CO1: Understand the importance of Inter-Disciplinary Research.

CO2: Know the Basics of Research.

CO3: Describe the Research Outline.

CO4: Develop the interdisciplinary approach of the History

CO5: Develop research ability and process of research paper.

CO6: Learn 'how to analyse the sources.

Semester-VI: SEC-2D (2) Archaeology

Students will able to

CO1: Know the Key Concepts and practical approaches in Archaeology, highlighting their applications in interpreting the Human past.

CO2: Understand the definition, aims and scope of Archaeology and its development as a discipline.

CO3: Know the nature of the Archaeological record and the unique role of science in Archaeology.

CO4: Get acquainted with the Legislation related to Archaeology and the role of Archaeology in Heritage Management.

CO5: Understand the significance of the Archaeology.

CO6: Get an overall understanding of the Archaeology.

DEPARTMENT OF POLITICAL SCIENCE

PSOs

PSO1: learn various political thinkers' thoughts and its theories.

PSO2: Acquire knowledge of Indian constitutions provisions.

PSO3: Understand the Indians & international political process

PSO4: Learn political economy, sociology & geo-politics, etc.

PSO5: Prepare for various competitive exams.

DEPARTMENT OF POLITICAL SCIENCE

COURSE OUTCOME SPECIFIC

FYBA Political Science (11161)

1. Semester – 1 (A An Introduction to Indian Constitution) (11161)

CO1: Understand the important features of Indian Constitution.

CO2: Understand the Basic framework of Indian Government.

CO3: Understand object of Preamble of Constitution.

CO4: To know constitutional values and Principles of Indian Constitution

CO5: Understand the importance of directive principal of states.

CO6: Understand the fundamental rights provision in constitution.

2.Semester – 2 (A an Introduction to Indian Constitution) (11162)

CO1: Understand the central and states power structure.

CO2: Understand the Judiciary system of India.

CO3: To know the Electoral system in Indian Politics.

CO4: To know federal structure of Indian constitution.

CO5: To know the political Process and Political System of India.

CO6: To know the party politics of India.

Special-1

4. Semester- 3:(DSE-1A, Western Political Thoughts) (23161)

CO1: To know the classical tradition in political theory from Plato to Karl Marx.

CO2: Understand the Political thoughts of Western political thinkers.

CO3: to understand how the great masters explained & analysed political Events & problems of their time and prescribed solutions.

CO4: To know the contribution of western thinkers in Political Science

CO5: To know the contemporary issues of political thinkers.

CO6: Examine the features of Ancient Greek Political Thoughts.

5. Semester- 4:(DSE-1B, Western Political Thoughts) (24161)

CO1. Major traditions of thought that have shaped political discourse in different parts of the world.

CO2. The great diversity of social contexts and philosophical visions.

CO3. The history of political thought as a series of critical, interconnected and open-ended conversations about the ends and means of the good life.

CO4: Examining the varieties of non-Marxist socialism: Fabianism, Syndicalism, Guild Socialism, German Revisionism.

CO5: Examine the features of Ancient Western Political Thought:

CO6: Examine the features of medieval political thoughts.

Special- 2

6. Semester- 3:(DSE-2A, Political Journalism) (23162)

CO1. To Understand Complex relationship between the communication, media and power politics.

CO2. To know Critical appraisal of practices of political image management, campaigns, propaganda and censorship.

CO3.To Historical perspective of Political Journalism

CO4: Understand the nature, opportunity and scope of Political Journalism.

CO5: Understand the changing perspective of political journalism.

CO6: To understand political process.

7. Semester- 4:(DSE-2B, Political Journalism)(24162)

CO1.To know Agencies of Political Journalism

CO2. To understand Indian context of political Journalism

CO3. To understand the working method of political journalism.

CO4: To understand public opinion.

CO5: Understand the process of political socialization through journalism.

CO6: To know the challenges before political journalism.

8. Semester- 3:(CC-2C-An Introduction to Political Ideology) (23164)

CO1. Role of different political ideologies and their impact in politics

CO2. Close link between an idea and its actual realization in public policy

CO3. Legacy of all the major ideologies

CO4: Understand the concept of End of Ideologies.

CO5: Understand the roll of ideologies in political participation.

CO6: Understand the roll of Ideologies in socialisation process.

9. Semester- 4:(CC-2D-An Introduction to Political Ideology) (23164)

CO1. To know about Indian Political Ideologies.

CO2. To know about Indian political process.

CO3. Understand the politics of India.

CO4: To understand various political concepts in political science.

CO5: To understand western political ideologies.

CO6: To understand the roll of Ideologies in political process.

10. Semester- 3:(SEC-2A) Basic of Indian constitution) (23165)

COS:1 To know constitutional values and Principles of Indian Constitution

COS:2 To know the important features of the Indian Constitution.

COS:3 To Know the Basic framework of the Indian Government.

COS:4 To know the object of the Preamble of the Constitution.

COS:5 To know the importance of the directive principle of states.

COS:6 To know the electoral system of India.

11. Semester- 4:(SEC-2B) Basic of Indian constitution)(24165)

COS:1 To know the central and state power structure.

COS:2 Understand the Judiciary system of India.

COS:3 To know the federal structure of the Indian constitution.

COS:4 To know the fundamental rights provision in the constitution.

COS:5 To know the political Process and Political System of India.

COS:6 To know the Party Politics of Indian Democracy.

T.Y.B.A. Political Science, G – 3 General Paper

12. Semester V CC-1 E (3) Local Self-Government in Maharashtra: (35164)

CO1: To introduce the students to the structure of Local self Govt. of Maharashtra
CO2: To make students aware of the various local self Govt. institutions, their functions, compositions and importance.
CO3: know the identify the role of Local self Govt. & Local leadership.
CO4: know the challenges before local self-Government.
CO5:Studying the Organisation of the Union Government and State Government.
CO6: Examining the Institutions of Local Self Government in India

13. Semester VI CC-2 E (3) Local Self-Government in Maharashtra: (36164)

COS:1 Understand the basic structure of Panchayati Raj and the emerging trends of local politics in India.

COS:2 Know about political process in local self-government.

COS:3 Critically analyse the Issues and challenges of local self-government in U.K. state

COS:4 Understand the Leadership in Local governments.

COS:5 Understand the financial issues in local government.

COS:6 Understand the role of women in local self-government.

PUBLIC ADMINISTRATION

14. Semesters- DSE 1 C (3) +1, V(Public Administration)(35161)

COS:1 To know the Public Administration meaning, nature & scope.

COS:2 To know the evaluation, salient features & goals of Public Administration.

COS:3 To know the various approaches of Public Administration.

COS:4 Understand the Governance types.

COS:5 Understand the role & Function of Bureaucracy in Public Administration.

COS:6 To know the E-Governance.

PUBLIC ADMINISTRATION

15. Semesters- DSE 1 D (3) +1, VI(Public Administration)(36161)

COS:1 To know the Personnel Administration & its types.

COS:2 To know the financials aspects of public administration

COS:3 To know Budgetary process in public administration.

COS4: To know administrative accountability.

COS:5 Understand the Administrative reforms.

COS:6 To know new aspects of Personal administration.

Semester – DSE 2 C (3) +1V (INTERNATIONAL RELATIONS)(35162)

16.

COS:1 To know the meaning, nature & scope of International Relation.

COS:2 To know approaches of International Relation.

COS:3 Understand the World war and its causes.

COS4: Understand emerging of cold war & end of cold war.

COS:5 Understand the International organisations.

COS:6 Understand the regional organizations.

Semesters- DSE 2 D (3) +1 VI(INTERNATIONAL RELATIONS)(36162)

17.

COS:1 To know the theory of non-Alignment.

COS:2 To know meaning, nature & scope of Globalization.

COS:3 To know International Economy.

COS4: To know contemporary Global issues.

COS:5 Understand international terrorism.

COS:6 Understand the theory of Human rights.

TYBA Skill Enhancement Course

18. SemesterV SEC2C(2): (Samyukta Maharashtra Movement) (35165)

COS:1 To know the Languagist politics of the India.

COS:2 To know the Resionalism of the India.

COS:3 To know samyukta Maharahtra movement.

COS:4 To know the Nature of samyukta Maharahtra movement.

COS:5 To understand the nature of movements of pre Maharashtra.

COS: 6 To know the Languge based state creation.

19. Semester VI SEC 2D (2) Samyukta Maharashtra movement (36165)

COS:1 To know the Samyukta Maharashtra Committee.

COS:2 To know the participated in election of samyukta movement committee.

COS:3 To know Nagpur Act .

COS:4 To know the marty in samyukta Maharahtra movement.

COS:5 To understand the nature of samyukta Maharashtra movements

COS: 6 To know the Importance of Samyukta Maharashtra movement.

Course Outcomes (COs)

Department of Economics (UG)

FYBA Economics General Paper- I

Semester I/II- Indian Economic Environment

CO1: Understand the recent development in the Indian Economy.

CO2: To help the student to prepare for varied competitive examinations.

CO3: Understand the Background of the Indian economy with focus on contemporary issues like economic environment.

CO4: Understand and comprehend the current business scenario, Agricultural scenario and other sectorial growth in the Indian context.

SYBA Economics General Paper -II

Semester I/II- Financial System

CO1: To Understand Principals and Function of Commercial Banks.

CO2: To Understand New Technology in Banking.

CO3: To Understand Co-Operative Banking in India.

CO4: To Understand Operation and types of Account.

SYBA Economics Special Paper -I

Semester I/II- Micro Economics

CO1: To understand the behavior of an economic agent.

CO2: Analysis of production function and equilibrium of producer.

CO3: To understand Consumer, Producer, factor owner and Price fluctuation in a market.

CO4: To understand Market Structure: Income, Price, Supply, and Elasticity in market.

SYBA Economics Special Paper -II

Semester I/II- Macro Economics

CO1: Familiarize the students to basic concepts Macro Economics and application.

CO2: To understand the type of national income concepts and measurements.

CO3: To understand the inflation and business cycle and Monetary Policy and Fiscal Policy.

CO4: The theory of Employment, Consumption and Investment.

SYBA Skill Enhancement Course

Semester I/II- Basic Concept of Research Methodology

CO1: Demonstrate his/her understanding of sampling methods and ability to use collection of data.

CO2: Identify the appropriate sample techniques for different kinds of research questions.

CO3: Identify the appropriate source of data in relation to the collection of research data.

CO4: Able to classify and present the collected data in the form of Graph bar, Diagram, Chart etc.

TYBA Economics General Paper -III

Semester I/II- Indian Economic Development

CO1: To relate and recognize the concept and indicators of Economic Development.

CO2: To describe and analyze the concept and indicators of human development.

CO3: To explain the characteristics of developing and developed contries.

CO4: To describe and explain the relation between economic development and environment.

CO5: To describe and explain the changing structure of planning process in India.

TYBA Economics Special Paper -III

Semester I/II- International Economics

CO1: Ability to comprehend the issues relating to foreign capital and regional and international co-operation.

CO2: To explain and comprehend the issues relating to terms of trade and balance of payment.

CO3: Ability to relate and explain the Concepts of exchange rates and foreign exchange market.

CO4: To describe and apply the theories of International Trade.

CO5: Ability to describe the trends in growth, composition and direction of India's foreign trade.

TYBA Economics Special Paper -IV

Semester I/II- Public Economics

CO1: To relate and recognize the nature and scope of public finance.

CO2: To describe and analyze to concept of public revenue and its components.

CO3: To understand Center – State financial relationship

CO4: To understand meaning, nature and objectives of budget.

CO5: To understand public debt, deficit financing and fiscal policy.

TYBA Skill Enhancement Course

Semester I/II- Business Management

CO1: Business Planning and decision making.

CO2: Leadership skill- Ability to work in teams at the same time, ability to show leadership qualities.

CO3: Ability of business of management.

CO4: Analytical skill- Ability to analyze data collected and interpret in the most logical Manner.

CO5: Project report writing skills- Ability to comprehend and illustrate / demonstrate findings.

CO6: Leadership skill- Ability to show leadership skill with business ideas or work on business ventures as a practical example.

Course Outcomes (COs)

Department of Economics (PG)

M.A .F.Y Economics

Semester I/II- Micro Economics

CO1: To enable students to apply micro economic concepts in various contexts.

CO2: To provide understanding of the principles of economics.

CO3: To discuss the modern developments in micro economics such as Modern Demand theories.

CO4: To discuss the modern developments in micro economics such as Game Theory.

Semester I/II- Public Economics

CO1: To develop an understanding of various policies in public economics like Fiscal Policy, Public Debt Policy, Fiscal Finances, etc.

CO2: To help the students to understand the normative policies and compare it with the policies framed and followed by Indian economy.

CO3: To important information to students about the reforms like taxation reforms In India.

CO4: To discuss and deliberate on the concepts and theories in public economies Like public policy, principles of taxation, theories of public expenditure, etc.

Semester I- International Trade

CO1: To develop an understanding of the theoretical concept in international trades.

CO2: To analyse international economics with reference to terms of trade, trade policy, Trade agreements etc.

CO3: To provide knowledge to students regarding recent developments and changes in International banking agreements etc.

CO4: To make able the students to understand role of international economic organization and Global crisis development.

Semester II -International Finance

CO1: To develop an understanding of the theoretical concept in international finance Of Payments, exchange rate policies, capital flows, etc.

CO2: To compare and contrast the scenarios on international trade in India vis-à-vis

The world economy.

CO3: To provide knowledge to students regarding recent developments and changes in International banking, international banking agreements etc.

CO4: To make the students understand role of international economic organization and Global crisis development.

Semester I- Agriculture Economics

CO1: To develop an understanding of agricultural economics in the theoretical as Well as practical context.

CO2: To discuss and debate the various issues and challenges faced by agrarian Economies w.r.t. production, productivity, efficiency, employment, etc.

CO3: Ability to analyse and evaluate the subject with reference to various aspects of agrarian economies.

CO4: Ability to develop an understanding of agriculture with its intricacies and Imperfections and to be able to construct intellectual dialogue on the Challenges of agriculture.

Semester II- Labour Economics.

CO1: To develop an understanding of labour economics in the theoretical as well as Practical context.

CO2: To discuss and debate the various issues and challenges faced by labour with reference to division of labour, employment, wage determination, etc.

CO3: To demonstrate on the various aspects of labour dynamics and labour relations w.r.t. India

CO4: Ability to analyse and evaluate the subject with reference to various aspects of Labour economics.

CO5: Ability to develop an understanding of the labour with its intricacies and Imperfections and to be able to construct intellectual dialogue on the Challenges of labour w.r.t. the Indian Economy.

M.A.S.Y Economics

Semester III/IV Macro Economics

CO1: To understanding of the principles of macroeconomics and the application of Macroeconomic concepts in real-life situations.

CO2: To discuss the modern developments in macroeconomics.

CO3: To understanding of the principles of macroeconomics and the Application of macroeconomic concepts in various contexts.

CO4: To analyse and demonstrate knowledge of the basic theories/laws in economics- general equilibrium psychological law of consumption, etc.

Semester III/IV Growth and Development

CO1: To understanding of the basic concepts and process to measure the growth and economic development etc.

CO2: To analyse and evaluate the obstacles in the process of economic growth and development

CO3: To understanding the concepts of economic growth and compare international comparison of economic development, etc.

CO4: To analyse and demonstrate knowledge of the economic growth and development Theories of economic growth and development

Semester III- Demography

CO1: To demonstrate the practical and the applied aspects of Demography and the study of Population and its relation with Economics.

CO2: To understand the population studies and demography.

CO3: To understand the census-growth rate and population sex ratio in India

CO4: To understand the labour force participation trends and levels in India.

Semester III- Research Methodology

Semester IV- Research Project

CO1: To understanding of Research and its methods under various areas of Economics.

CO2: To understand the practical and the applied aspects of research in relation to Economics.

CO3: To create ability to develop, demonstrate and examine topics under Economics to pursue Research among the students.

CO4: To create ability to evaluate and examine subject areas in economics and explore possibilities of research among the students.

Semester IV- Economics of Environment

CO1: To Develop and Understand of the economics of environment in the theoretical as well as practical context.

CO2: To Discuss on various analytical tools to comprehend and various environmental issues.

CO3: To create ability to analyse and evaluate the subject with reference to various aspects of the Economics of environment.

CO4: To create ability to develop and Understand of the economics of environment and various Analytical tools to comprehend environmental issues.

Department of Geography CO's

FYBA Geography General-I

Semester I: CC-1A Gg 110 (A) Physical Geography (11201)

Student will able to

CO1: Know the basic concepts in Physical geography.

CO2: Students will understand the utility and application of Physical geography in different regions and environment.

CO3: Students will be aware about Earth system (Lithosphere, Atmosphere, Biosphere and Hydrosphere)

CO4: They understand how the planetary and periodic wind and pressure belt related to each other.

