DEOLA EDUCATION SOCIETY'S

# KARMVEER RAMRAOJI AHER ARTS, SCIENCE AND COMMERCE COLLEGE, DEOLA DIST. NASHIK

## Program Outcomes of the Institution

The graduate program provides the students advanced knowledge in the field of their concerned discipline also enables the students to acquire the basic skills required for carrying out curricular as well as extracurricular activities such as research, post graduation, recruitment in jobs etc. The program also provides them with adequate knowledge and skill to enhance their proficiency in the subject concerned. Similarly after completion of the program students can confidently prepare for post graduation, civil services and some other competitive examinations of their choice.

The specific outcomes are as follows:

## B. A.

1. The students acquire knowledge in the field of social sciences, literature and humanities which make them sensitive and sensible enough.

2. The B.A. graduates will be acquainted with the social, economical, historical, geographical, political, ideological and philosophical tradition and thinking.

3. The program also empowers the graduates to appear for various competitive examinations or choose the post graduate programme of their choice.

4. The B. A. program enables the students to acquire the knowledge with human values framing the base to deal with various problems in life with courage and humanity.

5. The students will be ignited enough to think and act over for the solution of various issues prevailed in the human life to make this world better than ever.

6. Programme provides the base to be the responsible citizen.

## M. A.

1. The students acquire in depth knowledge in the field of social sciences, literature and humanities which make them sensitive and sensible enough to solve the issues related with mankind.

2. The postgraduates will be acquainted with the social, economical, historical, geographical, political, ideological and philosophical tradition and thinking of their respective subjects.

3. The program also empowers the post-graduates to appear for various competitive examinations or choose the any post graduate or research programme of their choice.

4. The M. A. program enables the students to acquire the knowledge with human values framing the base to deal with various problems in life with courage and humanity.

5. The students will be ignited enough through the knowledge of the special PG programme to think and act over for the solution of various issues prevailed in the human life to make this world better than ever.

6. Through the PG programme the students will come to know about research in their respective subject. It may also provide the information to the students for collection of Data, enquiry, primary and secondary methods of collection of data, classification and tabulation of data. Students get knowledge of various research methods and can realize the importance of research to find solutions of a specific issue.

## B. Com.

1. The B. Com. Graduates would be able to acquire basic and fundamental knowledge and skills for doing business and commercial activities of their choice.

2. The program also empowers the graduates to appear for various competitive exams or choose a profession of their choice such as CA, CS, ICWA, MBA, M.Com etc.

3. The program enables the students to acquire the accounting knowledge, management principles, retail trading, banking and insurance transactions, business economics and financial management.

4. The students also acquire knowledge in the field of management accounting, corporate accounting, statistical and mathematical techniques and knowledge relating to corporate law and business laws.

5. The students become capable of doing a business of their choice or choosing a profession or can become employees having basic knowledge and skill required for such activities.

## B. Sc.

1. The B. Sc. Programme develops scientific temperament and attitude among the science graduates.

2. The qualities of a science – observation, precision, analytical mind, logical thinking, clarity ofthought and expression, systematic approach, qualitative and quantitative decision making are enlarged.

3. The program also empowers the graduates to appear for various competitive examinations orchoose the post graduate programme of their choice.

4.This programme train the learners to extract information, formulate and solve problems in asystematic and logical manner.

5. This programme enables the learners to perform the jobs in diverse fields such as science, engineering, industries, survey, education, banking, development-planning, business, public service, self business etc. efficiently.

**Department of English**

## PROGRAMMES OFFERED, PROGRAMME OUTCOMES AND PROGRAMME SPECIFIC OUTCOMES DEPARTMENT OF ENGLISH

## PROGRAMME: B.A. ENGLISH

**Under Graduate Program Specific Outcomes: B.A. (English):**
The graduates in Special English: Understand major and minor forms of literature.

- Have developed interest in literature and language
- Enjoy reading the short stories, poems, novels and dramas.
- Know the literary theories, terms and concepts in Criticism.
- Appreciate the literary works.
- Understand the structure and function of grammatical units.
- Know the use of language at semantic and syntactic levels.
- The students could improve vocabulary. Use English effectively in formal and informal situations.
- Know phonological and morphological aspects of English.
- Understand the values of literature in life.
- Understand different cultures of the times.
- Know various genres in English literature like Indian English literature, British
- Literature and American literature Develop language learning skills like Listening, Speaking, Reading and Writing.
- Develop vocabulary and communicative skills.
- Develop verbal and non-verbal skills of communication.
- Are able to get the jobs in industry, government, schools and offices
- Have enriched confidence to appear for competitive examinations

## PROGRAMME OUTCOMES

PO-1: Glimpse of English Language Education in India during the later part of 18th century.
PO-2: Understanding the works of social reformists who have stirred the population on the topic like women's emancipation.

PO-3: Creating rational approach among the student to solve the social problems caused industrialization and the urbanization.
PO-4: Creating awareness of the past history of all the sections of the society.

## PROGRAMME SPECIFIC OUTCOMES

PSO-1: Understanding the unique importance of English that has played a crucial role in building the modern India.
PSO-2: Students understand the different social contexts and individuals which in turn helps him to create the team spirit of working.
PSO-3: Students have deep care for the beauty of nature and the quality of natural environment and truly believes in sustainable development.
PSO-4: Students understands the real meaning and value of intellectual discipline.

## DEPARTMENT OF ENGLISH PROGRAMME: M.A. ENGLISH

## PROGRAMME OUTCOMES

PO-1: Students will learn about the decorative Western Movements in the form of visual arts, literature, theatre and music
PO-2: Students will learn various theories and principles from the Classical works of Greece.
PO-3: Analyzing the influence of Science and Technology rooted in the minds of 20th century writers. PO-4: Students get the awareness of the growth and liberation of human spirit of the time.

## PROGRAMME SPECIFIC OUTCOMES M.A.

PSO-1: Students learns the choice of words to suggest a particular message to express his accumulation of ideas.
PSO-2: Students recognizes the exactness of the human problems like personal or professional, instantly without a question.
PSO-3: Twentieth Century makes students to develop self-control, zeal and persistence and the ability to motivate oneself.
PSO-4: Creative Writing enhances students how to draft, revise and edit the passage and to feel like a Journalist or an art dramatist.