CO5: The geographical maturity of students in their current and future courses shall develop.

CO6: The student develops theoretical, applied and computational skills

Semester II: CC-1B Gg 110 (B) Human Geography (11202)

CO1: The students will be aware of the scope and contents of human geography.

CO2: Man's adaptation in various environments.

CO3: This particular module aims to develop an idea about the world population distribution and the factors that lead to uneven distribution of the population. It also focuses on the problem that is likely to arise due to an increase in the world population.

CO4: Different types of settlement and characteristics and their definitions.

CO5: Types of agriculture, factors affecting on agriculture activity and problems of Indian agriculture.

CO6: Know about population –resource relationship.

SYBA Geography General-II

Semester III:

CC-1C Gg 210 Environmental Geography (G-2) (23204)

Student will able to

CO1: To create the awareness about dynamic environment among the student.

CO2: To acquaint the students with fundamental concepts of environment geography for development in different areas.

CO3: To make aware the students with meaning, concept, definition and Types of Ecosystem.

CO4: To make aware the students about the problems of environment, their utilization and conservation in the view of sustainable development

CO5: The student will be aware about Environmental Pollution, causes, effects and control measures.

CO6: The student develops theoretical, applied and computational skills.

Semester IV: CC-1D Gg 210 Environmental Geography (G-2) (24204)

CO1: Gain knowledge about meaning, concept and classification of environmental disaster.

CO2: Develop an idea about human-environment relationships.

CO3: Understand the Global Warming and Climate Change.

CO4: Build an idea about environmental planning and management.

CO5: Know about environmental programs and policies.

CO6: Apply the knowledge in real life situation.

TYBA Geography General-III

Semester V: CC-1E Gg 310 Geography of Disaster Management (G-3) (35204)

Student will able to

CO1: Students would be aware of the concept of disaster and its relationship with geography.

CO2: Understand the definition, classifications of hazards and disaster.

CO3: Understand terminology and concepts used in disaster management.

CO4: Develop an idea about factors, consequences and management of earthquake, landslide, flood and drought**.**

CO5: Know the Causes, effects, area and management of Various Disasters Like (Cyclones, Droughts, Floods, Earthquakes, Landslides and Tsunami)

CO6: Assess risk, perception and vulnerability with respect to hazards

Semester VI: CC-1F Gg 310 Geography of Disaster Management (G-3)

CO1: Understand the Anthropogenic disaster and their management.

CO2: Differentiate global issues and describe their causes, effects and remedies

CO3: Elaborate structural and nonstructural measures used in Disaster Management.

CO4: Know the management of Indian and Global Disasters (a) Tsunami in Indian Ocean-2004, b) Kedarnath Cloud Burst-2013, c) Fukushima Nuclear disaster- 2011)

CO5: Examine the different types of disaster in India.

CO6: Apply the Knowledge as personals in disaster management department.

3. Semester: (Democracy, Election and Governance) (22999)

CO1: Understand the Election Process of India.

CO2: Understand the basics of Indian Democracy.

CO3: Understand the Democratic values

CO4: Understand the Democratic principles

CO5: Understand the structure of the Indian Election Commission

CO6: To know the Government structure of the India

Programme Outcomes: Faculty of Science

After completion of B.Sc. degree, the students will be able to

PO1: Understand research methods and analysis of data. They can make conclusions based on research.

PO2: Use appropriate techniques and instruments for various practicals.

PO3: Understand social and cultural issues are well as civic responsibilities and ethical values.

PO4: Able to communicate effectively.

PO5: There is in the scientific temper.

PO6: Apply scientific principles in day to day life for the welfare of the society.

PO7: Recognize the need of the society.

PO8: Utilize & manage the different types of resources.

PO9: Understand environmental issue & find out solution for it.

PO10: Become professional personal required for various sectors.

PO11: Understand civic responsibilities.

PO12: Develop moral values and characters and their use.

PSOs

B.Sc. Chemistry

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

PSO1: Students can gain knowledge through theory , demonstrations and practical's

PSO2: Students can handle different instruments / equipment's.

PSO3 : They can develop analytical skill and numerical problem solving skills using different chemical formulae / methods.

PSO4: They can understood safety rules and good laboratory practical's

PSO5: They can use modern chemical tools and chemistry software's.

PSO6: Students can explain IUPAC nomenclature, reactions, mechanisms, Stereochemistry of different chemical reactions.

PSO7: Students can gain knowledge about fundamentals & application of chemical & scientific theories.

PSO8: They understand the causes of environment, pollution control.

PSO9: They become familiar with different branches of chemistry like organic, Inorganic, Physical, Analytical, Industrial, polymer, Biochemistry.

COs B.Sc. Chemistry

F.Y.B.Sc. Chemistry

Semester-I

CH-101 : Physical Chemistry

Students will able to

CO1: Apply thermodynamic principles to physical and chemical process.

CO2: Calculations of enthalpy , Bond energy, Bond dissociation energy , resonance energy

CO3: Exergonic and endergonic reaction.

CO4: Gas equilibrium, equilibrium constant and molecular interpretation of equilibrium constant.

CO5: Concept to ionization process occurred in acids, bases and pH scale

CO6: Degree of hydrolysis and pH for different salts , buffer solutions.

CH-102 : Organic Chemistry

Students will able to

CO1: The students are expected to understand the fundamentals, principles, and recent developments in the subject area.

CO2: To familiarize with current and recent developments in Chemistry.

CO3: It is expected to inspire and boost interest of the students towards chemistry as the main subject.

CO4: To create foundation for research and development in Chemistry.

CO5: Concept to ionization process occurred in acids, bases and Functional Groups.

CO6: Able to understand the concept of Stereochemistry.

CH-103 : Chemistry Practical –I

Students will able to understand

CO1: Safety symbol on labels of pack of chemicals and its meaning

CO2: What is MSDS sheets? Find out MSDS sheets of at least hazardous chemicals

CO3: Precautions in handling of hazardous substances like Conc. acids, ammonia, organic solvents, etc.

CO4: Measurement of pH of different solutions like aerated drinks, fruit juices, shampoos and Soaps

CO5: Determine ΔH and ΔS for the following chemical reactions.

CO6: Perform Organic and Inorganic qualitative analysis.

Semester-II

CH-201 :Inorganic Chemistry

Students will able to

CO1: Understand the Various theories and principles applied to revel atomic .

CO2: Understand to Origin of quantum mechanics and its need to understand structure of hydrogen atom.

CO3: Understand the Shapes of orbitals

CO4: Understand the Define various types of chemical bonds- Ionic, covalent, coordinate and metallic bond

CO5: Understand the Summarize Born-Lande equation and Born-Haber cycle

CO6: Understand the Attainment of stable electronic configurations.

CH-202 : Analytical Chemistry

Students will able to

CO1: Analytical Chemistry –branch of chemistry.

CO2: Applications of pH meter

CO3: Relation between molecular formula and empirical formula.

CO4: SI units, distinction between mass and weight.

CO5: Separation of binary mixtures and analysis.

CO6: Basics of chromatography and types of chromatography.

CH-203 : Chemistry Practical –II

Students will able to understand

CO1: Inorganic Estimations using volumetric analysis.

CO2: Synthesis of Inorganic compounds.

CO3: Purification of organic compounds.

CO4: To development of practical skills of the students.

CO5: Use of microscale techniques wherever required.

CO6: The practical course is in relevance to the theory courses to improve the Understanding of the concepts.

S.Y.B.Sc. Semester – III

CH-301 : Physical and Analytical Chemistry

Students will able to

CO1: Classification of given processes into physical and chemical adsorption.

CO2: Classification of Adsorption Isotherms, to derive isotherms.

CO3: Apply adsorption process to real life problem.

CO4: Solve / discuss problems using theory.

CO5: Explanation of adsorption results in the light of Langmuir adsorption isotherm, Freundlich's adsorption Isotherm and BET theory.

CO6: Discuss factors influencing adsorption, its characteristics, differentiates types as physisorption and Chemisorption.

CH-302: Inorganic and Organic Chemistry

Students able to

CO1: Define terms related to molecular orbital theory.

CO2: Explain and apply LCAO principle for the formation of MO's from AO's.

CO3: Draw and explain MO energy level diagrams for homo and hetero diatomic molecules. Explain bond order and magnetic property of molecule.

CO4: Identify and draw the structures alkyl / aryl halides from their names or from structure name can be assigned.

CO5: To correlate reagent and reactions of alcohols / phenols

CO6: Discuss the mechanism of various reactions involved.

CH-403 : Chemistry Practical – IV

Students able to

CO1: Verify theoretical principles experimentally.

CO2: Interpret the experimental data on the basis of theoretical principles.

CO3: Understand systematic methods of identification of substance by chemical methods.

CO4: Perform the quantitative chemical analysis of substances explain principles behind it.

CO5: Systematic working skill in laboratory will be imparted in student.

CO6: Write balanced equation for the chemical reactions performed in the laboratory.

Semester – IV

CH-401: Physical and Analytical Chemistry

Students able to

CO1: Explain meaning and Types of equilibrium such as true or static, metastable and unstable equilibrium.

CO2: Discuss meaning of phase, component and degree of freedom.

CO3: Define the terms in phase equilibria such as- system, phase in system, components in system, degree of freedom, one / two component system, phase rule, etc.

CO4: Description of the curve, Phase rule relationship and typical features for i) Water system ii)

Carbon dioxide system iii) Sulphur system

CO5: Derive of phase rule.

CO6: Discuss concept of distribution of solute amongst pair of immiscible solvents.

CH-402: Inorganic and Organic Chemistry

Students able to

CO1: Isomerism in coordination complexes.

CO2: Explain different types of isomerism in coordination complexes.

CO3: Apply principles of VBT to explain bonding in coordination compound of different geometries.

CO4: Identify cis- and trans-isomers of 1, 2 dimethyl substituted cyclohexane and able to compare their stability.

CO5: Apply crystal field theory to different type of complexes.

CO6: Calculate field stabilization energy and magnetic moment for various complexes.

CH-403: Practical Chemistry-IV

Students able to

CO1: Verify theoretical principles experimentally.

CO2: Understand systematic methods of identification of substance by chemical methods.

CO3: Perform the quantitative chemical analysis of substances and able to explain principles behind it.

CO4: Perform organic and inorganic synthesis and able to follow the progress of the chemical reaction.

CO5: Understand systematic methods of identification of substance by chemical methods.

CO6: Set up the apparatus properly for the designed experiments.

T. Y. B. Sc Semester I

CH-501: Physical Chemistry- I

Students will be able to:

CO1: Know the idea of wave function, De Broglie hypothesis and the uncertainty principle.

CO2: Solve the Schrodinger equation for 1D, 2D and 3D model

CO3: Understand and explain the meaning of electrical polarization of molecule, induced and orientation polarization.

CO4: Understand the Rotational spectra of rigid diatomic molecules, Vibrational spectra of diatomic molecules, selection rules, nature of spectral lines, Simple Harmonic oscillator model, Born-Oppenheimer approximation.

CO5: Know the idea of photochemical laws: Grothus - Draper law, Stark-Einstein law.

CO6: Understand the photochemical reactions: photosynthesis, photolysis, photo catalysis, photosensitization and various photochemical phenomena like fluorescence and phosphorescence, Chemiluminescence.

CH-502: Analytical Chemistry- I

Students will be able to:

CO1: Learn the basic principles in gravimetry, spectrophotometry, qualitative analysis and parameters in instrumental analysis.

CO2: Compare the different analytical terms, process and analytical methods.

CO3: Understand and explain the procedures for different types analyses included in the syllabus

CO4: Demonstrate theoretical principles with help of practical.

CO5: Select particular method of analysis if analyte sample is given to him.

CO6: Solve the problems on the basis of theory.

CH-503: Physical Chemistry Practical – I

Students will be able to:

CO1: Determine the specific refractivity's, molecular refractivity, molar refraction of homologues methyl, ethyl and propyl alcohol and refractive index

CO2: Determine the normality of citric acid in given fruit by titrating it against standard NaOH solution by conductometric method.

CO3: Determine the molecular weight of a high polymer by using solutions of different concentrations.

CO4: Determination Simultaneously Cu2+ and Ni2+ ions by colorimetry method

CO5: Determine the relative strength of monochloro acetic acid and acetic acid conductometrically

CO6: Analyze of Riboflavin from vitamin supplementary capsules / syrup / tablet sample by Photoflurometry

CH-504 Inorganic Chemistry- I

Students will be able to

CO1: Know the structure, bonding, magnetic properties of various molecules.

CO2: Know the co-ordination chemistry and meaning various terms in co-ordination chemistry.

CO3: Know the application of compounds in various fields.

CO4: Know the various theories like valance bond theory, Cristal field theory and molecular orbital theory.

CO5: Know the lanthanides and actinides and their applications.

CO6: Know the Chemistry of transition elements.

CH-505 Industrial Chemistry

Students will be able to

CO1: Understand the basic concepts of unit operation and unit process.

CO2: Understand the raw materials, chemical reactions, industrial processes of various industries.

CO3: Understand the Synthesis of different industrial products and their uses.

CO4: Understand the flow charts of various Industrial processes.

CO5: Understand the various pollution control processes.

CO6: Understand the Physico-chemical principles of various processes.

CH- 506 Inorganic Chemistry (Practical-I)

Students will be able to

CO1: Understand the weights of various compounds by gravimetric analysis.

CO2: Understand the various titrations such as volumetric and colorimetric.

CO3: Understand the various techniques such as paper chromatography and column chromatography.

CO4: Understand the Inorganic qualitative analysis.

CO5: Understand the various preperation of complexes.

CO6: Understand the various techniques of analysis.

CH-507: Organic Chemistry - I

Students will able to

CO1: Define and classify polynuclear and hetreonuclear aromatic hydrocarbons.

CO2: Write the structure, synthesis of polynuclear and hetreonuclear aromatic hydrocarbons.

CO3: Describe the synthesis of chemical reactions of polynuclear and hetreonuclear aromatic Hydrocarbons.

CO4: Understand meaning of active methylene group.

.**CO5:** Know reactivity of methylene group.

CO6: Explain the reactivity of polynuclear and hetreonuclear aromatic hydrocarbons.

CH-508: Chemistry of Biomolecules

Students will able to

CO1: Know the difference between a bacterial cell, Plant cell and animal cell. Biological composition and organization of cell membrane, structure and function of various cell organelles of plant and animal cell.

CO2: Understand the types of carbohydrates and their biochemical significance in living organisms, structure of carbohydrates and reactions of carbohydrates

CO3: Know the types of lipids with examples, structure of lipids, and properties of lipids.

CO4: Understand types of Endocrine glands and their hormones.

.**CO5:** Know the biochemical nature of hormones.

CO6: Understand mechanism of action of lipophilic and hydrophilic hormones.

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CH-509: Organic Chemistry Practical-I

The students will be able to

CO1: Perform the quantitative chemical analysis of binary mixture, explain principles behind it.

CO2: Understand the techniques involving drying and recrystallization by various method.

CO3: Learn the basic principles of green and sustainable chemistry.

CO4: Familiarize the test involving identification of special elements.

.**CO5:** Learn systematic working skill in laboratory.

CO6: Separate, purify and analyze binary water soluble and insoluble mixture

CH-510 (B) : Polymer Chemistry

The students are expected to

CO1: Know history of polymers and names of polymer.

CO2: Understand the difference between simple and compounds polymer.

CO3: Know various ways of nomenclature.

CO4: Understand the difference between natural, synthetic, organic and inorganic polymers.

CO5: Learn the terms-Monomer, Polymer, Polymerization, Degree of polymerization, Functionality, Number average, Weight average molecular weight.

CO6: Know mechanisms of polymerization and Polymerization techniques.

CH-511 (A) Environmental Chemistry

Students will be able to understand

CO1: The concept and scope of Environmental Chemistry.

CO2: The water resources

CO3: The Classification of water pollutants

CO4: The analytical techniques in water analysis

CO5: The methods of water treatments.

CO6: Trace elements in water.

Semester II

CH-601: Physical Chemistry-II

The student will be able to

CO1: Know and explain Electrochemical cells, Daniel cell, Conventions to represent electrochemical cells, Reversible and irreversible cells with suitable example

CO2: Understand primary reference electrode (SHE) Secondary reference electrodes: The calomel electrode, The glass electrode, The silver-silver chloride electrode.

CO3: Understand types of Reversible electrodes: Metal-metal ion electrodes, Amalgam electrodes, Gas electrodes, Metal-metal insoluble salt electrodes, Oxidation-reduction electrodes

CO4: Learn the methods of Crystal structure analysis: The Laue method and Braggs method, Derivation of Bragg's equation

CO5: Know types of radioactive decay, Kinetics of Radioactive Decay, Half-life, average life and units of radioactivity

CO6: Know application of radioisotopes as a tracer: Chemical investigation- Esterification, Friedel -Craft reaction and structure determination w.r.t PCl_5, Age determination use of tritium and C14 dating

CH-602: Physical Chemistry-III

Students will be able to know

CO1: Understand meaning of the terms-Solution, electrolytes, nonelectrolytes and colligative properties: Lowering of vapour pressure, Elevation of boiling point, depression in freezing point and Osmotic pressure.