## COURSE OUTCOME OF UNDERGRADUATE LEVEL
## COURESE OUTCOME F. Y. B COM OPTIONAL ENGLISH

• The students develop interest in literature.
• The students use their moral and social sense in life.
• The students are able to make special use of language for their expression.

## COURESE OUTCOME OF F.Y.BCOM COMPULSORY ENGLISH

• The students are able to make accurate use of English Language in their respective fields.
• The students could communicate effectively in their various business situations.
• The verbal and non-verbal skills of communication are developed.

## COURSE OUTCOME OF FYBA COMPULSORY ENGLISH

• **1)** The students could express themselves in oral and written communicative situations.
• 2) Students use the values learnt through literary works.

## COURSE OUTCOME OF FYBA OPTIONAL ENGLISH

• Development of the comprehensive ability of students.
• Inculcation of moral and human values among students.
• Understanding of the basic forms of poetry.
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## COURESE OUTCOME OF S.Y.B.A COMPULSORY ENGLISH

• The students' literary tendencies are developed.
• The students could express themselves in oral and written communicative situations.
• The students could improve vocabulary.
• The students are able to use English effectively in formal and informal situations of life**.**

## COURESE OUTCOME OF S.Y.B.A ENGLISH General Paper -2
## (Advanced Study of English Language)

a) To familiarize students with the various components of language.
b) To develop overall linguistic competence of the students.
c) To introduce students to some advanced areas of language study.
d) To prepare students to go for detailed study and understanding of language.
e) To enhance communicative skills of students by developing insight into the Working of language

## COURESE OUTCOME OF S.Y.B.A ENGLISH Special Paper -I

## (Appreciating Drama)

1. To introduce Drama as a major form of literature

2. To introduce minor forms of Drama
3. To acquaint and enlighten students regarding the literary and the performing dimensions of drama
4. To acquaint and familiarize the students with the elements and the types of Drama
5. To encourage students to make a detailed study of a few sample masterpieces of English Drama from different parts of the world
6. To develop interest among the students to appreciate and analyze drama independently
7. To enhance students' awareness regarding aesthetics of Drama and to empower them to evaluate drama independently

**COURSE OUTCOME OF S.Y.B.A ENGLISH Special Paper -II, (Appreciating Poetry)**

1. To acquaint students with the terminology in poetry criticism (i.e. the terms used in appreciation and critical analysis of poems)
2. To encourage students to make a detailed study of a few sample masterpieces of English poetry
3. To enhance students awareness in the aesthetics of poetry and to empower them to read, appreciate and critically evaluate poetry independently

**COURSE OUTCOME OF Skill Enhancement Course-(SEC-2A)**

1. Enhancing the skill of using English for everyday communication
2. To acquaint the students with the verbal and nonverbal communication
3. To create opportunities to access exposure of speaking in various contexts
4. To acquaint and familiarize the students with soft skills
5. To develop interest among the students to interact in English

**COURSE OUTCOME OF T.Y.B.A ENGLISH (Compulsory English)**

- The students understand the basic concept of literary genre, poem, prose and stories.
- To help the students to develop literary abilities.
- The students' communicative skills are developed.

**COURSE OUTCOME OF T.Y.B.A. ENGLISH Special English-G-III**

- The students learn the origin of drama and dramatic art.
- The students learn the aspects and genres of drama.

**COURSE OUTCOME OF T.Y.B.A. ENGLISH Special Paper-III**

- The students develop the critical understanding literature.
- The students are exposed to Indian writing in English and American literature.
- The students are exposed to social, political and cultural background.

**COURSE OUTCOME OF T.Y.B.A. ENGLISH Special Paper-IV**

- The students understand the properties and functions of language.
- Inculcation of phonological competence among students.
- The students are acquainted with English grammatical forms and functions.
- The students are acquainted with morphological concepts and processes.
- The students are acquainted with the basic concepts in syntactic and semantic levels of language.

**COURSE OUTCOME OF POST GRADUATE LEVEL**

**COURESE OUTCOMS OF M.A. (I) ENG**

## English Literature from 1550 to 1798

1) To introduce students to the major movements and figures of English Literature through a study of selected literary texts/pieces published during the period prescribed for study.
2) To enhance learners' literary sensibility and their emotional response to literary texts and to help them understand the thematic and stylistic preoccupations of the writers prescribed for study.
3) To enable them to critically examine the writers' thematic concerns and to point out the (in)significance of such concerns in the postcolonial context.
4) To help them recognize the distinctive ways in which the writers differed, in their ideological positions, from their counterparts belonging to different ages.
5) To provide learners some basic information about England's political, social and cultural developments during the period prescribed for study.
6) To enable them to critically assess the 'universal' values that writers tend to project in their writings.
7) To help learners 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.
8) To explain to the learners the canonical relevance of the texts prescribed for them.
9) To help them identify potential areas of research on which they can work independently for securing a degree or merely for the sake of obtaining knowledge.
10) To enhance their proficiency in English

## COURSES OUTCOMES OF M.A. (I) ENG:

## English Literature from 1798 to the Present

1) To introduce students to the major movements and figures of English Literature through a study of selected literary texts/pieces published during the period prescribed for study.
2) To enhance learners' literary sensibility and their emotional response to literary texts and to help them understand the thematic and stylistic preoccupations of the writers prescribed for study.
3) To enable them to critically examine the writers' thematic concerns and to point out the (in)significance of such concerns in the postcolonial context.
4) To help them recognize the distinctive ways in which the writers differed, in their ideological positions, from their counterparts belonging to different ages.
5) To provide learners some basic information about England's political, social and cultural developments during the period prescribed for study.
6) To enable them to critically assess the 'universal' values that writers tend to project in their writings.
7) To help learners 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.
8) To explain to the learners the canonical relevance of the texts prescribed for them.
9) To help them identify potential areas of research on which they can work independently for securing a degree or merely for the sake of obtaining knowledge.
10) To enhance their proficiency in English

## COURESE OUTCOMES OF M.A. (I) ENG: -

## Contemporary Studies in English Language

1. To introduce students to the basic tools essential for a systematic study of language
2. To acquaint students with the basic concepts and issues in linguistics
3. To introduce them to various sub-disciplines of linguistics
4. To initiate them into some of the theoretical assumptions underlying language and to enable them to apply the acquired linguistic skills in real life situations
5) To introduce learners to the syntactic features of the English language
6) To help them shake off some of the regional features of English pronunciation
7) To enable them to use English with confidence and with a better understanding of its appropriate social applications.