CO2: Learn application of colligative properties to determine molecular weight of nonelectrolyte, abnormal molecular weight, Relation between Vant Hoff's factor and degree of dissociation of electrolyte by colligative property

CO3: Know the factors affecting on solid state reactions and applying rate laws for solid state reactions

CO4: Understand Conductors, insulators and Semiconductors

CO5: Understand and explain role of impurity in transformation of insulator into semiconductor

CO6: Know History, Classification, Molecular weight, Chemical bonding & Molecular forces and Practical significance of polymers.

CH-603: Physical Chemistry Practical-II

Students will be able to

CO1: Determine the PKa value of given monobasic weak acid by potentiometric titration.

CO2: Determine the amount of NaCl in the given solution by potentiometric titration against silver nitrate.

CO3: Determine the degree of hydrolysis of aniline hydrochloride.

CO4: Determine plateau voltage, the resolving time of GM counter and E_{max} of beta particle

CO5: Determine the molecular weight of a given polymer by turbidometry

CO6: Determine the composition of Zinc Ferro cyanide complex potentiometrically

CH 604- Inorganic Chemistry-II

Student will be able to

CO1: Know methods of synthesis of binary metal carbonyls.

CO2: Know the phenomenon of catalysis its basic principles and terminologies.

CO3: Identify the biological role of inorganic ions and compounds.

CO4: Know their types of inorganic polymers.

CO5: Understand preparation of inorganic solids by various methods.

CO6: Understand the role of metals in non-enzymatic process.

CH 605- Inorganic Chemistry-III

Student will be able to

CO1: Know the concept of acid base and their theories

CO2: Know the nature of solids.

CO3: Know different zeolite frameworks.

CO4: Know the properties and applications of Nano particles.

CO5: Know toxic chemicals in the environment

CO6: Know the impact of toxic Chemicals on enzyme

CH 606- Inorganic Chemistry Practical-II

Student will be able to

CO1: know the technique of volumetric estimations.

CO2: know the technique of column chromatography.

CO3: know the technique of nanomaterial synthesis.

CO4: know the technique of flame photometry.

CO5: know synthesis of amine complexes.

CO6: know the different analytical techniques.

CH-607: Organic Chemistry-II

Students will be able to

CO1: Learn the interaction of radiations with matter, different regions of electromagnetic radiations, different wave parameters.

CO2: Understand the principle of UV spectroscopy and the nature of UV spectrum.

CO3: Calculate maximum wavelength for any conjugated system and from the value of λ-max they will be able to find out the extent of conjugation in the compound.

CO4: Understand the principle of IR spectroscopy, types of vibrations and the nature of IR spectrum.

CO5: Find out IR frequencies of different functional groups present in the compound.

CO6: Understand the principle of mass spectroscopy, its instrumentation and nature of mass spectrum.

CH-608 Organic Chemistry-III

Students will be able to understand

CO1: Retrosynthetic Analysis.

CO2: Organic Reaction Mechanism.

CO3: Reagents in organic synthesis.

CO4: Classification of Natural Products

CO5: Preparation of various reagents.

CO6: Different terms in retrosynthesis

CH-609: Organic Chemistry Practical-II

The students will be able to

CO1: Achieve the practical skills required to estimations of glucose and glycine.

CO2: Achieve the practical skills required to Saponification value of oil.

CO3: Defines the basic parameters in chromatography

CO4: Explain "fingerprint region" of an infrared spectrum can used in the identification of an unknown compound.

CO5: Explain "fingerprint region" of an infrared spectrum can used in the identification of an unknown compound.

CO6: Understand use NMR spectra to determine the structures of compounds.

CH-610 (A) : Chemistry of Soil and Agrochemicals

The students will be able to

CO1: Understood various components of soil and soil properties and their impact on plant growth.

CO2: Understood the classification of the soil.

CO3: Explores the problems and potentials of soil and decide the most appropriate treatment for land use.

CO4: Understood the Reclamation and management of soil physical and chemical constraints.

CO5: Useful in making decisions on nutrient dose, choice of fertilizers and method of application etc. practiced in crop production.

CO6: Got experience on advanced analytical and instrumentation methods in the estimation of soil.

CH-611(A): Analytical Chemistry-II

Student will be able to

CO1: Define basic terms in solvent extraction, basics of chromatography, HPLC, GC, and AAS and AES

CO2: Identify important parameters in analytical processes or estimations.

CO3: Explain different principles involved in the analyses using solvent extraction, basics of instrumental chromatography, HPLC, GC, and atomic spectroscopic techniques.

CO4: Perform quantitative calculations depending upon equations students have studied in the theory. Furthermore, student should able to solve problems on the basis of theory.

CO5: Discuss / Describe procedure for different types analyses included in the syllabus.

CO6: Select particular method of analysis if analyte sample is given to him.

Programme Outcomes of M.Sc. Chemistry

After completion of M.Sc. degree, the students will be able to

PO1: Understand research methods and analysis of data. They can make conclusions based on research.

PO2: Use appropriate techniques and instruments for various practicals.

PO3: Understand social and cultural issues are well as civic responsibilities and ethical values.

PO4: Able to communicate effectively.

PO5: There is increase in research attitude and scientific temper.

PO6: Apply scientific principles in day to day life for the welfare of the society.

PO7: Recognize the need of the society.

PO8: Utilize & manage the different types of resources.

PO9: Understand environmental issue & find out solution for it.

PO10: Become professional required for various sectors.

PSOs

M.Sc. Analytical Chemistry

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

PSO1: Improve Skill in Analytical research area.

PSO2: Understand good laboratory practices and safety.

PSO3: Know different Analytical techniques.

PSO4: Understand different separation techniques.

PSO5: Understand principle, construction and working of various instruments.

PSO6: Know extended knowledge about different Chromatographic techniques and use it for separation, quality control, research etc.

PSO7: Learn about potential uses of analytical industrial Chemistry.

PSO8: Introduce advanced techniques and ideas required in developing of Chemistry.

PSO9: Make aware and handle the sophisticated instruments/equipments.

PSOs

M. Sc. Inorganic Chemistry

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

PSO1: Analytical techniques for solids like TGA, DTA, DSC, XRD, XPS, XRF etc.

PSO2: Inorganic Reaction Mechanism and Photochemistry, Types of Mechanisms, Substitution in square planar complexes, Electron Transfer reactions, Inner and Outer sphere reactions.

PSO3: Inorganic polymers, Inorganic polymer characterization, Pre-ceramic Inorganic polymers, Applications of Inorganic Polymers.

PSO4: Make aware and handle the sophisticated instruments/equipment's.

PSO5: Understand good laboratory practices and safety.

PSO6: Zeolite Compounds and Heterogeneous Catalysis, Zeolites, Characterization of zeolite and Heterogeneous catalysis by perovskite- related oxides.

PSO7: Improve Skill in Inorganic Chemistry research area.

PSOs

M.Sc. Analytical Chemistry

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

PSO1: Improve Skill in Analytical research area.

PSO2: Understand good laboratory practices and safety.

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PSOs

M. Sc. Inorganic Chemistry

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

PSO1: Analytical techniques for solids like TGA, DTA, DSC, XRD, XPS, XRF etc.

PSO2: Inorganic Reaction Mechanism and Photochemistry, Types of Mechanisms, substitution in square planar complexes, Electron Transfer reactions, Inner and Outer sphere reactions.

PSO3: Inorganic polymers, Inorganic polymer characterization, Pre-ceramic Inorganic polymers, Applications of Inorganic Polymers.

PSO4: Make aware and handle the sophisticated instruments/equipment's.

PSO5: Understand good laboratory practices and safety.

PSO6: Zeolite Compounds and Heterogeneous Catalysis, Zeolites, Characterization of zeolite and Heterogeneous catalysis by perovskite- related oxides.

PSO7: Improve Skill in Inorganic Chemistry research area.

COs

M. Sc. I (Analytical and Inorganic Chemistry).

Semester- I

CCTP-1: CHP-110, Physical Chemistry-I.(Fundamentals of Physical Chemistry)

Students will be able to

CO1: Understand the concept of thermodynamics, Change of State, quantum Chemistry, Chemical Bonding.

CO2: Understand the concept of Rate laws, kinetics of Complex reaction, molecular reaction dynamics, enzyme catalysis.

CO3: Know about the concept of molecular thermodynamics.

CO4: student will be able to understand concept kinetics of complex reaction

CO5: Know chemical bonding.

CCTP-2: CHI-130, Inorganic Chemistry-I.

Sec.I - (**Molecular Symmetry and Chemistry of Main Group Elements)**

Students will be able to

CO1: Understand the concept visualize/ imagine molecules in 3 dimensions.

CO2: To apply the concept of point group for determining optical activity and dipole moment.

CO3: Learn the rules for constructing character tables.

CO4: Understand to find out the possible type of hybridization.

CO5 : Know the concept of SALC.

CO6 : From the previous knowledge of symmetry, students must be able to find out which modes are IR active.

Sec. II- Chemistry of Main Group Elements

CO1: Understand the concept Hydrogen and its compounds.

CO2: To apply the concept of Alkali and Alkaline Earth Metals.

CO3: Learn Boron Hydrides, preparation, structure and Bonding.

CCTP-3:CHO-150, Organic Chemistry-I.

Students will be able to

CO1: understand some fundamental aspects of organic chemistry, to learn the concept aromaticity, to understand the various types of aromaticity.

CO2: Study heterocyclic compound containing one and two hetero atoms with their structure,
synthesis and reactions.

CO3: Know the stereochemistry of organic compounds.

CO4: Study structure, formation, stability and related name reaction of intermediates like Carbocation, Carbanion, Free Radical, Carbenes .

CO5: To study rearrangement reaction with specific mechanism and migratory aptitude of different groups.

CO6: To study Ylides and their reaction.

CBOP-1: CHG – 190, General Chemistry-I,

Sec.I -Elective Option A: Introduction to Solid state of Matter

Students will be able to

CO1 : Students should be able to understand Bonding in solids – band theory.

CO2 : Electronic conductivity, Semiconductors, photoconductivity.

CO3 : Non-stoichiometry, defects and types of defects in solids, Ionic conductivity and their applications.

CO4 : Superconductivity and theory of superconductivity.

Sec.II- Elective Option-A: Inorganic Material Analysis, Synthesis and Applications.

CO1: students will be able to perform analysis of Ores and Alloys.

CO2 : students Synthesized Solid State Materials, Application of Solid State Material

CO3 : Learn addition and multiplication of matrices.

CO4: Perform introduction to matrix algebra

CO5: Know linear equations of second order, series solution method.

CCPP-1: CHP-107: Practical Course – I:

Students will be able to

CO1: Perform Statistical treatment of experiment data.

CO2 : Learn order of reaction, Bronsted primary salt effect, kinetics of oxidation of ethanol.

CO3 : Know Colorimetric and Spectrophotometric determination of ions.

CO4 : Understand Energy max of Beta radiation and absorption coefficient of Al.

Semester- II

CCTP-4: CHP-210, Physical Chemistry-II,

(Molecular Spectroscopy and Nuclear Chemistry)

Students will be able to

CO1: Understand the concept of microwave Spectroscopy Types of molecules on the basis of moment of inertia and rotational spectra of di- and poly-atomic molecules.

CO2: Correlate the application of microwave spectroscopy, infra-red spectroscopy, Raman spectroscopy.

CO3: Know the electronic spectroscopy of molecules, Mossbauer Spectroscopy.

CO4: Understand the various terms Radioactivity, Elements of radiation, Nuclear Fission.

CO5: Understand the various applications Isotope dilution analysis, Neutron activation analysis.

CCTP-5: CHI-230-Inorganic Chemistry.

Sec.I- (Coordination and Bioinorganic Chemistry)

Student will be able to

CO1: Understand find out the no of microstates and meaningful term symbols, construction of microstate table for various configuration

CO2: Hund's rules for arranging the terms according to energy.

CO3: understand interelectronic repulsion.

CO4: know the concept of weak and strong ligand fields.

CO5: Understand the concept of spectro chemical series and Nephelauxetic series

Sec.II - (Coordination and Bioinorganic Chemistry)

CO1: understand the detailed chemistry of S and P block elements w.r.t. their compounds, their reactions and applications.

CO2: To learn the advanced chemistry of boranes, fullerene, zeolites, polymers etc.

CO3: Organometallic chemistry of some important elements from the main groups and their applications.

CCTP-6:CHO – 250, Organic Chemistry-II,

Students will be able to-

CO1: MOT and will be able to extend this in predicting reaction mechanism and stereochemistry of electrocyclic reactions.

CO2: The concepts in free radical reactions, mechanism and the stereo chemical outcomes.

CO3: The basic principle of spectroscopic methods and their applications in structure elucidation of organic compounds using given spectroscopic data or spectra.

CBOP-2: CHG –290, General Chemistry-II.

Elective Option -A : Material Characterization Technique.

Student will be able to

CO1 : Different characterization technique of solids, Principle of XRD, instrumentation of powder XRD, Bragg's law, applications of XRD for crystal structure determination, numerical problems.

CO2 : Principle of SEM, instrumentation of SEM and interpretation of surface morphology of solid from SEM.

CO3 : Principle of TEM, instrumentation of TEM and interpretation of TEM images.

CO4 : Basics of X-rays, Principle of XRF, types of XRF, instrumentation, qualitative and quantitative analysis, numerical.

Sec. II Practical Course

Elective Option A: Electrochemical Method of Analysis.

Students will be able to

CO1: Understand to perform experiments of Conductometer like dissociation constant of acetic acid, Hydrolysis of ethyl acetate by sodium Hydroxide.

CO2: Student will be carried out experiment like dissociation constant of tribasic acid, strong acid and strong base by pH metrically.

CO3 : Potentiometric experiments like stability constant of complex ions, Solubility of a sparingly soluble salt.

CCPP-2: CHP-227: Practical Course-II.

Students will be able to

CO1: Students are trained in different purification techniques in organic chemistry like recrystallization, distillation, steam distillation and extraction.

CO2: Students are made aware of safety techniques and handling of chemicals.

CO3: Students are made aware of carrying out different types of reactions and their workup methods.

CO4: This practical course is designed to make students aware of green chemistry and the role of green chemistry in pollution reduction.

Semester III

M.Sc. II Analytical Chemistry

CCTP-7, CHA-390: Electrochemical and Thermogravimetric Methods of Chemical Analysis

Students will be able to

CO1: Explain instrumentation in electrochemistry and thermogravimetry.

CO2: Explain /Describe applications of electrochemistry and thermogravimetry in industry and in an analytical laboratory.

CO3: Apply / select a particular method of analysis for a sample to be analysed.

CO4: Interpret polarogram, cyclic voltammogram, pulse polarogram, thermogram, differential thermogram and DSC thermogram.

CO5: Differentiate among the various methods of electrochemistry and thermogravimetry.

CCTP-8, CHA-391: Analytical Method Development and Extraction Techniques.

Students will be able to

CO1: Understand instrumentations and methodology in analytical extraction.

CO2: Learn basic principles of analytical extraction method development and validation.

CO3: Know applications analytical extraction and method development and validation in industry and in analytical laboratories.

CO4: Understand a particular method of analysis for a sample to be analysed.

CO5 : Develop analytical methods for analysis of given samples. Apply statistical treatment to the analytical data. Select appropriate parameters for the development of analytical method.

CCTP-9, CHA-392: Advanced Chromatographic Methods of Analysis

Student will be able to

CO1: Know instruments in chromatography (GC and HPLC) and mass spectroscopy.

CO2: Understand) basic principles of chromatography (GC and HPLC) and mass spectroscopy.

CO3: Understand Functioning and construction of GC / HPLC/ MS detectors.

CO4: Learn applications of chromatography (GC and HPLC) in industry and in analytical laboratories.

CO5: Differentiate GC and HPLC chromatogram, Mass spectrum.

CBOP-3, CHA-393: B) Analysis of Food and Controlled Substances

Student will be able to

CO1: Know various terms in food analysis techniques and methods, forensic science and drug substances.

CO2: Know methods and principles of analysis of i) Food - carbohydrates, proteins, preservatives, ii) drug substances.

CO3: Learn methods of food analysis for its quality.

CO4: Understand Method of identification of drug and analysis of drug from sample.

CO5: Select and describe the parameters required for food quality, Solve numerical problems on analysis of food and drug substances.