## COURESE OUTCOMES OF M.A. (I) ENG: -
## Literary Criticism and Theory

1) To introduce students to the nature, function and relevance of literary criticism and theory
2) To introduce them to various important critical approaches and their tenets
3) To encourage them to deal with highly intellectual and radical content and thereby develop their logical thinking and analytical ability
4) To develop sensibility and competence in them for practical application of critical approach to literary texts

## COURESE OUTCOMES OF M.A.II
## Applied Linguistics

1. To introduce students to the field of Applied Linguistics
2. To help students 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.
3. To help students understand the correlation between the evolution of linguistic theory and the corresponding developments in the field of language learning and teaching
4. To enable students to understand the relationship between language learning theories, teaching methods, production of course materials and language testing.
5. To introduce students to the relation between language and culture.
6. To help students understand how linguistic concepts can be applied to the study of literature.
7. To familiarize students with the tools of language that may be used in translation, textual analysis, etc.

## COURESE OUTCOMES OF M.A. (II), - CORE PAPER ENG- Literary
## American Literature

1. To provide students a general introduction to the major texts that led to the evolution of American literature as an independent branch of literature in English.
2. To familiarize students with the issues and problems America has gone through and how they find expression in her literature.
3. To help students gain a broad historical view of the entire period from the time of the early settlers, through the westward movement to the contemporary period.
4. To provide students a general idea about the religious, socio-political, literary and cultural movements in America.
5. To acquaint students with some of the major conflicts, struggles and movements that are closely connected with the experiences of a group of people struggling to establish their space within the nation
6. To familiarize students with the rich diversity of American writing

## COURESE OUTCOME OF M.A. (II)- ENG-
## Indian Writing in English.

1) To introduce students to the various phases of the evolution in Indian Writing in English. (i. e. the major movements and figures of IWE)
2) To make them aware of Indian cultural ethos and indigenous belief systems through the study of major literary works in the domain of Indian English literature.

3) To acquaint them with the writings of different Indian writers and help them to appreciate the variety and diversity of Indian Writing in English.
4) To expose students to the corpus of Indian Writing in English, and explain the sociopolitical and cultural contexts in which the works were written and received.
5) To develop the ability of students to critically examine and restate their understanding of literary texts.
6) To expose students to the uniqueness of artistic and innovative use of the English language in IWE and to enhance the literary and linguistic competence of students.
7) To instill human values and develop literary sensibility among students through exposure to IWE texts.

**COURESE OUTCOMES OF M.A. (II)**

## World Literature in English

**COURESE OUTCOME**

1. To introduce students to some of the important literary texts of the world
2. To help them in gaining some insights into the socio-cultural aspects of the regions from where the texts are chosen.
3. To enable students to compare the authors of the world with Indian writers in English or the writers in their own languages.
4. To introduce students to the various techniques employed by the authors and how the techniques are adapted/adopted by Indian authors.
5. To help the students undertake research in comparative literature

**DEPARTMENT OF MARATHI**
**DETAILS OF PROGRAMME OUTCOMES**

## Program Outcomes

**Bachelor of Arts (B.A.)**

**After completion of the programmers, the students will develop ability:**

1. To understand knowledge in the field of Arts and Social Sciences.

2. To be Honest, cultured and good citizens with social consciousness.

3. To get earning opportunities through employment and self-employment.

4. To understand fundamental Human values. 5. To improve communication and soft skills. 6. To make all round personality development.

## Programs Specific Outcome

**After completion of the programmers, the students will develop ability:**

1. To acquire the facility in the use of Marathi language

2. To make use of Marathi for creative writing

3. To improve their skill of reading Marathi

4. To use the standard and colloquial Marathi for communication

5. To produce valuable knowledge in Marathi

## Course outcomes

**FYBA- Marathi literature: Story and language skills development. (SEM-I)** [CC- 1 A]

1) The story introduced this type of literature

2) The story introduces the elements and forms of this literary genre.

3) In various material streams stories studied selected stories in this literary genre

4) Developed various linguistic skills

**FYBA- Marathi literature: Playwrightand language skills development. (SEM-II)** [CC- 1 A]

1) The playwright introduced this type of literature
2) The one-act play introduces the material elements and types of this type of literature
3) Studied selected one-act plays in Marathi literature
4) Developed various linguistic skills

**SYBA-G-2-Linguistic Skills Development and Modern literary Type: Novel (SEM-I**) [CC- 1 C (3)]

1) Students were introduced to spelling.
2) The term gold was introduced.
3) Understanding the nature, elements, types and movement of this material in the novel.
4) Assessing, testing and analyzing assigned novel.
5) To develop linguistic skills.
6) Students developed the ability to appreciate and evaluate selected topics in the textbook.

**SYBA-G-2-Linguistic Skills Development and Modern literary Type: Lalitgadye (SEM-II)** ) [CC- 1 D (3)]

1) Understanding the nature, elements, types and movement of this type of literature.
2) Assessing, tasting and analyzing the red mattress in the assigned textbook.
3) To develop linguistic skills.

**SYBA-S-1- Modern Marathi literature: Prakashwata. (SEM-I)** [DSE 1 A (3)]

1) Understanding the nature and concept of this type of autobiography.
2) Introducing the inspiration and movement of this type of autobiography.
3) The uniqueness of autobiography compared to other literary genres in fine prose
4) Assessing, tasting and analyzing this assigned autobiography.

**SYBA-S-1- Medieval Marathi literature: Selected medieval prose, verse (SEM-II)** [DSE 2 A (3)]

1) Assessing, tasting and analyzing medieval prose, verse in assigned textbooks
2) Introducing medieval prose, verse genres.

**SYBA- S-2: Literary Thought. (SEM-I)** [DSE 1 B (3)]

1) Explain the concept, nature and purpose of literature based on Indian and Western literary thought.
2) Explain the process of production of literature.
3) Explain the idea of language and style of literature.