CCPP-3: CHA-394 Practical I: Basics of Instrumental Methods of Chemical Analysis

students will able to-

CO1: Understand Maintain proper record of analytical data in notebook. Observe personal safety in the laboratory and be able to handle all chemicals, instruments, etc. safely in the laboratory.

CO2: Know various terms involving practical methods of quantitative analysis.

CO3: Learn Instruments like colorimeter, spectrophotometer, photofluorometer, TGA, HPLC, GC, Flame-photometer, AAS, etc.

CO4: Understand basic principles of chromatography and different instrumental methods of analysis. Able to handle particular instruments according to SOP.

CO5: Learn mathematical treatment of analytical data and be able to interpret the results accurately.

CO6 : Differentiate among the various analytical methods / techniques of chemical analysis.

Semester IV

CCTP- 10, CHA-490: Advanced Analytical Spectroscopic Techniques.

students will able to-

CO1: Understand various terms in atomic absorption, atomic emission, fluorescence,ESR and electron spectroscopy.

CO2: Explain instrumentation of atomic absorption, atomic emission, ICPAES, ICP MS-MS,fluorescence, ESR and electron spectroscopy.

CO3: To describe basic principles of atomic absorption, atomic emission, ICPAES, ICP AES-MS, fluorescence, ESR and electron spectroscopy.

CO4: Interpret ESR spectra, super hyperfine splitting and g value in ESR, and parameters affecting it.

CCTP-11, CHA-491: Chemical Methods of Pharmaceutical Analysis.

students will able to-

CO1: Understand various terms in pharmaceutical raw material and finished product analysis.

CO2: Learn various pharmaceutical dosage forms and types of raw materials used, particular test in pharmaceutical raw material and finished product analysis.

CO3: Perform and explain importance of limit tests, identification tests and microbiological limit tests of raw materials and finished products.

CO4: Students Interpret IR spectra, HPLC chromatogram, UV-Visible spectra of pharmaceutical materials.

CO5: To perform total analysis of pharmaceutical raw material and finished product analysis according to IP / BP / USP.

CO6: Standardize analytical instruments according IP /BP/ USP.

CBOP- 4,CHA-492: B) Analytical Chemistry of agriculture, Polymer and Detergents.

students will able to-

CO1: Know various terms in soil analysis, pesticide residue analysis, detergent analysis and polymer analysis.

CO2: Understand techniques / methods of soil analysis, pesticide residue analysis, detergent analysis and polymer analysis.

CO3 : Understand basic principles techniques / methods soil analysis, pesticide residue analysis, detergent analysis and polymer analysis.

CO4: Choose suitable method / techniques to characterize quality of soli polymer and detergent.

CBOP-5, CHA-493: A) Optional Analytical Chemistry Practical.

students will able to-

CO1: Maintain proper record of analytical data in notebook. Observe personal safety in the laboratory and be able to handle all chemicals, instruments, etc safely in the laboratory.

CO2 : understand various terms involving practical methods of quantitative analysis.

CO3: To analyze organic and inorganic materials using appropriate chemical / instrumental Methods.

CO4: Understand basic principles of chemical / instrumental methods used for analysis. Able to handle particular instruments according to SOP.

CO5: Perform analysis of sample with described procedure. Able to handle analytical instruments.

CO6: Apply / select particular method / instrumental parameters for analysis of given sample.

CCPP-4, CHA-494: Practical III: Applied Analytical Chemistry

Students will able to-

CO1: Maintain proper record of analytical data in notebook. Observe personal safety in the laboratory and be able to handle all chemicals, instruments, etc safely in the laboratory.

CO2: Understand various terms involving practical methods of quantitative analysis.

CO3: To analyse organic and inorganic materials using appropriate chemical / instrumental methods

CO4: Understand basic principles of chemical / instrumental methods used for analysis, Able to handle particular instruments according to SOP.

CO5: Perform analysis of sample with described procedure. Able to handle analytical instruments.

CO6: Select particular method / instrumental parameters for analysis of given sample, Maintain appropriate reaction conditions as described in procedures.

M. Sc. - II Inorganic Chemistry

Semester – III

CCTP-7 CHI-330 : Organometallic Chemistry & Homogeneous catalysis

Students will be able to

CO1: Understand d-block metal carbonyls

CO2: To study sigma complexes. :Synthesis,bonding,properties and applications.

CO3:Learn Metal-Carbon multiple bonded compounds Carbene and carbynes

CO4: know the Basic principles, Definition of activity selectivity catalysis.

CO5: Students' homogeneous vs. heterogeneous catalysis.

CCTP-8 CHI-331 :Inorganic Reaction Mechanism, Photochemistry and Magnetic

Students will be able to

CO1: Understand Inorganic Reaction Mechanism

CO2: To study Reactions of coordinated ligand

CO3:Learn concepts Photochemical reactions

CO4: To Study Magnetic Properties

CO5:Students will be able to know the Electron Transfer reactions.

CCTP-9 CHI-332Bioinorganic chemistry

Students will be able to

CO1: Understand biological roles of Metals and ligands

CO2: Know Inorganic Pharmaceuticals

CO5:Understand Inorganic Medicinal Chemistry

CO3: To Study Gold Complexes with Anti-arthritic, anti-tumor and Anti-HIV activity

CO4: Know Therapeutic Radiopharmaceuticals.

CO5:Understand Inorganic Medicinal Chemistry

CBOP-3 Theory CHI-333: Modern Instrumental Methods in Inorganic Chemistry

Students should be able to

CO1: Understand Instrumental methods of analysis.

CO2: KnowThermal techniques.

CO3: Learn Spectroscopic techniques.

CO4: Know Imaging techniques.

CO5: Students know Analytical techniques.

CCPP-3 Practical CHI-334: Modern Methods of Inorganic Analysis

Students will be able to

CO1: LearnAnalysis of Cement.

CO2: Know Purity & Percentage of Metal in Coordination Complexes.

CO3: Learn Analysis Ilmenite Ore Stainless steel.

CO4: To know Flame photometry.

CO5: Students Know Photometric Titrations.

Semester-IV

CCTP-10 CHI-430: Heterogeneous Catalysis and its Applications

Students will be able to

CO1: Understand Principles of Heterogeneous Catalysis.

CO2: Know Development of industrial heterogeneous catalysis.

CO3: Learn Applications of Heterogeneous catalysis.

CO4: To know Shape selective catalysis.

CO5: Catalysis in Environmental Protection.

CCTP-11 CHI-431: Inorganic Nanomaterials: Properties, Applications and Toxicity

Students will be able to

CO1: Understand Nanoscience

CO2: Know Nanotechnology

CO3: Learn applications of nanomaterials

CO4: To know Nanotoxicology.

CO5: Learn about Nanobiotechnology.

CBOP-4 Theory CHI-432: A) Material Science

Students will be able to

CO1: understand Magnetic Materials.

CO2: Know Magnetic Materials.

CO3: Learn Superconducting materials

CO4: Know Ceramic Materials.

CO5: Learn Ceramic, composite, Cementitious and Bio Materials.

CBOP-5 Practical CHI-433: A) Extended Practical in Inorganic Chemistry

Students will be able to understand

CO1: Learn Preparation and Purity of following complexes of DMG,8-hydroxy quinoline,

Salicylaldoxime,Thiourea.

CO2: Know UV-Visible spectroscopy.

CO3: Learn Magnetic susceptibility.

CO4: Understand Principles Thermogravimetric analysis.

CO5: Learn IR, Solution conductivity.

CCPP-4 CHI-434 Practical II-

Section-I: Inorganic Instrumental analysis and Computer applications

Section-II: Preparation of Inorganic Compounds

Students will be able to understand

CO1: Learn Magnetic Susceptibility.

CO2: Know Thermogravimetric studies.

CO3: Learn Table work – Four techniques IR, ESR, XRD, CV, NMR.

CO4: Understand Photochemical reactions.

CO5: Learn Preparation of Inorganic compounds.

Department of Botany

Course outcomes

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

F.Y. B.SC.Semester-I

Paper-I: Plant Life and Utilization (BO -111)

CO1: Understand Plant Diversity among Algae. Fungi, Bryophytes.

CO2: Know the External and internal characteristics of different plants.

CO3: Understand basic structure of different plants.

CO4: Know the importance of plants in human life.

CO5: Learn the importance of plant resources.

CO6: Learn management of plant resources.

Paper-II: Plant Morphology and Anatomy (BO -112)

CO1: Understand the morphological characters of plants and their parts.

CO2: Students understand importance of morphology in Taxonomy.

CO3: Know the different types of tissues and their functions.

CO4: Know the internal structure of monocot and dicot plants.

CO5: Learn the structure of root, stem, leaves, flowers and fruits.

CO6: know the importance of plant morphology in classification of plants.

Paper-III: Practicals (BO113)

CO1: Perform the practicals as per the Laboratory manuals.

CO2: Identify plants on the basis of their characters.

CO3: Understand external characters of Plants.

CO4: Know the internal structure of monocot and dicot plants.

CO5: Understand the detailed internal structure of Plants.

CO6: Know the uses of Plant Resources for various needs.

Semester-II

Paper-I: Plant Life and Utilization (BO121)

CO1: Understand Plant Diversity among Pteridophytes, Gymnosperms and Angiosperms.

CO2: Know the importance of Pteridophytes, Gymnosperms and Angiosperms

CO3:Understand the mechanism of sexual reproduction in Pteridophytes and Gymnosperms.

CO4: Understand basic structure and function of lower plants.

CO5: Know the economic importance of plants.

CO6: Know the distribution of plants on the earth.

Paper-II: Principles of Plant Sciences BO122)

CO1: Know the Physiological and physical phenomena occurred in Plants.

CO 2: Understands the effect of different conditions on the Physiological processes.

CO3: Understand structure and function of different biomolecules.

CO 4: Understand the genetic material and its role in organisms.

CO5: Know the physical phenomena occurred in Plants.

CO6: Understands the effect of different physical conditions on the plants.

Paper-III Practicals (BO123)

CO1: Perform the practicals as per the Laboratory manuals.

CO 2: Identify plants and know the uses of Plant Resources for various needs.

CO3: Perform different practicals based on theory.

CO4: Understand structure and function of different biomolecules.

CO5: Know the physical phenomena occurred in Plants.

CO6: Understands the effect of different physical conditions on the plants.

S.Y.B.Sc

Semester-III

Paper-I BO 231 Taxonomy of Angiosperms and Plant Ecology

CO1: Identify and Describe the Angiospermic plants.

CO2: Know the Economic importance of Angiospermic Plants.

CO3: Know and understand basic principles of Ecology.

CO4: Understand the importance of Tatonomy.

CO5: Know the economic importance of plants.

CO6: Know the distribution of plants on the earth.

Paper II: BO 232 Plant Physiology

CO1: Know the Physiological Process of Plants.

CO2: Understands the effect of different conditions on the Physiological processes.

CO3: Understand mechanisms of various physiological processes.

CO4: Understand the importance of Plant Physiology.

CO5: Know the basic structure of plants.

CO6: know the functions of Plants.

Paper III BO 233 Practical based on BO 231 & BO 232

CO1:Understands the basic Principles of plant Science.

CO2:Perform the practical as per the laboratory manuals.

CO3: Understands the effect of different conditions on the Physiological processes.

CO4: Understand mechanisms of various physiological processes.

CO5: Understand the importance of Plant Physiology.

CO6: know the functions of Plants.

S.Y.B.Sc Sem:- II

Paper I - BO 241 Plant Anatomy and Embryology

CO1**:**Know the Anatomical and Embryological characters of the plants.

CO2: Understand the development of Fruits and seeds.

CO3: Understands the effect of different processes.

CO4: Understand mechanisms of various growth in plants.

CO5: Understand the importance of Plant Anatomy.

CO6: Understand the importance of Plant Embryology.

Paper II BO 242 Plant Biotechnology

CO1: Understand the importance of Plant Bio-technology.

CO2: Know the applications of Plant Bio-technology in Environmental Science.

CO3: Understands the effect of different techniques of Biotechnology.

CO4: Understand mechanisms of various Biotechnological processes.

CO5: Know the commercial products obtained by biotechnology.

CO6: Know the applications of Plant Bio-technology in Medicine, Agriculture, Industry

Paper III BO 243 Practical based on BO 241 & BO 242

CO1:Understands the basic Principles of plant Science.

CO2: Perform the practical as per the laboratory manuals.

CO3: Understands the effect of different skills and processes.

CO4: Understand mechanisms of various biotechnological processes.

CO5: Understand the importance of Plant Biotechnology.

CO6: Know the commercial products obtained by biotechnology.

Department of Physics

Cos

F.Y.B.Sc Physics

Semester –I Mechanicsand properties of PHY-111 Matter

Student will able to

CO 1 -Through understanding about Work, Energy, forces, velocity, acceleration which help student in their day to day life.

CO2 -The information will teach the studentsabout the rotating bodies

CO3 - Get the Knowledge about Surface tension, Viscosity and application of elasticity and surface tension in day to daylife.

CO4- An attempt is made to give more emphasis on essential modern concepts in physics

CO5- the concepts are illustrated and elaborated with necessary examples.

COS- Students is try to solve self physics problem

Semester –I PhysicsPrinciples and Application PHY-112

Student will able to

CO1 -To understand the different model ofatom.

CO2 -To understand the prerequisites and working principle and application of LASER.

CO3-To study different types of bonding insolids.

CO4-To demonstrate and understanding ofelectromagnetic waves and its spectrumand its applications.

CO5 -Develop quantitative and qualitativeanalysis and problem solving skills of students

CO6 –Student able to recall basic facts about principle of physics

CO7 -Understand the types and sources of electromagnetic waves and applications.

CO8 -To demonstrate quantitative problem solving skills in all the topics covered.

Semester –I PhysicsLaboratory-IA PHY-113

Student will able to

CO1 - Study the Laws ofThermodynamics

CO2 - To understand the different types ofthermometry

CO1 - To understand the mechanics and properties of matter and physics principles experimentally

CO2 –To know the precautions to taken to handle the experiments.

CO3 –To know the theory of experiment.

CO4 –To acquire a knowledge of measurement quantities in experiment.

CO5 –TO the units of measurement quantity.

Semester –II Heat andThermodynamics PHY-121

Student will able to

CO3 - To study Mechanism ofRefrigeration

CO4 – TO study of diffent types of energies

CO5 – TO study the three laws of thermodynamics

CO6 –TO study the van der waal's equationof state, thermal equilibrium ,zeroth law of thermodynamic

Semester –II Electricityand Magnetism PHY-121

Student will able to

CO1 - understand the concept of the electric force, electric field and electric potential for stationary charges.

CO2 - Able to calculate electrostatic field and potential of charge distributions using Coulomb's law and Gauss's law.

CO3 - To understand the dielectric phenomenon and effect of electric field on dielectric.

CO 4 - To Study magnetic field for steady currents using Biot-Savart and Ampere's Circuital laws.

CO 5 - To study magnetic materials and its properties.

CO 6 - Demonstrate quantitative problem solving skills in all the topics covered.

Semester –II PhysicsLaboratory-IB PHY-123

Student will able to

CO1 - To understand the mechanics and properties of matter and physics principles experimentally

CO2 –To know the precautions to taken to handle the experiments.

CO3 –To know the theory of experiment.

CO4 –To acquire a knowledge of measurement quantities in experiment.

CO5 –TO the units of measurement quantity.

S.Y.B.Sc Physics

Semesterl III Mathematical Methods in Physics PHY-231

Student will able to

CO1-Understand the complex algebra useful in physics courses.

CO2-Understand the concept of partial differentiation.

CO3-Understand the role of partial differential equations in physics.

CO4- Understand vector algebra useful in mathematics and physics.

CO5 -Understand the concept of singular points of differential equations

Semester III Electronics-I PHY-232(A)

Student will able to

CO1-Apply different theorems and laws to electrical circuits.

CO2- Understand the relations in electricity.

CO3-Understand the parameters, characteristics and working of transistors.

CO4-Understand the functions of operational amplifiers.

CO5-Design circuits using transistors and applications of operational amplifiers.

CO6-Understand the Boolean algebra and logic circuits.

SemesterIII-Physics Laboratory PHY-233(2A)

Student will able to

CO1 - Use various instruments and equipment.

CO2 - Design experiments to test a hypothesis and/or determine the value of an unknown quantity.

CO3 - Investigate the theoretical background of an experiment.

CO4 - Setup experimental equipment to implement an experimental approach.

CO5 - Analyze the data, plot appropriate graphs and reach conclusions from data analysis.

CO6 - Work in a group to plan, implement and report on a project/experiment.

CO7 - Keep a well-maintained and instructive laboratory logbook.

Semester IV Oscillations, Waves and Sound PHY-241

Student will able to

CO1-To study underlying principles of oscillations and its scope in development.

CO2-To understand and solve the equations / graphical representations of motion for simple harmonic, damped, forced oscillators and waves.