**SYBA- S-2: literature Review. (SEM-II)** [DSE 2 B (3)]

1) Introduce the concept and format of literature review.
2) Explain the interrelationships between literature and reviews
3) Explain the nature of the review according to the type of literature
4) Explain the difference between introduction, review and review of books

**SYBA: Prakashan Vyavahar aani Sampadan (SEM-I)** [SEC 2 A (2)]

1)Prakashan vyavahar aani sampadan yasathi aavshyak kaushalye samjaun dene.

2) Prakashan vyavahar aani sampadan yasathi aavshyak Prashikshan dene.

3)Prakashan Santh,Jahirat Santha,Chhapkhane, Vruttpatr Santha,Grantha Santha Etyadina Pratyeksha Bheti Dene.

**SYBA: Upyojit Lekhankaushaly (SEM-II)** [SEC 2 B (2)]

1)Jahirat,Mulakhat Lekhan Aani Sampadan yasathi Avashyak Kaushalye Vikasit karane.

2) Jahirat,Mulakhat Lekhan Aani Sampadan yasathi Avashyak Prashikshan Dene.

3) Jahirat,Mulakhat Lekhan Aani Sampadan yasathi Pratekshikasah Upayojanache Kaushalye Milaun Dene.

**SYBA: MIL- Marathi Bhashik Sandnyapan kaushalye (SEM-I)** [MIL 2 (2)]

1)Pragat Bhashik Kaushalye Vikasit Karun Dene.

2)Prasarmadhyamatil Sandnyapanatil Swarup V Sthan Spasht Karane.

3)Bhasha Aani Vyektti Mahtva Vikas Ghadun Aanane.

4)Prasarmadhyemansathi Lekhan kshamta Vikasit Karane.

**SYBA: MIL- Marathi Bhashik Sandnyapan kaushalye (SEM-I)** [MIL 2 (2)]

1) Sandnyapanatil Navmadhyeme Aani Samajmadhyemanche Swarup Spasht Karane.
2) Bhasha, Jivanvyavhar Aani Navmadhyeme, Samajmadhyamanche Parsapar Sambandha Spasht Karane.
3) Navmadhyame Aani Samajamadhyamancha Vapar Aani Parinam Yanchi Charcha Karane.

**T.Y.B.A. - G-3: Modern Marathi literature and practical and applied Marathi.**

1) Introduced modern literature.
2) Developed an interest in literature and developed the ability to enjoy art.
3) The ability to comprehend language was created.
4) Essays and travel descriptions explained the philosophical interpretation of this literary genre.
5) Introduced text examination by developing students' reading, listening and writing skills.

**T.Y.B.A.-S-3: Literary Thought.**

1) The purpose of the literature explained the process of making the language taste process.
2) An interest in literature was created.
3) Explained the nature of the literature.
4) Explained the interrelationship between literature and society.
5) Explained the overall literary value.

**T.Y.B.A. - S-4: Linguistics-Descriptive and historical.**

1) The nature of the language explained the importance of the study of diversity and the major components of the study of language.
2) Students explained the function and importance of language in human life.
3) Tone is in the process of formation and the students were introduced to the science format system sentence and semantic thinking.
4) Importance of Historical Language Studies The concept of linguistics was introduced.
5) The students understood the origin of Marathi language and the journey of the family in the language of that time.

**F.Y.B.COM.-Gen-Language, Literature and Skill Development (SEM-I) [117]**

**(Textbook- Utkarsh Wata)**

1) Utkarsh Vata explained the importance of this by explaining the stories in the textbook
2) The nature and necessity of language communication in the Marathi region was explained.
3) Developed skills in the use of various regional Marathi languages.
4) Developed skills to use various Kshatriya Marathi languages.
5) He nurtured moral, professional and ideological values in the students.

**F.Y.B.COM. - Gen-Language and Skill Development (SEM-II) [117]**

1) The nature and necessity of language communication in the Marathi region was explained.
2) Developed skills in the use of various regional Marathi languages.
3) Developed skills to use various Kshatriya Marathi languages.
4) He nurtured moral, professional and ideological values in the students.
5) Enabled to study different writing types and use actual writing skills.

**S.Y.BSc.-Gen-Marathi –Upyojit Marathi. [AECC - 2 A] (SEM-I)**

1) To make people aware of Marathi language, literature and their interrelationships'

2) To bring to the notice of the students the development of Marathi language in terms of definition and style.
3) To develop application skills of Marathi language.

**S.Y.BSc.-Gen-Marathi – Marathi literature. [AECC - 2 A](SEM-II)**

1) To develop literary taste.
2) To make them aware of the interrelationship between Marathi language, literature and others.
3) To develop an understanding of life through literary studies.
4) Enhancing scientific comprehension.

# P. G. Programs Outcome

**M. A. in Marathi after completion of the course, the students will develop ability:**

1. To acquire the facility in the use of Marathi language

2. To make use of Marathi for creative writing

3. To improve their skill of reading Marathi

4. To use the standard and colloquial Marathi for communication

5. To produce valuable knowledge in Marathi

# Programs Specific Outcome

**M.A. -Part-I & II**

1) Advanced knowledge of Marathi language and literature.
2) Literary and life awareness developed.
3) Encouraging students' writing skills, they developed the ability to study medicine.
4) The author's literary work was meticulously studied.
5) It became possible to study the ancient medieval modern Indian and Western thought on the subject of literature.
6) Students developed the ability to review literature.
7) Writing Editing Writing Knowledge Translation Transformation Learn this process.

# Course outcomes

**M.A. (Marathi) Part-I**

**1) Linguistics and Linguistic Skills (SEM-I )**

1) Can write good and accurate letters.
2) Will help in office correspondence. Precision can be brought in the organization of.
3) Public events.
4) Communication will be easy.
5) The importance of punctuation will be understood.

**2) Linguistics and Linguistic Skills (SEM-II )**

1) Explain the nature of translation and translation writing.

2) Explaining the need for statement skills, format, technique, organization and merits, defects

3) Explain the nature, need and importance of public relations media

4) Explain to students the nature, elements, language and actual project writing of literary project writing

**3) History of Marathi Literature (1818 to 1920).**

1) Understanding the changing nature of modern Marathi literature.
2) The contribution of transformation in literature will be understood.
3) Exploring the modernization of literature.
4) The concept of literary history will be understood.
5) The effects of the freedom movement on Marathi literature will be noticed.

**4) History of Marathi Literature (1920 to 2010)**

1) To introduce the inspiration, form and tendency of literature from 1920 to 1945

2)Introducing new literature and review of literature from 1945 to 1960

3)Explain the correlation between the sixties literary movement and the literary movement

4)Explaining the effects of privatization, liberalization and globalization on literature from 1990 to 2010

**5) Historical linguistics**.

1) The movement of Marathi language will be noticed.
2) Misconceptions about dialect will disappear.
3) A new way of looking at one's own language will develop.
4) The nature of linguistic transformation will be understood.
5) There will be knowledge of linguistic concepts.

**6) Sociolinguistics.**

1) Explain the concept of sociolinguistics, its scope.

2) Explain the diversity of language applications.
3) Explain the interrelationship between language and culture.

**7) Rural Literature**.

1) The concept of rural literature will become clear.
2) The uniqueness of Marathi rural literature will be noticed.
3) A vision will be developed on how to study rural literature.
4) The rural literature movement will be understood.
5) The writings of important rural writers will be introduced.

**8) Dalit Literature.**

1) Dr. The influence of Babasaheb Ambedkar's personality on Marathi literature will be noticed.
2) A new way of looking at literature will develop,
1) A new understanding of thinking and literary dealings will come.
2) The movements that have taken shape from Dr.Ambedkar's philosophy will come to light.
3) Abedkari literature will be studied.

**M.A. (Marathi)(SEM-III,IV) Part-II**

**1) Writing Skills for Media Part- 1**

1) The importance of periodicals will be noticed.
2) The contribution made by the periodicals to Marathi literature will be known.
3) The format of the magazines will come to mind.
4) The work of the periodicals will be noticed.
5) The movement of selected journals will be known.

**2) Writing Skills for Media Part -2**

1) Explain how to write for an information sheet.
2) Explain how to write for an information sheet.
3) Explain how to write for a new social media.
4) Introduce students to how to write for a new social media in audio-visual format.

**3) Literature review**.

1) Students will be able to understand critical thinking.
2) Students will be introduced to important critics in Marathi.
3) Students will get a new perspective on literature.
4) The relationship between literature and other arts will be noticed.
5) Will introduce various review methods.

**4) Literature research**

1) Explain the concept and nature of research.

2) To specialize in the field of literature research.
3) Introduce interdisciplinary research to students.
4) Introduce students to research methods, layouts and reference tools.

**5) Study of Designated Medieval Literature Part- 1**

1)Understanding the contemporaneity of an author's literature.
2) The contribution of ex. Aruna Dhere's literature will be known.
3) The nature of ex. Aruna Dhere's literature will be noticed.
4) The author will know how to study.
5) The social environment and the author's contract will be understood.

**6) Study of Designated Medieval Literature Part 2**

1) Introducing medieval literature
2) Introducing the abhangas of Saint Tukaram
3) To introduce the literature of Ramchandra Amatya, the appointed mandate
4) Introducing the literature of the poet Moreshwar, Shlok Kekavali
5) Explaining the nature of medieval language

**7) Basics of Folklore and Marathi Folklore Part 1**

1) The vision of studying and compiling folklore will be developed.
2) Will introduce the folklore of the development of human culture.
3) Marathi folklore will be introduced.
4) Marathi folklore will be collected.
5) Marathi folk drama will be introduced.

**8) Basics of Folklore and Marathi Folklore Part-2**

1) Explaining the nature of folklore in Marathi
2) Explain the inspiration, nature and special meaning of Marathi folklore
3) To unravel the beauty of Marathi folklore
4) Explaining various inventions of Marathi folklore
5) Explaining the tradition of scholars of Marathi folklore

## Hindi Department

**Program Outcomes**

PART-I Hindi Paper I, Paper II and Paper III Students can work anywhere in India, as they know Hindi - Our National Language. In many other countries also, Hindi is used as an Official Language as well as second Language. So they can easily be employed easily in those countries also. As they are Practicing

Translation from Hindi to English and English to Hindi and some other Languages as well, they can become Translators in many Central Govt. Offices. They are learning Poetry and Grammar -so they can become creative writers or poets are authors. By Reading and observing Drama's and one act plays they can become good actors. By having good communication skills and command over language one can becomes good speaker. Having good command over particular language one can present himself in better way. Learning Hindi in non-Hindi region definitely one can achieve anything.

**CSO.**

**FYBA Hindi General Paper-1 (G1)**
1. Introducing Hindi Poetry to the students

2. To provide information about Hindi poetry

3. To develope the communication skill by Hindi language

4. To create interest in students about basic Hindi writing

5. To develope Skill of advertisement among the student.

6. To give information about translation.

7. To give information about software in Hindi language.

8. To develope Skill of essay writing.

**SYBA Hindi General Paper-2 (G2)**
1.To introduce students to Hindi Poetry

2. To introduce students to Hindi stories.

3 To explain grammar in Hindi literature to the students

4 To develop students' literary creativity

5 Introduce students to summary writing

6 Explain the use of direct sentences by writing the meaning of the word pair.

**TYBA Hindi General Paper-III (G-3)**
1. Get acquainted with literary critical terminology used in Hindi language.
2. Augment translation skill of various types of texts from different languages.
3. Acquire skills of drafting official and scientific documents in Hindi.