CO3 -To explain oscillations in terms of energy exchange with various practical applications.

CO4 - To solve numerical problems related to undamped, damped, forced oscillations and superposition of oscillations.

CO5 - To study characteristics of sound, decibel scales and applications.

Semester IV optics PHY-242

Student will able to

CO1 - Acquire the basic concept of wave optics.

CO2 - Describe how light can constructively and destructively interfere.

CO3 - Explain why a light beam spread out after passing through an aperture

CO4 - Summarize the polarization characteristics of electromagnetic wave

CO5 - Understand the operation of many modern optical devices that utilize wave optics

CO6 - Understand optical phenomenon such polarization, diffraction and interference in terms of the wave model

CO7 - Analyze simple example of interference and diffraction

Semester IV Physics Laboratory-2B PHY-243

Student will able to

CO1 - Use various instruments and equipment.

CO2 - Design experiments to test a hypothesis and/or determine the value of an unknown quantity.

CO3 - Investigate the theoretical background of an experiment.

CO4 - Setup experimental equipment to implement an experimental approach.

CO5 -Analyse the data, plot appropriate graphs and reach conclusions from data analysis.

CO6 - Work in a group to plan, implement and report on a project/experiment.

CO7 - Keep a well-maintained and instructive laboratory logbook.

T.Y.B.Sc. Physics

Semester III -Mathematical methods in physics II PHY-331

student will able to

CO1- Introduction to Cartesian, Spherical polar and Cylindrical co-ordinate systems, transformation equations

CO2 - Able to appreciate the process The Special Theory of Relativity

CO3 - To discuss Special functions

CO4 - To understand Differential equations

CO5 - Understand vector algebra useful in mathematics and physics.

CO6 -Understand the concept of singular points of differential equations

Semester III Solid state physics PHY-332

student will able to

CO1 - To explain Special functions

CO2 - Understanding . X ray Diffraction and Other Characterization Techniques

CO3 - Understanding . Free Electron and Band Theory of Metals

CO4- A students is able to follow the patterns involed with the help of solid state physics

CO5- Able to appreciate the process The solid state Physics

Semester III Classical mechanics PHY-333

student will able to

CO1 - Understand the mechanics of system of particles

CO2 - Get an idea on Motion in Central Force Field

CO3 - Help to explore new developments Scattering of particles.

CO4 - Enable the students to illustrate Langrangian and Hamiltonian formulation

CO5 - Develop an interest in the Canonical Transformation and Poisson's Bracket

Semester III Atomic and molecular physics PHY-334

student will able to

CO1 - To provide students with knowledge Concepts of programming:

CO2 - To enable students to understand the Structure of C program, Character set, key words,

CO3 - To enable students to reach Arrays and Pointers and User Defined Function in C

CO4. To provide students with adequate knowledge about Computational Physics

CO5- Students to understand atomic model with sun revolving with planet

Semester III Computational Physics PHY-335

student will able to

CO1. To provide students with knowledge Concepts of programming:

CO2. To enable students to understand the Structure of C program, Character set, key words,

CO3. To enable students to reach Arrays and Pointers and User Defined Function in C

CO4. To provide students with adequate knowledge about Computational Physics

CO5- Students able to carefully to handle computer program

Semester III ELEMENTS OF MATERIALS SCIENCE PHY-336(B)

student will able to

CO1. Understanding on the details . Defects in Solids

CO2. Explain the fine structure in Phase Metals Molecular Phases and Ceramic Materials

CO3. Understanding the structure and function of Phase Diagrams.

CO4- Students able to understand Application of different material of elements

CO5- Students able to understand the properties of different element of materials

Semester IV Classical elecctrodynamics PHY-341

student will able to

CO1. Understand the importance of Electrostatics:

CO2. Get an idea on tools and techniques available for studying Magneto statics:

CO3. To acquire the Concept of electromagnetic.

CO4- A students is able to recalls basic facts about classical electrodynamics

CO5- A students is able to get relation understanding concept of Classical electrodynamics and Concerned stricter

CO6- A students is able to apple concept of Classical electrodynamics to solve the problem of society.

Semester IV Quantum mechanics PHY -342

student will able to

CO1. To study Origin of Quantum Mechanics:

CO2. Learn more about Physical interpretation of wave function

CO3. Outline the basic Schrodinger's equation in spherical polar co-ordinate system

CO4. Compare the different Operators in Quantum Mechanics

CO5- A student is able to understand advanced technology

Semester IV Thermodynamics and statistical Physics PHY-343

student will able to

CO1. Discuss Assumptions of Kinetic theory of gases

CO2. Explain the Maxwell Relations and Application

CO3. Describe how Elementary Concepts of Statistics

CO4. Distinguish Statistical Distribution of System of Particles: and Statistical Ensembles

CO5- Students understand the application of thermodynamics in daily lief

Semester IV Nuclear physics PHY-344

student will able to

CO1. Explain Basic Properties of Nucleus

CO2. Describe the experiments of Radioactivity

CO3. Describe the Meson theory of nuclear forces, Properties of nuclear forces,

CO4. Explain the consequence Introduction to particle Accelerators

CO5- Students understand about nucleus

Semester IV Electronics PHY-345

student will able to

CO1. Expose to concepts and process in developmental Special Purpose Diodes and Transistor amplifier

CO2. Understand Operational Amplifier and Timer (IC555)

CO3. Introduction to SOP and POS technique in Combinational circuits

CO4- Demonstrate advanced. technology

CO5- Students able to different electronic circuit

Semester IV ELECTIVE II: Laser PHY-346(K)

student will able to

CO1. Knowledge and understanding of Introduction to Lasers:

CO2. Describe the Laser Action and Laser Oscillators

CO3 To understand Characteristics of Laser as well as Types and Applications of Lasers

CO4- Students understands Laser Technology

CO5- Students understands history of Laser

Semester IV laboratory course I

PHY-347

Student will able to

CO1 - To Study of Modulus of Rigidity of wire using Torsional Oscillations

CO2 - To Study of surface tension by Jaeger's method

CO3 - To Study of Poisson's ratio of rubber using rubber tube /rubber chord

CO4 - To Study of Spectrometer and determination of angle of prism

CO5 -To Determination of wavelength of LASER light by plane diffraction grating.

CO6 - To Study of I-V characteristics of solar cell

Semester IV laboratory course II PHY-348

student will able to

CO1 - To study Characteristics of JFET

CO2- To determine Integrator using Op-Amp, Differentiator using Op Amp

CO3 - Counting Temperature controller using PT 100 / thermocouple /thermistor temperature sensors

CO4 -study Instrumentation Amplifier

CO5 - To study the Use of Ultrasonic interferometer to measure velocity of sound in liquids

CO6- Determine Charging and discharging of capacitor and RC time constant

CO7 -To find out the first 100 prime numbers

CO8 -computing Trapezoidal and Simpson's 1/3 rule

Semester IV Physics Laboratory Course III (Project) PHY-349

CO1 - project to taken by the teacher by online/virtual activities like topic selection ,defining the problem,literature survey, review work

CO2 - writing followed by the sequence of the of project as title

CO3 -review the background, objectives, significance ,importance.

CO4 -To study applications of the project

CO5 -Experimental details result discussion conclusion and referances also.

CO6 - Student should be submit soft copy of project in PDF format.

Program Specific Outcomes (PSOs)

B.Sc. in Zoology

On successful completion of the Program, the students will be able to:

PSO1: Learn about Understand animal interactions with the environment and identify the major groups of organisms with an emphasis on animals and classify them within a phylogenetic framework.

PSO2: Lean with skills related to laboratory as well as field based studies and inculcate interest and foundation for further studies in Zoology.

PSO3: Illustrate zoological science for its application in branches like medical entomology, apiculture, aquaculture and agriculture etc.

PSO4: Becoming an entrepreneur and also enable students to get employed in the Biological research Institutes, Industries, Educational Institutes and in the various concerning departments of State and Central Government based on subject Zoology.

PSO5: Ability to connect and apply biological knowledge to other disciplines and to Integrate knowledge into their personal and professional lives.

PSO6: Foster curiosity in the students for Zoology by inculcating good laboratory practices in students and to train them about proper handling of lab instruments.

Course Outcomes (COs)

B. Sc. (Zoology) First Year B.Sc.

Semester-I

Course ZO- 111 Animal Diversity- I

After successfully completing this course, students will be able to:

CO1: To understand the Animal diversity around us.

CO2: To understand the underlying principles of classification of animals

CO3: To understand the terminology needed in classification.

CO4: To understand the differences and similarities in the various aspects of classification.

Course: ZO-112-Animal Ecology

After successfully completing this course, students will be able to:

CO1: Identify and critically evaluate their own beliefs, values and actions in relation to professional and societal standards of ethics and its impact on ecosystem and biosphere due to the dynamics in population.

CO2: Understand anticipate, analyze and evaluate natural resource issues and act on a lifestyle that conserves nature.

CO3: Link the intricacies of food chains, food webs and link it with human life for its betterment and for non-exploitation of the biotic and abiotic components.

CO4: Working in nature to save environment will help development of leadership skills to promote betterment of environment.

CO5: Understands and appreciates the diversity of ecosystems and applies beyond the syllabi to understand the local lifestyle and problems of the community.

Course: ZO-113 Practicals in Zoology:

After successfully completing this course, students will be able to:

CO1: Identify and study various animals based on morphological features from the phylum Protozoa to Platyhelminthes.

CO2: Prepare the culture of *Paramecium.*

CO3: Identify the specimen with the help of the taxonomic identification keys.

CO4: Estimate the water parameters e.g. dissolve oxygen (DO), dissolve carbon dioxide (CO2) and alkalinity.

CO5: Study of animal community, density, frequency and abundance of species by quadrat method.

CO6: Study of microscopic fauna and eutrophication in pond/lake/river.

Semester-II

ZO-121 -Animal Diversity- II

After successfully completing this course, students will be able to:

CO1: To classify invertebrates and to be able to understand the possible group of the invertebrate observed in nature to understand our role as a caretaker and promoter of life.

CO2: To know his role in nature as a protector, preserver and promoter of life which students has achieved by learning, observing and understanding life.

CO3: To understands the importance of classification of animals and classifies them effectively using the six levels of classification.

CO4: To Comment on the modifications of common animal forms of the groups studied.

Course: ZO-122-Cell Biology

After successfully completing this course, students will be able to:

CO1: Understand the importance of cell as a structural and functional unit of life.

CO2: Understands and compares between the prokaryotic and eukaryotic system and extrapolates the life to the aspect of development.

CO3: Understand dynamism of bio membranes indicates the dynamism of life. Its working mechanism and precision are responsible for our performance in life.

CO4: Understand the cellular mechanisms and its functioning depends on endo-membranes and structures. They are best studied with microscopy.

Course: ZO- 123 Practicals in Zoology:

After successfully completing this course, students will be able to:

CO1: Identify and study various animals based on morphological features from the phylum Aschelminthes to Echinodermata

CO2: Study the mouthparts of insects and economic importance.

CO3: Study and preparation of vermicomposting bin and its maintenance.

CO4: Study of microscopes and its parts.

CO5: Study of the cells in respect to internal structure.

B. Sc. (Zoology) Second Year B.Sc.

Course ZO- 231: Animal Diversity- III

After successfully completing this course, students will be able to:

CO1: Understand. Classify and identify the diversity of higher vertebrates.

CO2: Understand complexity of higher vertebrates.

CO3: Understand the different life functions of higher vertebrates.

CO4: Understand the linkage among different groups of higher vertebrates.

CO5: Become aware regarding his role and responsibility towards nature as protector,

CO6: Understand, classify and identify the diversity of higher vertebrates, to nderstand his role as a trustee and conservator of life which he has achieved by learning, observing and understanding life.

Course ZO-232: Applied Zoology- I

After successfully completing this course, students will be able to:

CO1: Understands the biology, varieties of silkworms and the basic techniques of silk production.

CO2: Understands the biotechnological and biomedical applications of silk.

CO3: Understands the types of agricultural pests, major insect pests of agricultural importance.

CO4: Understand the pest control practices.

Course ZO- 233: Practicals in Zoology:

After successfully completing this course, students will be able to:

CO1: Understand the Group Protochordata, Pisces and Amphibia.

CO2: Understand the morphology, digestive system of Pisces.

CO3: Understand the external morphology and life-cycle of *Bombyx mori.*

CO4: Study of insect pests and non-insect pests with respect to marks of identification, nature of damage, economic importance and control measures.

CO5: Understand the pest control practices and plant protection appliances.

CO6: Understand scientific writing of the report on field visit to Sericulture farm/ Agricultural farm.

Course ZO- 241-Animal Diversity- IV.

After successfully completing this course, students will be able to:

CO1: Understand. Classify and identify the diversity of higher vertebrates specially class reptiles, aves and mammals.

CO2: Understand complexity, linkages and life function of different groups of higher Vertebrates.

CO3: Become aware regarding his role and responsibility towards nature as protector.

CO4: Understand, classify and identify the diversity of higher vertebrates, to understand his role as a trustee and conservator of life which he has achieved by learning, observing and understanding life.

Course ZO-242: Applied Zoology- II

After successfully completing this course, students will be able to:

CO1: Understand the basics about beekeeping tools, equipment, and managing beehives.

CO2: Understands the basic information about fishery, cultural and harvesting methods of fishes and fish preservation techniques.

CO3: Understand the basic information about fishery, cultural and harvesting methods of fishes.

Course ZO- 243: Practicals in Zoology:

After successfully completing this course, students will be able to:

CO1: Understand the Class Reptilian with the help of pictorial taxonomic keys.

CO2: Understand the Class Aves.

CO3: Study of external morphology, life cycle, enemies and polymorphism in honey bee and basics about beekeeping tools, equipment, and managing beehives.

CO4: Identification, classification and study of habit, habitat and economic importance of fishes and shell fishes.

CO5: Understand to study and maintenance of Aquarium.

CO6: Understand scientific writing of the report on field visit/ study tour/field visit to Apiculture institute / Fish farm/Aquarium.

Course Outcomes (COs)

B. Sc. (Zoology) Third Year B.Sc.

Course ZO- 351: Pest Management

After successfully completing this course, students will be able to:

CO1: Understand the identification, impacts of the pest by developing effective pest control strategy.

CO2: Understand the role of society towards pest management, economic, ecological, and sociological benefits of IPM.

CO3: Understand to aanalyses and compare management tactics to determine the best approach to reducing pest populations, weeds, and disease presence.

CO4: Identify 10 tactics commonly used in IPM and be able to distinguish them, understand society's role in IPM decisions, to Know and how to develop an IPM program.

Course ZO- 352: Histology

After successfully completing this course, students will be able to:

CO1: Understand, classify and identify the different types of tissue.

CO2: Study the important features of different types of tissues in organ system.

CO3: Understand the complexity of various tissues in an organ.

CO4: Study structure & functions of various tissues in organ system.

CO5: Know the role of glands in mammals.

Course ZO- 353: Biological Chemistry

After successfully completing this course, students will be able to:

CO1: Understand the basic concepts and significance of biochemistry.

CO2: Understand the basic concepts pH and Buffers

CO3: Understand the chemical structures of carbohydrate, and their biological and clinical significance.

CO4: Understand the interpret structure and importance of proteins, carbohydrates and lipids

CO5: Understand the comprehend variations in enzyme activity and kinetics.

Course ZO- 354: Genetics

After successfully completing this course, students will be able to:

CO1: Understand the basic terms in genetics in respect to classical and modern concept of gene, muton, recon and mendal law of inheritance.

CO2: Understand the sex-determination, parthenogenesis, hypodiploidy and DNA structure.

CO3: Understand the basic concepts in population genetics; Mendelian population, gene pool, gene/allele, frequency, chance mating and Hardy Weinberg Law and its equilibrium.

CO4: Understand the sex linked inheritance in human i.e. colour-blindness, haemophilia and hypertrichosis. and justify the post transcriptional and post translational modifications

CO5: Understand the application of genetics in the genetic counselling, diagnostics & breeding technology.

Course ZO-355: Developmental Biology

After successfully completing this course, students will be able to:

CO1: Identify the developmental stages, concepts and scope and theories.

CO2: Describe the key events in early and systematic embryological development.

CO3: Describe the chick development up to 96 hours of incubation and extra embryonic membranes.

CO4: Describe the chick development up to 96 hours of incubation and extra embryonic membranes.

CO5: Explain the principles, process of fertilization, cleavage, and gametogenesis.

Course ZO-356: Parasitology

After successfully completing this course, students will be able to:

CO1: Understand the basic terminologies, scope and animal association in parasitology.

CO2: Explain the importance of arthropod parasites and their role as vectors with examples.

CO3: Understand the types of host, parasite, their relationships and their effects on host body with examples.

CO4: Learn about the morphology, life cycle, pathogenicity and treatment of common parasites (Protists and Platyhelminthes).