# DEPARTMENT OF ECONOMICS

## DETAILS OF PROGRAMME OUTCOMES

## Programme:B.A. Economics

**Objectives of the course:**

1. To provide in depth knowledge of socio-economic aspects.
2. To familiarize with current and recent developments in Economics
3. To enrich knowledge through problem solving, hands-on activities projects.
4. To provide a broad and comprehensive knowledge in micro and macro Economics, Public Economics, Indian Economy and Agricultural Economics.
5. To develop analytical abilities towards real world problems

**Programme Specific Outcome:**

1. After completion of program, students will be able to have in-depth knowledge of basic concepts in Economics.
2. A good academic background to be able to seek admission for masters degree in Economics
3. An academic background to be able to crack the baning and administrative examinations

## F.Y.B.A.
## Indian Economic Environment

**Objectives of the course:**

1. To familiarize the students with the recent developments in the Indian Economy.
2. To provide the students with the background of the Indian Economy with focus on Contemporary issues like economic environment.
3. To help the students to prepare for varied competitive examinations.
4. To enable students to understand and comprehend the current business scenario, agricultural scenario and other sectorial growth in the Indian context. To make the student aware of the developments such as MSMEs, Digital Economy, E-Banking, BPO & KPO, etc.

**Programme Outcome:**

1. Ability to develop an understanding of the economic environment and the factors affecting economic environment.
2. Ability to develop awareness on the various new developments in the different sectors of an economy – agriculture, industry, services, banking, etc.
3. Ability to compare and contrast Indian Economy with other world economies.
4. At the end of the course, the student should be able discuss and debate on the various issues and challenges facing the Indian Economic Environment

## S.Y.B.A.
## G -2. Financial System

Objectives (Course Outcomes) of the Paper:

- To understand fundamentals of modern financial system.
- To understand the recent trends and developments in banking system.
- To understand the role of the Reserve Bank of India in Indian financial system.
- To provide the knowledge of various financial and non-financial institutions.
- To provide the students the intricacies of Indian financial system for better financial decision making.

## S.Y.B.A.
## S-1: Micro Economics

**Objectives of the course:**

1. In this course, student is expected to understand the behavior of an economic agent, namely, a consumer, a producer, a factor owner and the price fluctuation in a market.
2. The chapter incorporated in this paper deal with the nature and scope of economics, the theory of consumer behavior, analysis of production function and equilibrium of a producer, the price formation in different markets structures and the equilibrium of a firm and industry.

3. In addition, the principles of factor pricing and commodity pricing as also the problems of investment and welfare economics have been included.

**Course Outcomes:-**

1. As a foundation course, in this paper, student is expected to understand the behavior of an economic agent, namely, a consumer, a producer, a factor owner and the price fluctuation in a market.

## S.Y.B.A.

## S-2: Macro Economics

**Objectives of the course:**

1. To familiarize the students the basic concept of Macro as well as methodological contents.
2. On account of the growing influence and involvement of the State in economic fields, macro-economic has become a major area of economic analysis in terms of theoretical, empirical as well as policy making issues.
3. Macro economics has an extensive, substantive as well as methodological content. It deals with the functioning of the economy as a whole.
4. To aware the basic theoretical framework underlying the field of Macro-economics

**Course Outcomes:-**

1. After completion of program, students will be able to have in-depth knowledge of on account of the growing influence and involvement of the State in economic fields, macro-economic has become a major area of economic analysis in terms of theoretical, empirical as well as policy making issues.
2. Students will be familiar with Macro economics has an extensive, substantive as well as methodological content.
3. Students will be getting acquainted with the functioning of the economy as a whole, including how the economy's total output of goods and services and employment of resources is determined and what causes these totals to fluctuate.
4. Student get awarded of the basic theoretical framework underlying the field of Macro-economics.

## T.Y.B.A.

## G-3: Economic Development and Planning

**Objectives of the course:**

1. To gained importance because of stained interest of the developing countries in uplifting their economic conditions by restructuring their economics.
2. To acquire greater diversity, efficiency and equity in Consonance with their priorities. While few success stories can be counted, many have grappled with chronic problems of narrow economic base, inefficiency and low standard of living.
3. In recent times, besides hard core economic prescriptions to development, concern hitherto relegated to background, like education, health, sanitation and infrastructural development, have found place of pride in explaining the preference of various

economies incorporated in this paper are devoted to the theories of economic development, approaches to economic development, social and institutional aspects of development, constraints on development process, macroeconomic policies, roll of foreign capital and economic planning etc. in developing countries.

**Course Outcomes:-**

1. Students will be familiar with Economic Development has gained importance because of stained interest of the developing countries in uplifting their economic conditions by restructuring their economics to acquire greater diversity, efficiency and equity in Consonance with their priorities.
2. Students will be acquainting the basic concepts of this and other reasons; there have been many approaches to economic development.
3. After completion of program, students will be able to have in-depth knowledge of, recent times, besides hard core economic prescriptions to development, concern hitherto relegated to background, like education, health, sanitation and infrastructural development, have found place of pride in explaining the preference of various economies incorporated.

## T.Y.B.A.
## S-3: International Economics

**Objectives of the course:**

1. This course provides the students a thorough understanding and deep knowledge about the basic principles that tend to govern the free flow of trade in goods and services at the global level.
2. The contents of the Paper spread over various modules, lay stress both on theory and applied nature of the subject that have registered rapid changes during the last decade.
3. Besides this, the contents prepare the students to know the impact of free trade and tariffs on the different sectors of the economy as well as at the macro level.
4. The students would also be well trained about the rationale of recent changes in the export import policies of India.

**Course Outcomes:-**

1. Students will be get acquainted with the understanding and deep knowledge about the basic principles that tend to govern the free flow of trade in goods and services at the global level.
2. After completion of program, students will be able to have in-depth knowledge of the contents of the Paper spread over various modules, lay stress both on theory and applied nature of the subject that have registered rapid changes during the last decade.
3. Students will be get acquainted with the contents prepare the students to know the impact of free trade and tariffs on the different sectors of the economy as well as at the macro level.
4. Students will be getting acquainted with the rationale of recent changes in the export import policies of India.

## T.Y.B.A.
## S-4: Public Finance

**Objectives of the course:**

1. Role and functions of the Government in an economy has been changing with the Passas of time.

2. To understand the basic problems of use of resources, distribution of Income, etc.

3. To aware vast array of fiscal institutions -tax systems, expenditure programs budgetary procedures, stabilization instruments, debt issues, levels of government, etc., which Raise a spectrum of issues arising from the operation of these institutions.

4. Further, the existence of externalities, concern for adjustment in the distribution of income and wealth, etc. require political processes for their solution in a manner which combines individual freedom and justice.

**Course Outcomes:-**

Students acquainting knowledge of Role and functions of the Government in an economy has been changing with the Passas of time.