Course ZO- 357 Practical Paper- I

After successfully completing this course, students will be able to:

Section I: Practicals in Pest Management

CO1: Study the plant diseases, its intensity and plant protection appliances.

CO2: Studies the beneficial insects, pests and diseases of honeybees.

CO3: Understand the separation techniques of the pesticides or plant products by TLC and Column chromatography.

CO4: Understand the rearing, life cycle and damages caused by pests.

Section II: Practicals in Histology

CO1: Study of the different types of tissues, glands, digestive and reproductive organs by using histological slides.

CO2: Studies the human blood smear to observe different types of blood cells.

CO3: Understanding the temporary mounting of the tissues of any mammals.

Course ZO-358 Practical Paper- II

After successfully completing this course, students will be able to:

Section I: Practicals in Biological Chemistry

CO1: Understand the enzyme activity.

CO2: Detection of the carbohydrates and isolation of starch and caesin.

CO3: Prepare the buffer, acid, alkali and its standardisation.

CO4: Understand the principal, working and measurement of pH.

Section II: Practicals in Genetics

CO1: Study the monohybrid, dihybrid ratio and applicability of Mendelian laws.

CO2: Study the genetic traits, blood groups in human beings.

CO3: Study of Hardy-Weinberg law, human karyotypes and numerical alterations.

CO4: Study preparation of polytene chromosome, aberrations.

CO5: Study of external characters, life cycle, rearing and mutants of Drosophila.

Course ZO-359 Practical Paper-III

After successfully completing this course, students will be able to:

Section I: Practicals in Developmental Biology

CO1: Study of ultrastructure of sperm and ovum of mammal.

CO2: Study of eggs, blastulae, gastrulae in Amphioxus, frog and hen.

CO3: Study of whole mount, T.S. and V. S. of chick embryo.

CO4: Study the temporary preparation and ex-ovo culture of chick embryo.

Section II: Practicals in Parasitology

CO1: Study of parasitic association.

CO2: Study the life cycle, pathogenicity, diagnosis and treatment of parasite.

CO3: Study of parasites with its role as vector.

CO4: Study of the pathogenicity and control measures of parasites.

Course ZO-3510: Aquarium Management

After successfully completing this course, students will be able to:

CO1: Know the potential scope of aquarium fish industry.

CO2: Study of aquarium fishes.

CO3: Understand the food and feeding, fish transportation and fish preservation.

CO4: Study the maintenance of aquarium.

CO5: Study the fish breeding, physico-chemical parameters of water for fish culture.

Course ZO-3511: Poultry Management

After successfully completing this course, students will be able to:

CO1: Understand the Poultry farming practices.

CO2: Understand the poultry breeding techniques.

CO3: Understand poultry rearing techniques.

CO4: Understand feeding requirement and food ingredients.

CO5: Understand the poultry disease and their pathogens.

CO5: Understand market value of poultry products.

Course ZO-361: Medical & Forensic Zoology

After successfully completing this course, students will be able to:

CO1: Understand the basics principles of Medical and Forensic Zoology.

CO2: Understand scientific methods in crime detection.

CO3: Understand the advancements in the field of Medical and Forensic Zoology.

CO4: Understand modern tools, techniques and skills in forensic investigations.

CO5: Describe the fundamental principles and functions of forensic science and its significance to human society.

Course ZO-362: Animal Physiology

After successfully completing this course, students will be able to:

CO1: Describe, identify, and/or explain the various physiological organ-systems and their importance to the integrative functions of the human body.

CO2: Understand Concept of energy requirements, develop understanding in Structure and functions of muscles

CO3: Describe, identify, and/or explain the various aspects of digestive physiology.

CO4: Develop understanding in Structure and functions of muscles.

CO5: Understand Respiratory mechanism and gases transport and eliminations of waste materials from the body.

CO6: Understand formation of gametes and function of endocrine glands.

Course ZO-363: Molecular Biology

After successfully completing this course, students will be able to:

CO1: Learner shall get an insight into molecular mechanisms of various biological processes in cells and organisms.

CO2: Learner shall get an insight into the Structure of DNA and RNA, DNA and RNA as genetic material.

CO3: The course shall prepare learner to get insight into the Central Dogma of Molecular Biology.

CO4: Learner shall also understand the concept of gene regulation.

CO5: Learner shall get an insight into the DNA Damage and Repair.

Course ZO-364: Entomology

After successfully completing this course, students will be able to:

CO1: Understand basic concepts in Entomology and its scope.

CO2: Learn morphology and anatomy of Insects.

CO3: Understand the concept of social organization in Insects.

CO4: Understand the development process of Insects.

CO5: Identify disease causing insect vectors.

CO6: Design and implement pest controlling methods against pests.

Course ZO-365: Techniques in Biology

After successfully completing this course, students will be able to:

CO1: Understand the microscopy, microtomy.

CO2: Understand the haematological, immunological and laboratory techniques.

CO3: Study the types of PCR & DNA Barcoding.

CO4: Understand the methods in Biodiversity.

CO5: Study the instruments in field biology.

Course ZO- 366: Evolutionary Biology

After successfully completing this course, students will be able to:

CO1: Learn most of the essential aspects of Evolutionary Biology in detail which will help them in acquiring better understanding regarding the subject.

CO2: Explain important processes, principles and concepts and critically evaluate theories and empirical research within evolutionary biology

CO3: Apply evolutionary theory and concepts to address empirical and theoretical questions in evolutionary biology.

CO4: Independently investigate evolutionary questions using literature and analyses of empirical data.

CO5: Communicate the principles, theories, problems and research results associated with questions that lie within the evolutionary framework to students.

Course ZO- 3610 Environmental Impact Assessment

After successfully completing this course, students will be able to:

CO1: Study about the environment, pollution and sustainable development.

CO2: Study overview of environmental protection acts.

CO3: Understand the environmental impact assessment (EIA) and stakeholders in EIA process.

CO4: Understand the overview of scheme for Accreditation of EIA consultant organizations (NABET/QCI).

CO5: Communicate the principles, theories, problems and research results associated with questions that lie within the evolutionary framework to students.

Course ZO- 3611 Project

After successfully completing this course, students will be able to:

CO1: Encouraged to take up laboratory work, hands-on practical investigation and design experimental setup.

CO2: Study the planning of the project for study.

CO3: Understand how to write the project in a proper format.

CO4: Understand the plagiarism and research ethics.

Course ZO- 367 Practical Paper-I

After successfully completing this course, students will be able to:

Section I: Practicals in Medical & Forensic Zoology.

CO1: Carry out routine analysis of physical and chemical properties of urine.

CO2: Determine of serum urea, uric acid, calcium.

CO3: Study and examine human hair, morphology and determine the species to which the hair belongs.

CO4: Identify and differentiate various types of finger prints.

CO5: Prepare a case report on forensic entomology with respect to insect's succession and its relationship to determine time since death.

CO6: To visit the forensic laboratory and report writing.

Section II: Practicals in Animal Physiology

CO1: Estimate the haemoglobin, blood glucose, bleeding and clotting time of blood.

CO2: Study of disorders caused by endocrine glands.

CO3: Detect the blood groups, differential count of blood in human being.

CO4: Qualitative detection of nitrogenous wastes products.

CO5: Demonstration of kymograph unit, Respirometer through available resources and measurement of lung capacity.

Course ZO-368 Practical Paper-II

After successfully completing this course, students will be able to:

Section I: Practicals in Molecular Biology

CO1: Understand the lab safety techniques and sterilisation.

CO2: Understand the estimation of DNA & RNA.

CO3: Isolate and stain the DNA and RNA from given sample.

CO4: Prepare the DNA paper model and study its characteristics.

CO5: Study the principle & application of spectrophotometer & PCR.

Section II: Practicals in Entomology

CO1: Study the external characters of insects.

CO2: Study the digestive and reproductive system of insects.

CO3: Study the social organization in termites and honey bees.

CO4: Study the insect life cycle and insect vector.

CO5: Study the mounting and preservation of insect pest using spreading techniques.

Course ZO-369 Practical Paper-III

After successfully completing this course, students will be able to:

Section I: Practicals in Techniques in Biology

CO1: Study the compound and stereo microscope, components, usage and maintenance.

CO2: Observe the different kind of cells under the microscope and its measurement using micrometer scale.

CO3: Study the microtomy.

CO4: Study the survey, population density and percentage frequency indices, calculating the different alpha and beta biodiversity of insects.

CO5: Study of principle & working of PCR & DNA Barcoding.

Section II: Practicals in Evolutionary Biology

CO1: Study of morphological similarities and differences between man and ape.

CO2: Study of types of fossils and animal adaptation.

CO3: Study of evidences of evolution.

CO4: Study of successive stages of evolution of man.

CO5: Record Zoogeographical distribution of animals to respective zoogeographical realms on the world map.

Department of Mathematics

Course Outcomes

F. Y. B. Sc. Mathematics Paper I (Sem-I) (Algebra) (MT-111)

CO1: A student is able to recall basic facts about Algebra.

CO2: A student is able to display knowledge of conventions such as notations and terminology.

CO3: A student is able to recognize basic algebraic structures, geometrical figures and graphical displays and state important facts resulting from their studies.

CO4: A student is able to get a relational understanding of Algebraic concepts and concerned structures.

CO5: A student is able to follow the patterns involved with help of mathematical reasoning.

CO6: A student is made aware of history of Algebra and hence of its past, present and future role as part of our culture.

CO7: A student is able to understand techniques logically and analytically which are used by he/she as mechanical procedure.

F. Y. B. Sc. Mathematics Paper II (Sem-I) (Calculus-I) (MT-112)

CO1: A student is able to recall basic facts about Calculus.

CO2: A student is able to display knowledge of conventions such as notations and terminology.

CO3: A student is able to recognize basic geometrical figures and graphical displays, state important facts resulting from their studies.

CO4: A student is able to get a relational understanding of Calculus concepts and concerned structures.

CO5: A student is able to follow the patterns involved with help of mathematical reasoning.

CO6: A student is made aware of history of Calculus and hence of its past, present and future role as part of our culture.

CO7: A student is able to apply calculus concepts to analyze the problems in society.

F. Y. B. Sc. Mathematics Paper III (Sem-I) (Practical Paper based on MT111 & MT112)

CO1: A student is able to get adequate exposure to global and local concerns that explore them many aspects of Mathematical Sciences.

CO2: A student is able to apply their skills and knowledge, that is, translate information presented verbally into mathematical form, select and use appropriate mathematical formulae or techniques in order to process the information and draw the relevant conclusion.

CO3: A student is able to transform some problems of society into mathematical problems and vice-versa. Therefore, student is able to solve some problems of society.

CO4: A student is able to solve some problems where analytical methods fail with help of mathematical software MAXIMA.

CO5: A student is able to split some tedious mathematical problems into logical and simple short mathematical problems hence solve it.

F. Y. B. Sc. Mathematics Paper I (Sem-II) (Analytical Geometry) (MT-121)

CO1: A student is able to recall basic facts about Analytical Geometry.

CO2: A student is able to display knowledge of conventions such as notations, terminology.

CO3: A student is able to recognize basic geometrical figures and graphical displays, state important facts resulting from their studies.

CO4: A student is able to get a relational understanding of Geometrical concepts and concerned structures

CO5: A student is able to follow the patterns involved and mathematical reasoning.

CO6: A student is made aware of history of Analytical Geometry and hence of its past, present and future role as part of our culture.

CO7: A student is able to classify conics and find some important quantities associated with it.

F. Y. B. Sc. Mathematics Paper II (Sem-II) (Calculus- II) (MT-122)

CO1: A student is able to recall basic facts about Calculus & Differential Equation.

CO2: A student is able to display knowledge of conventions such as notations, terminology.

CO3: A student is able to recognize basic geometrical figures and graphical displays, state important facts resulting from their studies.

CO4: A student is able to get a relational understanding of Calculus & Differential Equation concepts and concerned structures.

CO5: A student is able to follow the patterns involved and mathematical reasoning.

CO6: A student is made aware of history of Calculus & Differential Equation and hence of its past, present and future role as part of our culture.

CO7: A student is able to apply calculus concepts to analyze the problems in society.

F. Y. B. Sc. Mathematics Paper III (Sem-II) (Practical Paper based on MT-121 & MT-122)

CO1: A student got adequate exposure to global and local concerns that explore them many aspects of Mathematical Sciences.

CO2: A student is able to apply their skills and knowledge, that is, translate information presented verbally into mathematical form, select and use appropriate mathematical formulae or techniques in order to process the information and draw the relevant conclusion.

CO3: A student is able to transform some problems of society into mathematical problems and vice-versa. Therefore, student is able to solve some problems of society.

CO4: A student is able to solve some problems where analytical methods fail with help of mathematical software MAXIMA.

CO5: A student is able to split some tedious mathematical problems into logical and simple short mathematical problems hence solve it.

S. Y. B. Sc. Mathematics Paper I (Sem-III) (Calculus of Several Variables) (MT-211)

CO1: A student is able to recall basic facts about Multivariable Calculus.

CO2: A student is able to display knowledge of conventions such as notations, terminology.

CO3: A student is able to recognize basic geometrical figures and graphical displays, state important facts resulting from their studies.

CO4: A student is able to get a relational understanding of Multivariable Calculus concepts and concerned structures.

CO5: A student is able to follow the patterns involved, mathematical reasoning.

CO6: A student is able to transform some problems involving more than two variables, of society into mathematical problems and vice-versa. Therefore, student is able to solve some problems of society.

S. Y. B. Sc. Mathematics Paper II (Sem-III) (Numerical Methods and Its Applications) (MT-212(A))

CO1: A student is able to recall basic facts about Numerical Methods and Its Applications.

CO2: A student is able to display knowledge of conventions such as notations, terminology and to recognize basic geometrical figures and graphical displays, state important facts resulting from their studies.

CO3: A student is able to get a relational understanding of Numerical methods concepts and concerned structures.

CO4: A student is able to follow the patterns involved and mathematical reasoning.

CO5: A student is made aware of history of Numerical methods and hence of its past, present and future role as part of our culture.

CO6: A student is able to solve some problems where analytical methods fail.

S. Y.B. Sc. Mathematics Paper III (Sem-III) (Practical Paper based on MT211 & MT212(A))

CO1: A student is able get adequate exposure to global and local concerns that explore them many aspects of Mathematical Sciences.

CO2: A student is able to apply their skills and knowledge, that is, translate information presented verbally into mathematical form, select and use appropriate mathematical formulae or techniques in order to process the information and draw the relevant conclusion.

CO3: A student is able to solve some problems where analytical methods fail with help of mathematical software MAXIMA.

CO4: A student is able to importance of concepts dealing with more number of variables.

S. Y. B. Sc. Mathematics Paper I (Sem-IV) (Linear Algebra) (MT-221)

CO1: A student is able to recall basic facts about Linear Algebra.

CO2: A student is able to display knowledge of conventions such as notations, terminology and to recognize basic geometrical figures and graphical displays, state important facts resulting from their studies.

CO3: A student is able to get a relational understanding of Linear Algebra concepts and concerned structures.

CO4: A student is able to follow the patterns involved and mathematical reasoning.

CO5: A student is made aware of history of Linear Algebra and hence of its past, present and future role as part of our culture.

CO6: A student is able to development of methods to solve linear equations.

S. Y. B. Sc. Mathematics Paper II (Sem-IV) (Vector Calculus) (MT-222(A))

CO1: A student is able to recall more basic facts about Multivariable Calculus.

CO2: A student is able to display knowledge of conventions such as notations, terminology and to recognize basic geometrical figures and graphical displays, state important facts resulting from their studies.

CO3: A student is able to get a more relational understanding of Multivariable Calculus concepts and concerned structures, and is able to follow the patterns involved, mathematical reasoning.

CO4: A student is made aware of further history of Multivariable Calculus and hence of its past, present and future role as part of our culture.

CO5: A student is able to explain reasoning in adding components in vectors.

CO6: A student is able to identify the resemblance of operations in vectors in day to day life.

S. Y. B. Sc. Mathematics Paper III (Sem-IV) (Practical Paper based on MT221 & MT222(A))

CO1: A student is able to get adequate exposure to global and local concerns that explore them many aspects of Mathematical Sciences.

CO2: A student is able to apply their skills and knowledge, that is, translate information presented verbally into mathematical form, select and use appropriate mathematical formulae or techniques in order to process the information and draw the relevant conclusion.

CO3: A student is able to solve some problems where analytical methods fail with help of mathematical software MAXIMA.

CO4: A student is able to importance of concepts dealing with more number of variables.

A) <u>Programme Specific Outcomes :</u>

PSO1: A student is able to recall basic facts about mathematics.

PSO2: A student is able to display knowledge of conventions such as notations, terminology and to recognize basic geometrical figures and graphical displays, state important facts resulting from their studies and understandings.