## Programme:B.Com.

**Objectives of the course:**

1. To developing tomorrow's leaders, managers, and professionals.

2. To meet the growing needs of the business society, there is greater demand for sound development of commerce education.

**Programme Specific Outcome:**

1. Commerce education is that area of education, which develops the required knowledge, skills and attitudes for the handling of Trade, Commerce and Industry.

2. Commerce education is entirely different from other disciplines. Hence, it must charter Course routes to service the aspirations of the nation.

3. The relevance of commerce education has become more imperative, this means a marked change in the way commerce and management education is perceived in India.

### F.Y. B.Com.

### Business Economics (Micro) (Compulsory Paper)

**Objectives of the course:-**

1. To impart knowledge of business economics

2. To clarify micro economic concepts

3. To analyze and interpret charts and graphs

4. To understand basic theories, concepts of micro economics and their application

**Course Outcomes:-**

1. Students will be get acquainted with the basic micro economic concepts and inculcate an analytical approach to the subject matter.

2. Students will be acquainting the basic concepts of the relevance & use of various economic theories.

3. After completion of program, students will be able to have in-depth knowledge of economic reasoning to problems of business

## F.Y. B.Com.
## Banking and Finance (Optional Paper)

**Objectives of the course:-**

1. To provide knowledge of fundamentals of Banking.
2. To create awareness about various banking concepts.
3. To conceptualize banking operations.

**Course Outcomes:-**

1. Students acquainting the basic concepts of bank and Banking.
2. Students will be able to have in details knowledge of modern Banking business.

## S.Y.B.Com. 2014 Annual 80:20 pattern
## Business Economics (Macro) (Compulsory Paper)

**Objectives of the course:-**

1. To familiarize the students the basic concept of Macro Economics and application.
2. To study the behavior of the economy as a whole.
3. To study the relationship among broad aggregates.
4. To apply economic reasoning to problems of the economy.

**Course Outcomes:-**

1. Students will be getting acquainted with the basic concept of Macro Economics and application.
2. After completion of program, students will be able to have in-depth knowledge of behavior of the economy as a whole.
3. Students will be acquainting the basic concepts of the relationship among broad aggregates.
4. Students will be familiar with apply economic reasoning to problems of the economy.

## T.Y.B.Com. 2015 Annual 80:20 pattern
## Indian and Global Economic Development (Compulsory Paper)

**Objectives of the course:-**

1. To expose students to a new approach to the study of the Indian Economy.
2. To help the students in analyzing the present status of the Indian Economy.
3. To enable students to understand the process of integration of the Indian Economy with other economics of the world.
4. To acquaint students with the emerging issues in policies of India's foreign trade.

**Course Outcomes:-**

1. Students will be getting acquainted with the knowledge about globalization, privatization and liberalization.
2. After completion of program, students will be able to have in-depth knowledge of World economic situation.

3. Students will be acquainting the basic concepts of the relationship with modern world and Indian economy.

4. Students will be familiar with apply economic reasoning to problems of the Indian economy.

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# Department Of Gegraphy.

## Programme Outcomes

**After successfully completing B.A. Geography Programme students will be able to:**

PO1: Apply qualitative and quantitative research techniques to gather and analyze data on social, cultural, and ecological problems.
PO2: Apply clear written and oral communication skills to communicate results of research.
PO3: Demonstrate connections between everyday life at the local scale and the larger economic, social, and/or environmental forces that network them into a global community.
PO4: Evaluate cultural, social, and environmental processes with a particular focus on space and place, critical theory, practical application, analysis and/or social justice.
PO5: Think in spatial terms to explain what has occurred in the past as well as using geographic principles to understand the present and plan for the future.
PO6: Present completed researches, including an explanation of methodology and scholarly discussion, both orally and in written form and, wherever possible, utilize cartographic tools and other visual formats.
PO7: Demonstrate general understanding of how the physical environment, human societies, and local and global economic systems are integral to the principles of sustainable development.
PO8: Demonstrate acquisition of Weather chart/map, map aerial photograph and Image reading skill.
PO9: Apply Remote sensing concepts, techniques and their application.
PO10: Develop research questions and critically analyze both qualitative and quantitative data to answer those questions using various theoretical and methodological approaches in both physical and human geographies.
PO11: Develop a general understanding of global human population patterns, factors influencing the distribution and mobility of human populations including settlement and economic activities and networks, and human impacts on the physical environment.

PO12: Read, interpret, and generate maps and other geographic representations as well as extract, analyze and present information from a spatial perspective

## Course Outcomes

### F.Y.B.Sc. (Geography)

**Course No : Gg 111 Introduction to Physical Geography–I (Geomorphology) Semester I**

The student who successfully completes this course can able to:
CO1: Explain principal terms, definitions, concept and theories of Geomorphology.
CO2: Discuss how different scales of time and space affect geomorphologic processes and the development of micro to mega scale landforms.
CO3: Explain different concept, theories and models for landscape evolution.
CO4: Describe the exogenous and endogenous processes in the landscape, their importance in landform development, and distinguish the mechanisms that control these processes.
CO5: Describe the different Materials of the earth crust, rock types, types of weathering, mass movements and types of slope.

CO6: Apply knowledge of basic landforms from tectonic, volcanic, fluvial, glacial, Aeolian and coastal environments.

**Course No : Gg 112 Introduction to Physical Geography II (Geography of Atmosphere and Hydrosphere) Semester I**

The student who successfully completes this course can able to-
CO1: Explain principal terms and concept of Climatology. CO2: Describe composition and Structure of Earth Atmosphere
CO3: Explain electromagnetic spectrum, its effect on earth atmosphere and types of insulation.
CO4: Explain basic concepts of air temperature, air pressure and its measurement. CO5: Explain basic concepts of wind and wind measurement.
CO6: Describe scales of Atmospheric Motion and Models of air circulation.
CO7: Explain basic concepts of hydrological cycle, condensation and evaporation. CO8: Describe concept of Lapse Rate, Stable and unstable Atmosphere, Air Masses & Fronts.