PSO3: A student is able to get a relational understanding of mathematical concepts and concerned structures.

PSO4: A student is able to follow the patterns involved and mathematical reasoning.

PSO5: A student is able to get adequate exposure to global and local concerns that explore them many aspects of Mathematical Sciences.

PSO6: A student is able to apply their skills and knowledge, that is, translate information presented verbally into mathematical form, select and use appropriate mathematical formulae or techniques in order to process the information and draw the relevant conclusion.

PSO7: A student is made aware of history of mathematics and hence of its past, present and future role as part of our culture.

PSO8: A student is able to solve some problems of society by converting into Mathematical problems, solve them by using mathematical tools and methods and lastly, translating into language of society.

Environmental Studies

Compulsory Course for S.Y. B.A .,B. Sc., B. Com. and Computer Science

Course outcomes.

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

Course outcomes.

Semester-I Environmental Studies

CO1: Understand basic concepts of environmental science.

CO2: Know the structure of ecosystems in nature.

CO3: Understand basic functions of ecosystems in the nature.

CO4: Know the importance of ecosystems in the nature.

CO5: Learn the importance of plant resources.

CO6: Learn management of plant resources.

Paper-II: Plant Morphology and Anatomy (BO -112)

CO1: Understand the reasons of environmental pollutions.

CO2: Know the remedies and measures for different types of pollutions.

CO3: Know the different types of reservoirs in the nature.

CO4: Know the laws of environmental protection.

CO5: Learn the strategies for conservation of resources.

CO6: know the management of natural resources.

Course Outcomes:-

(34192) Introduction to Cyber Security - I

Student will be able to

CO1: Know Networking Concept like Basics of Communication System.

CO2: Understand information Security concepts.

CO3: Understand Security Threats and Vulnerability.

CO4: Understand the basics of Cryptography / Encryption.

CO5: Know application of Cryptography.

CO6: Students understand the types of Computer Security Threats.

(**34292) Introduction to Cyber Security - II**

Student will be able to

CO1: understand Security Management Practices including Security policy, Security Procedure and Guidelines.

CO2: Know Network Security Threats.

CO3:Understand Other Security concerns like Risk Assessment and Risk Management.

CO4: Students will be able to understand Security laws and Standard.

CO5: Understand Intellectual property rights.

CO6: Know the concept of Types / Tools of IPR including patients, Trademarks.

(34392) Introduction to Cyber Security - III

Student will be able to

CO1: understand Access Control & Intrusion Detection.

CO2: Students Should Know Key Functionality of IDS.

CO3: understand Intrusion Detection and Prevention Principles.

CO4: understand Common Detection Methodologies.

CO5: know the concept of Server Management and Firewall.

CO6: understand Types of Packet Filtering, Security for VPN.

(34492) Introduction to Cyber Security - IV

Students will be able to

CO1: understand Security Architecture and Models.

CO2: understand System Security like Desktop, Email, Web & Database.

CO3: Know the concept of Wireless Network and Security.

CO4: understand the concept including Security Enhancement.

CO5: Students will Know Planning for Network Security.

CO6: Students Know Level of Security,Setting Policies,Authentication, Training,Securing

Equipment.

(34191) HUMAN RIGHTS - I

Students will be able to

CO1: Understand the Perspective of Rights and Duties.

CO2: Understand Basic concepts Human Values, Meaning and Significance of Human Rights Education.

CO3: Know the concept Introduction to terminology of various legal Instruments.

CO4: Understand the Concept United Nations and Human Rights.

CO5: Understand the concept of Human rights of Vulnerable**.**

CO6: Know Social status of women and children in international and national perspective.

(34291) HUMAN RIGHTS - II

Student will be able to

CO1: Understand the fundamentals of Rights.

CO2: Know fundamentals of Duties.

CO3: Understand the Preamble.

CO4: Understand the status of Social and Economically disadvantaged people.

CO5: Know the Human rights Enforcement mechanism.

CO6: Know Human rights Violations and Indian polity

Course Outcomes:-

Introduction to Constitution- I

Student will be able to

CO1: Understand the concept of fundamental duties of Indian Constitution.

CO2: Understand the DPSP Content.

CO3: Understand the Philosophy of fundamental rights**.**

CO4: Know the Article 14,19,21,32 of the Indian Constitution.

CO5: Understand the Directive Principle of state policy.

CO6: Know about the history of the Indian Constitution.

(34394)Skill Development-I

Students will be able to

CO1: Know the concept of Types Titration

CO2: Understand the concept electronegativity, valency

CO3: Understand the basics of Isotope, Isobar, Isotone

CO4: Understand Principles Thermogravimetric analysis

CO5 Know the application of Cryptography

CO6: Students should be able to understand Bonding in solids – band theory.

(34494)Skill Development -II

Students will be able to

CO1 : Understand the principle of Spectrophotometry.

CO2 : Students will understand Types of solid.

CO3: Learn application of Heterogeneous catalysis.

CO4: Understand Distribution law and thermodynamics.

CO5: Understand basic principles of chromatography (GC and HPLC).

CO6: Understand Method of identification of drug and analysis of drug form sample.

B.Sc. (Computer Science): Program Outcomes

PO-1 To train students in professional skills related to the Software Industry.

PO-2 To develop problem solving abilities using a computer.

PO-3 To imbibe quality software development practices.

PO- 4 To create awareness about process and product standards.

PO-5 To train students in professional skills related to the Software Industry.

PO-6 To prepare for research and development in computers.

PO-7 To help students' build-up a successful career in Computer Science.

PO-8 Serve as the System Administrators with thorough knowledge of DBMS.

PO-9 Serve as the IT Officers in Banks and cooperative societies.

PO-10 Presentation and developing the various IT skills to the electronic.

B.Sc. (Computer Science): Program Specific Outcomes

PSO-1 Apply standard software engineering process

PSO-2 Design and develop computer programs.

PSO-3 Inculcate skills to excel in the fields of Information Technology and its Enabled services, Government and Private sectors, Teaching and Research.

PSO4- To Give Technical Support for the various systems.

Course Outcomes (COs)

F.Y. B.SC. COMPUTER SCIENCE

SEMESTER-I

CS101- Problem Solving Using Computer and 'C' Programming – I

CO1. Explore algorithmic approaches to problem solving.

CO2. Develop modular programs using control structures and arrays in 'C'.

CS102-Database Management Systems

CO1. Solve real world problems using appropriate set, function, and relational models.

CO2. Design E-R Model for given requirements and convert the same into database tables.

CO3. Use SQL.

CS103- Practical course on Problem Solving using Computer and 'C' programming And Database Management Systems

CO1. Devise pseudocodes and flowchart for computational problems.

CO2. Write, debug and execute simple programs in 'C'.

CO3. Create database tables in PostgreSQL.

ELC 111: Semiconductor Devices and Basic Electronic Systems

CO1. To study various types of semiconductor devices

CO2. To study elementary electronic circuits and systems

ELC 112: Principles of Digital Electronics

CO1. To get familiar with concepts of digital electronics

CO2. To learn number systems and their representation

CO3. To understand basic logic gates, Boolean algebra and K-maps

CO4. To study arithmetic circuits, combinational circuits and sequential circuit

ELC-113: ELECTRONICS LAB IA

CO1. Identification of Components

CO2. Use of Digital Multimeters

CO3. Study of Signal Generator & CRO

MTC-111 Matrix Algebra

CO1. Find the characteristic equation, Eigen values and Eigen vectors of matrix.

CO2. Prove Cayley- Hamilton theorem, Schwartz inequality,

CO3. Solve the system of simultaneous linear equations.

MTC-112 Discrete Mathematics

CO1. To understand logical concepts and to show logical equivalences by using truth tables and rules in logics.

CO2. Learn concept related to counting.

CO3. Introduction to advanced counting

MTC-113 Mathematics Practical

CO1. Students will be able to learn how to calculate mathematics in programming.

CO2. Students will be able to To find the probabilities of events.

CSST-111 Descriptive Statistics I

CO1. Students will be able to understand Analyze statistical data graphically using frequency distributions and cumulative frequency distributions.

CO2. Use the basic probability rules, including additive and multiplicative laws, using the terms, independent and mutually exclusive events.

CO3. Analyse Statistical data using MS-Excel.

CO4. Recognize, describe, and calculate the measures of the central tendency i.e.mean, median, and mode.

CSST-112 Mathematical Statistics

CO1. Students will be able to demonstrate knowledge and properties of statistical models in common use

CO2. Understand the basic principles underlying statistical inference (estimation and hypothesis testing)

CO3. Students will be able to construct tests and estimators, and derive their properties.

CO4. Students will be able to derive the probability density function of transformation of random variables

CSST-113 Statistics Practical Paper I

CO1. Students will be able to tabulate statistical information given in descriptive form and to use graphical techniques to interpretStudents will be able to compute various measures of central tendency,dispersion, skewness and kurtosis

CO2. Students will be able to To find the probabilities of events.

F.Y. B.SC. COMPUTER SCIENCE

SEMESTER-II

CS201- Advanced 'C' Programming

CO1. Develop modular programs using control structures, pointers, arrays, strings

and structures.

CO2. Design and develop solutions to real world problems using C.

CS202- Relational Database Management Systems

CO1. Design E-R Model for given requirements and convert the same into database tables.

CO2. Use database techniques such as SQL & PL/SQL.

CO3. Explain transaction Management in relational database System.

CO4. Use advanced database Programming concepts

CS203- Practical Course on Advanced 'C' Programming and Relational Database Management Systems

CO1. Write, debug and execute programs using advanced features in 'C'.

CO2. To use SQL & PL/SQL.

CO3. To perform advanced database operations.

ELC 121: Instrumentation Systems

CO1. To study Instrumentation System

CO2. To study various blocks of Instrumentation System

CO3. To study Smart Instrumentation System

ELC 122: Basics of Computer Organization

CO1. To get familiar digital sequential circuits

CO2. To study Basic computer Organization

CO3. To study Memory architecture

ELC-123: Electronics Lab IB

CO1. To know the temperature sensor LM 35.

CO2. To study Basic computer Organization

MTC-121 Linear Algebra

CO1. Define Vector Space, Quotient space direct sum, linear span and linear independence, basis and inner product.

CO2. Discuss the linear transformations, rank, nullity.

CO3. Find the characteristic equation, Eigen values and Eigen vectors of matrix.

CO4. Prove Cayley- Hamilton theorem, Schwartz inequality,

CO5. Solve the system of simultaneous linear equations.

MTC-122 Graph Theory

CO1. To introduce the concept of graphs.

CO2. To Study different types of graphs and operations on graphs.

CO3. To Study concept of Trees in detail and algorithms to find special spanning trees

CO4. To study directed graph and its applications

MTC-123 Mathematics Practical

CO1. Students will be able to design and program Python applications and Excel.

CO2. Students will be able to learn how to calculate mathematics in programming.

CSST121 Methods of Applied Statistics

CO1. Students will be able to understand basic theoretical and applied principles of statistics needed to enter the job force.

CO2. Students will be able to describe how correlation is used to identify relationships between variables

CO3. Students will be able to describe how regression analysis is used to predict outcomes

CO4. Students will be able to Compute regression coefficients and fit a regression line to a set of data.

CSST122 Continuous Probability Distributions and Testing of Hypothesis

CO1. Students will be able to Ability to generate model sample from given distributions.

CO2. Students will be able to apply the knowledge of standard continuous probability distributions to solve real life problems by calculating probabilities

CO3. Students will be able to apply the concepts and definitions related to testing of hypothesis

CO4. Students will be able to apply concepts of hypothesis testing, parametric and non-parametric tests in research methodology at higher-level studies and applications.

CSST123 Statistics Practical Paper II

CO1. Students will be able to analyze the relationship between two variables using scatter plot.

CO2. Students will be able to compute coefficient of correlation, coefficient of regression.

CO3. Students will be able to apply and Fit various regression models and to find

best fit.

CO4. Students will be able to analyze the trend in time series and how to remove it

S.Y. B.SC. COMPUTER SCIENCE

SEMESTER-III

CS 231- Data Structures and Algorithms – I

CO1. To use well-organized data structures in solving various problems.

CO2. To differentiate the usage of various structures in problem solutions.

CO3. Implementing algorithms to solve problems using appropriate data structures.

CS 232- Software Engineering

CO1. Compare and choose a process model for a software project development.

CO2. Identify requirements, analyze and prepare models.

CO3. Prepare the SRS, Design document, Project plan of a given software system.

CS 233- Practical course on CS 231 (Data Structures and Algorithms I) and CS 232 (Software Engineering)

CO1. To use well-organized data structures in solving various problems.

CO2. Draw UML diagrams using software engineering.

CO3. Develop a software engineering mini project.

ELC 231: Microcontroller Architecture & Programming

CO1. To write programs for 8051 microcontrollers

CO2. To interface I/O peripherals to 8051 microcontrollers

CO3. To design small microcontroller-based projects simple programs in ‘C’

ELC 232: Digital Communication and Networking

CO1. Define and explain terminologies of data communication

CO2. Understand the impact and limitations of various digital modulation techniques

CO3. To acknowledge the need of spread spectrum schemes.

CO4. Identify functions of data link layer and network layer while accessing communication link

CO5. To choose appropriate and advanced techniques to build the computer network

ELC- 233: Electronics Practical Course I

CO1. To design and build his/her own microcontroller-based projects.

CO2. To acquire skills of Embedded C programming

CO3. To know multiplexing and modulation techniques useful in developing wireless application

CO4. Do build and test own network and do settings.

MTC-231: Groups and Coding Theory

CO1. Decide whether a given group is cyclic, and given a finite cyclic group, find a generator for a subgroup of a given order.

CO2. Students will be able to Define the set of integers, positive numbers, negative numbers, real numbers and greatest common divisor

CO3. The student has knowledge of properties of and algorithms for coding and decoding of linear block codes, cyclic codes and convolution codes.

CO4. express products of elements of a group defined by generators and relations in appropriate standard form

MTC-232: Numerical Techniques

CO1. Analyse and evaluate the accuracy of common numerical methods.

CO2. Demonstrate understanding of common numerical methods and how they are used to obtain approximate solutions to otherwise intractable mathematical problems.

CO3. Apply numerical methods to obtain approximate solutions to mathematical problems.

CO4. Derive numerical methods for various mathematical operations and tasks, such as interpolation, differentiation, integration, the solution of linear and nonlinear equations, and the solution of differential equations.

MTC-233 Mathematics Practical: Python Programming Language-I

CO1. Students will be able to design and program Python applications.

CO2. Students will be able to learn how to write loops and decision statements in Python.

CO3. Students will be able to learn how to use exception handling in Python applications for error handling.

CO4. Mathematics Practical: Python Programming Language-I

AECC: Languages Communication I (English)

CO1. To introduce the use of English in multimedia

CO2. To acquaint the students with the language skills in multivalent contexts

CO3. To acquaint and enlighten students regarding the speaking skill in various contexts

CO4. To acquaint and familiarize the students with advanced writing skills in different contexts

CO5. To acquaint and familiarize the students with soft skills

CO6. To minimize the gap between the existing communicative skills of the students and the skills they require at professional level

CO7. To develop competence among the students to appreciate and analyze short stories and poetry

S.Y. B.SC. COMPUTER SCIENCE
SEMESTER-IV

CS 241- Data Structures and Algorithms – II

CO1. Implementation of different data structures efficiently

CO2. Usage of well-organized data structures to handle large amount of data

CO3. Usage of appropriate data structures for problem solving

CS 242- Computer Networks-I

CO1. Have a good understanding of the OSI and TCP/IP Reference Models and in particular have a good knowledge of Layers.

CO2. Understand the working of various protocols.

CO3. Analyze the requirements for a given organizational structure and select the most appropriate networking architecture and technologies

CS 243- Practical course on CS 241(Data Structures and Algorithms II) and CS 242 (Computer Networks I)

CO1. Understanding of the OSI Models and in particular having a good knowledge of Layers.

CO2. To use well-organized data structures in solving various problems.

ELC-241: Embedded System Design

CO1. To understand the difference between general computing and the Embedded systems.

CO2. To know the fundamentals of embedded systems.

CO3. Understand the use of Single board Computer (Such as Raspberry Pi) for an embedded system application.

CO4. Familiar with the programming environment to develop embedded systems and their interfaces with peripheral devices.

CO5. To develop familiarity with tools used to develop in an embedded environment.

ELC242: Wireless Communication and Internet of Things

CO1. Know working of wireless technologies such as Mobile communication, GSM, GPRS

CO2. Become familiar with 3G and 4G Cellular Network Technologies for Data Connections.

CO3. Understand working principles of short range communication application

CO4. Get introduce to upcoming technology of Internet of Things

CO5. Explore themselves and develop new IoT based applications

ELC-243: Electronics Practical Course I

CO1. To design and develop own smart applications using Rasberry-Pi

CO2. To write Python program for simple applications

CO3. To build own IoT based system

MTC-241 Computation Geometry

CO1. Students will be able to Introduce rigorous algorithmic analysis for problems in Computational Geometry

CO2. Students will be able to Discuss applications of Computational Geometry to graphical rendering

CO3. Students will be able to Introduce the notions of Voronoi diagrams and Delaunay Triangulation

CO4. Students will be able to Develop expected case analyses for linear programming problems in small dimensions.

MTC-242 Operations Research

CO1. Students will be able to Formulate and obtain the optimal solution for Linear Programming problems.

CO2. Students will be able to Determine the optimal solution for Transportation problems

CO3. Students will be able to determine the optimal solution for Assignment problems.

CO4. Students will be able to Determine the best strategy and value of the given game model

MTC-243 Mathematics Practical: Python Programming Language-II

CO1. Students will be able to write loops and decision statements in Python.

CO2. Students will be able to implement algorithms using Python.

CO3. Students will be able to understand how to implement algorithms in Python

CO4. Students will be able to Understand the concepts through program implementation

AECC: Languages Communication II (English)

CO1. To introduce the use of English in multimedia

CO2. To acquaint the students with the language skills in multivalent contexts

CO3. To acquaint and enlighten students regarding the speaking skill in various contexts

CO4. To acquaint and familiarize the students with advanced writing skills in different contexts

CO5. To acquaint and familiarize the students with soft skills

CO6. To minimize the gap between the existing communicative skills of the students and the skills they require at professional level

CO7. To develop competence among the students to appreciate and analyze short stories and poetry

T.Y. B.SC. COMPUTER SCIENCE

SEMESTER-V

CS 351-Operating Systems – I

CO1. Processes and Thread Scheduling by operating system

CO2. Synchronization in process and threads by operating system

CO3. Memory management by operating system using with the help of various schemes

CO4. To understand the concept of operation system and its principle

CO5. To study the various functions and services provided by operating system

CO6. To understand the notion of process and threads

CS 352- Computer Networks – II

CO1. 1.Student will understand the different protocols of Application layer.

CO2. 2.Develop understanding of technical aspect of Multimedia Systems

CO3. 3.Develop various Multimedia Systems applicable in real time.

CO4. 4.Identify information security goals.

CO5. 5.Understand, compare and apply cryptographic techniques for data security.

CO6. To understand different protocols of application layer.

CO7. To understand concepts of multimedia.

CO8. Explore the different methods used for Network/INTERNET security.

CS 353- Web Technologies - I

CO1. Understand how to develop dynamic and interactive Web Page

CO2. To Design dynamic and interactive Web pages.

CO3. To Learn Core-PHP, Server Side Scripting Language

CO4. To Learn PHP-Database handling

CS 354 Foundations of Data Science

CO1. Perform Exploratory Data Analysis & obtain, clean/process, and transform data.

CO2. Detect and diagnose common data issues, such as missing values, special values, outliers, inconsistencies, and localization.

CO3. Demonstrate proficiency with statistical analysis of data.

CO4. Present results using data visualization techniques.

CO5. Prepare data for use with a variety of statistical methods and models and recognize how the quality of the data and the means of data collection may affect conclusions.

CO6. Obtain, clean/process, and transform data.

CS 355 Object Oriented Programming using Java - I

CO1. Understand the concept of classes, objects, packages and Collections.

CO2. To develop GUI based application

CO3. To learn Object Oriented Programming language

CO4. To study various java programming concept like Interface, File and Exception Handling.

CO5. To design User Interface using Swing and AWT

CS 356 Theoretical Computer Science

CO1. Understand the use of automata during language design.

CO2. Relate various automata and Languages.

CO3. To understand the Finite Automata, Pushdown Automata and Turing Machine.

CO4. To understand the Regular Language, Context Free Language, Context Sensitive Language and Unrestricted Language.

CO5. To understand the relation between Automaton and Language

CS 357 Practical Course based on CS - 351

CO1. To understand the working of operating system shell.

CO2. Process synchronization

CO3. Processes and Thread Scheduling by operating system

CO4. Memory management by operating system using with the help of various schemes

CO5. To understand the concept of process scheduling with the help of simulation.

CO6. To study the concept demand paging concepts in operating system.

CS 358 Practical Course based on CS - 353 and CS – 354

CO1. Understand how to develop dynamic and interactive Web Page

CO2. Prepare data for use with a variety of statistical methods and recognize how the quality of the data may affect conclusions.

CO3. Perform exploratory data analysis

CO4. To Design dynamic and interactive Web pages.

CO5. To Learn Core-PHP, Server-Side Scripting Language

CO6. To Learn PHP- Database handling

CO7. To apply statistical, data preprocessing and visualization techniques on data sets

CS 359- Practical Course based on CS – 355

CO1. Use an integrated development environment to write, compile, run, and test simple object-oriented Java programs.

CO2. Read and make elementary modifications to Java programs that solve real-world problems.

CO3. Validate input in a Java program.

CO4. Bringing uniformity in the way course is conducted across different colleges.

2. Continuous assessment of the students.

CS 3510- Python Programming

CO1. Develop logic for problem solving

CO2. Determine the methods to create and develop Python programs by utilizing the data.

CO3. Structures like lists, dictionaries, tuples and sets.

CO4. To be familiar with the basic constructs of programming such as data, operations, conditions, loops, functions etc.

CO5. To write python programs and develop a small application project.

CS- 511- Blockchain Technology

CO1. Learn the fundamentals of Blockchain Technology.

CO2. Learn Blockchain programming

CO3. Basic knowledge of Smart Contracts and how they function.

T.Y. B.SC. COMPUTER SCIENCE

SEMESTER-VI

CS 361- Operating Systems-II

CO1. Management of deadlocks and File System by operating system

CO2. Scheduling storage or disk for processes

CO3. Distributed Operating System and its architecture and the extended features in mobile OS.

CS 362- Software Testing

CO1. To understand various software testing methods and strategies.

CO2. To understand a variety of software metrics, and identify defects and manage those defects for improvement in quality for given software.

CO3. To design test cases and test plans, review reports of testing for qualitative software.

CO4. To understand the latest testing methods used in the software industries.

CS 363- Web Technologies – II

CO1. Build a dynamic website.

CO2. Using an MVC based framework, it is easy to design and handle the errors in dynamic websites.

CO3. To Learn different technologies used at client-Side Scripting Language

CO4. To Learn XML and XML parsers.

CO5. To One PHP framework for effective design of web application.

CO6. To Learn Java Script to program the behavior of web pages.

CO7. To Learn AJAX to make our application more dynamic.

CS 364- Data Analytics

CO1. Use appropriate models of analysis, assess the quality of input, and derive insight from results.

CO2. Analyze data, choose relevant models and algorithms for respective applications

CO3. Understand different data mining techniques like classification, prediction, clustering and association rule mining Apply modeling and data analysis techniques to the solution of real world business

CS 365- Object Oriented Programming using Java – II

CO1. To access open databases through Java programs using Java DataBase

Connectivity (JDBC) and develop the application.

CO2. 2.Understand and Create dynamic web pages, using Servlets and JSP.

CO3. 3.Work with basics of framework to develop secure web applications

CS 366- Compiler Construction

CO1. 1.Understand the process of scanning and parsing source code.

CO2. 2.Learn the conversion code written in source language to machine language.

CO3. 3. Understand tools like LEX and YACC.

CS 367- Practical Course based on CS – 361

CO1. Management of deadlocks by operating system

CO2. File System management

CO3. Disk space management and scheduling for processes.

CS 368- Practical Course based on CS - 363 and CS – 364

CO1. Build dynamic website.

CO2. Using an MVC based framework, it is easy to design and handle the errors in a dynamic website.

CS 369- Practical Course based on CS – 365

CO1. To Learn database Programming using Java

CO2. Understand and Create dynamic web pages using Servlets and JSP.

CO3. Work with basics of framework to develop secure web applications

CS 3610- Software Testing Tools

CO1. To understand various software testing methods and strategies.

CO2. To understand a variety of software metrics and identify defects and manage those defects for improvement in quality for given software.

CO3. To design test cases and test plans, review reports of testing for qualitative software.

CO4. To understand the latest testing tools used in the software industries.

CS 3611- Project

CO1. Students develop their own project.

CO2. To access open databases through Java programs using Java DataBase Connectivity (JDBC) and develop the application.

CO3. The aim of the Project work is to acquire practical knowledge on the

CO4. implementation of the programing concepts studied.

Programme Specific Outcome

Faculty of Ccommerce

Program Specific Outcome

PSO1 - Learners venture into Managerial positions, Accounting areas, Banking Sectors, Auditing, Company Secretaryship, Teaching, Professor, Stock Agents, Government Employment etc.

PSO2 - Enables learners to prove themselves in different Professional examinations like CA, CS, CAT, GRE, CMA, MPSC, UPSC etc.

PSO3 -Learners further move towards research

PSO4- Enables students to demonstrate Progressive learning of various tax issues and tax forms related to individuals and businessmen and setting up their own business start up

PSO5 – The vast syllabi covers various fields of commerce and accountancy which helps students grasp practical and theoretical knowledge.

II. B.Com (Accounting and Finance)

PSO1 - The course helps aspirants to acquire knowledge in the field of accounting, taxation, auditing, risk management, financial accounting, managerial economics, business law and business communications.

PSO2 - Learners can pursue careers as financial experts and also develop a better understanding of the markets as this course gives an in-depth understanding of the essential qualities and areas of expertise required for such jobs.

PSO3 - Students get opportunities to explore many career paths like investment and portfolio management, stock market, security analysis, mutual fund and capital market analysis, accounting field, financial field etc.

B.Com (Commerce)

Course outcome

Faculty of commerce

FYBCOM

Semester I/II English

CO-1 Through prescribe pieces of prose and poetry students will not only get to know the beauty and communicative power of English but also its practical application.

CO-2 Students will be exposed to a variety of topics that dominate the contemporary socioeconomic and cultural life.

CO-3 Students will develop oral and written communication skills so that their employability will enhance.

CO-4 Students will develop overall linguistic competence and communicative skill

CO-5 Students will develop their Interpersonal Skills.

CO-6 Students will learn to enjoy literature of English language.

Semester I/II Financial Accounting

CO-1 Students will be able to learn principles and concepts of Accountancy.

CO-2 Students are enabled with the Knowledge in the practical applications of accounting.

CO-3 The Banking and financial system in India.

CO-4 About commercial banks and its products.

CO-5 How to build customer relationship in banking sector.

Semester I/II Banking and Finance

CO-1 To familiar the students with the fundamentals of banking and thorough knowledge of banking operations.

CO-2 To make the students aware of banking business and practices.

Semester I/II Marketing & Salesmanship

CO- 1 The core concepts of marketing and the role of marketing in business and society.

CO- 2 The Knowledge about social, legal, ethical and technological forces on marketing decision-making.

CO-3 How to develop marketing strategies based on product, price, place and promotion objectives.

CO-4 Concepts of buyer behaviour and market segmentation.

Semester I/II Business Economics

CO-1 Familiarizes the students with the basic concept of microeconomics and its applications to business situation.

CO-2 This course will prepare students to be successful in advanced level studies in Economics.

CO-3 Students will be able to understand introductory microeconomic theories, solve basic microeconomic problems, and use these techniques to consider many strategic questions related to the functioning of the real economy.

CO-4 This course will prepare students to succeed in advanced studies in economics.

Semester I/II Business Mathematics and Statistics

CO-1 develop understanding of investment in share in mutual fund.

CO-2 student are enable with the knowledge in a practical application of the population and sampling.

CO-3 Understand the various measures of dispersion and solve related problems.

CO-4 Develop the ability to solve problems in correlation and regression analysis.

SYBCOM

Semester III/IV Corporate Accounting

CO1 Student's will be learn skills about accounting standards will be developed.

CO2 To make aware the students about the valuation of shares.

CO-3 Through prescribed pieces of prose and poetry students will not only get to know the beauty and communicative power of English but also its practical application.

CO-4 Students will be exposed to a variety of topics that dominate the contemporary socioeconomic and cultural life.

Semester III/IV Business Management:

CO-1 The importance of management and various management principles and thoughts.

CO-2 The functional areas of business management including planning, decision making, organizing,

Staffing, direction, communication, direction.

CO-3 How to apply best practices of business administration in the functional areas of business.

CO-4 The recent trends in Business Management i.e. Business Ethics, Corporate Governance,

CSR.

Semester III/IV Banking & Finance: I

CO- 1 The reforms and other developments in the Indian Banking.

CO-2 The functions and role of Reserve Bank of India.

CO-3 Role and structure of Indian banking system.

CO-4 Various types of banks and their special features.

Semester III/IV Business Economics

CO-1 The knowledge gained in the course will make students better informed citizens and allow them to follow the debates over various economics events and policies reported in the news media.

CO-2 To stimulate the students interest by showing the relevance and use of various

economics theories.

CO-3 To make students aware about decision making process of business.

CO-4 To grasp students about production and it's pricing in deferent market forms.

CO-5 To know and apply different decision tools to understand market structure.

Semester III/IV Company Law

CO-1 Students can able to face the problems on various side of business tax law. Student can analysis the legal constraint on business tax laws. Students can understand the legal rules regarding contract.

CO-2 To acquire knowledge and develop understanding of the regulatory framework of various business law.

CO-3 The knowledge of fundamentals of Company Law.

CO-4 The provisions and the changes of the Companies Act of 2013.

CO-5 New concepts involving in company law regime.

CO-6 The duties and responsibilities of Key Managerial.

Semester III/IV Business Communication

CO-1 student will be learn skill about the communication skill and soft skill will be developed.

CO-2 to make a way that the student about the interview skill and discussion.

CO-3 Formulate job related communication and resume preparation

CO-4 Attend interview and participate in Group discussion with confidence.

TYBCOM

Advanced Accounting

CO-1 Student will be able to impart the knowledge about accounting methods, procedures and techniques.

CO-2 To acquaint students with practical approach to accounts writing by using software package and by learning various accounts.

CO-3 The accounting treatment of the issue of Shares with its classes and Debentures of a company are understood thoroughly.

CO-4 Students may be able to understand the methods of valuation of Goodwill of a company and the preparation of Final accounts in a lucid manner.

Banking & Finance: II

CO-1 The operations and developments in financial markets

CO-2 The functioning and role of financial institutions in the Indian Economy.

CO-3 The Financial Markets and its various segments.

CO-4 Organization Functions & Working of Regulatory Institutions in Financial Market.

Banking & Finance: III

CO-1 Banking Law and Practice in relation to the Banking system in India.

CO-2 The legal aspects of Banking transactions and its implications as Banker and Customer.

Audit and Taxation

CO-1 Principle and practices of the Describe about the concept, types and methods of Auditing.

CO-2 Acquired knowledge about vouching of cash credit transaction, verification and asset and liabilities.

CO-3 Student can know the various provisions relating to income and income tax. Student can understand the basic concept of ACT and scheme taxation in India.

CO-4 Student can compute income and tax of an individual assesses.

International Economics

CO-1 student shall be able to compare to problem and situation of the international economy.

CO-2 Aquant student with the imaging issue in a political policies of Indian foreign trade.

CO-3 The student will be acquainted with economic concepts and models of international trade.

CO-4 Student will become aware about international trade blocks and their importance.

Business Regulatory Framework

CO-1 It get away Ness of the selecting law concerning of business activity and have got basic legal knowledge to student.

CO-2 To develop the awareness among the student regarding the law affecting business trade and Commerce.

CO-3 Handle legal issues in Consumer Protection and Redressal.

CO-4 Gain knowledge about the regulatory framework of Banking and Insurance Sector in India. Managerial Economics After the completion.

F.Y.Bcom

विषयाचे नाव:-भाषा साहित्य आणि कौशल्य विकास व भाषा आणि कौशल्यविकास

CO-1 लघु कथेचे स्वरूप स्पष्ट करणे.

CO-2व्यक्तिचित्रण साक्षर आणि तात्विक लेखनाचे स्वरूप स्पष्ट **करणे.**

CO-3 एकांकिका प्रवासवर्णन आणि आत्मचरित्र हे साहित्याचे प्रकार म्हणून स्पष्ट करणे.दैनंदिन जीवनात मराठीची सामान्य कौशल्य आणि उपयोग स्पष्ट करणे.

CO-4विद्यार्थ्यांमध्ये नैतिक व्यवसायिक आणि वैचारिक मूल्ये **रुजविणे.**

CO-5विविध क्षेत्रातील सक्षम व्यक्तींच्या कार्याचा आणि विचारांचा परिचय करून देणे.

CO-6 दैनंदिन जीवनात मराठीची सामान्य कौशल्य आणि उपयोग स्पष्ट करणे.