**Course No. Gg. 113 Practical : Practical's in Physical Geography Paper III Semester I**

After successfully completing this course, students will be able to:
CO1: Explain basic concepts of map and scale.
CO2: Identify different Types of Map Projections.
CO3: Describe basic of Statistical data and the skill of graphical data representation.

**Course no : Gg 121 Introduction to Human Geography Paper IV Semester II**

After successfully completing this course, students will be able to:
CO1: Describe nature of man-environment relationship and human capability.
CO2: Explain conditions of living of human beings from primitive life to the modern era.
CO3: Explain human evolution and different races existed since the beginning of living life.
CO4: Describe different tribes and their culture in different geographical areas. CO5: Explain causes and effect of migration of mankind.
CO6: Analyse relationship between population and available resources.
CO7: Identify and explain spatial distribution pattern of population and environment CO8: Identify contemporary issues which the global community is facing.

**Course no : Gg 122 Population and Settlement Geography Paper V Semester II**

The student who successfully completes this course can able to:
CO1: Explain Evaluation of settlement and population geography globally.
CO2: Describe factors influencing growth and distribution of settlements.
CO3: Identify various patterns of settlement using toposheet.
CO4: Evaluate effects of technology on shelter and pattern of settlement.
CO5: Analyze factors influencing the dispersion and nucleation.
CO6: Measure degree of dispersion and nearest neighbour using Toposheet.
CO7: Apply concepts of Nodality, Centrality, Range, Threshold and Hierarchy to describe the features of settlement.
CO8: Analyse factors responsible for urbanization and influencing the distribution of settlement globally.

**Course No. Gg:123 Practicals in Human Geography Semester II Paper VI**

After successfully completing this course, students will be able to:
CO1: Describe underlying theory and concepts of experiments in course.
CO2: Calculate agricultural efficiency and analysis of methods, network structures, Lorenz curve and location quotient, logarithmic graph papers, child women ratio, age sex pyramid & dependency ratio, infant mortality rate and age specific mortality and population growth rate and population projection.
CO3: Apply gravity model and nearest neighbour analysis
CO4: Document their results, using correct procedures and protocols.
CO5: Perform a quantitative analysis of experimental data including use of computational and statistical methods where relevant.

## F. Y. B. A.

**Gg- 110 (A) Physical Geography**

**Semester I**

The student who successfully completes this course can able to:
CO1: Explain principal terms, Nature and scope of Physical Geography Branches of Physical Geography
CO2: Introduction about the Earth system (Lithosphere, Atmosphere, Hydrosphere and Biosphere)
CO3 : Interior of the earth.
CO4: Understand the origin of oceans and currents.
CO5: Understand the structure, composition of Atmosphere.
CO6: Understand weather phenomena winds, humidity and precipitation. . CO7: Understand heat balance
CO8: Acquire knowledge of external forces.
CO9: Understand importance of ocean. .
CO10: Knowledge about effect of ocean Currents. .
CO11: Understand human impacts on Ocean.

## Gg- 110 (B ) Human Geography

**Semester-II**

After successfully completing this course, students will be able to:
CO1: Describe underlying theory and concepts of experiments in course.
CO2: Calculate agricultural efficiency and analysis of methods, network structures, Lorenz curve and location quotient, logarithmic graph papers, child women ratio, age sex pyramid & dependency ratio, infant mortality rate and age specific mortality and population growth rate and population projection.
CO3: Apply gravity model and nearest neighbour analysis
CO4: Document their results, using correct procedures and protocols.
CO5: Perform a quantitative analysis of experimental data including use of computational and statistical methods where relevant.
CO6: Interpret relationships in graph format data and develop an intuition for alternative plotting or in a written laboratory report.
CO7: Derive conclusions from the analysis of own data.

## S.Y.B.A. Geography (G2)

**Semester III**

Name of Subject: Economic Geography- I, Subject Code: Gg.210 (A)

1. To introduce students to the basic principles and concepts of economic geography

2. To acquaint students with the applications to economic geography for development in different areas

3. The students should be able to integrate various factors of economic development and dynamic aspect of economic geography.

## S.Y.B.A. Geography (G2)

**Semester IV**

1. To acquaint students with the basic principles and concepts of economic geography

2. To acquaint the students with the applications to economic geography for development in different areas.

3. The main aims are to integrate the various factors of economic development and to acquaint the students with this dynamic aspect of economic geography

## S.Y.B.A. Geography (S1)

**Semester III.**

1. To acquaint students with Geography of our State.

2. To make students aware of the magnitude of problems and prospects in Maharashtra.

3. To help students understand the inter relationship between the subject and the society.

4. To help students understand the recent trends in regional studies

## S.Y.B.A. Geography (S1)

**Semester IV**

1. To make students aware about the Agriculture problems and prospects of Maharashtra.

2. To understand the population distribution and settlement pattern in Maharashtra.

3. To understand the concept of rural development.

4. To understand the prospectus in Tourism activity in Maharashtra and the role of MTDC and Role of MIDC in industrial development in rural area of Maharashtra

## S.Y.B.A. Geography (S2)

**Semester III**

1. To introduce the basic concepts in Practical Geography

2. To enable students to use various Scales and Projection Techniques in Geography.

3. To acquaint students with the utility of various Projections in Geographical knowledge.

4. To explain the elementary and essential principles of practical work in Geography

5. Develop practical skill and use of map scale and projection.

6. To make students aware of the new techniques, accuracy and skills of map making.

## S.Y.B.A. Geography (S2)

**Semester IV**

1. To introduce the students to the basic and contemporary concepts in Cartography.

2. To acquaint the students with the utility and applications of various Cartographic Techniques.

3. To introduce the latest concepts regarding the modern cartography in the field of Geography.

4. To explain the elementary and essential principles of practical work in Geography.

5. Develop practical knowledge and application of cartographical techniques.

6. To make students aware of the new techniques, accuracy and skills of Map Making.

## Subject Code: SEC –

**A Semester – III**

The objectives of the course are to develop following Skills among the students

1.To introduce basic concepts and fundamental structure of Disaster Management (DM).

2.To inculcate critical thinking and problem-solving abilities on disaster management.

3.To enable students to assess the situation and design plan for Disaster management

## Subject Code: SEC – B

**Semester –IV**

1. To develop basic framework to understand the various elements of tourism management.

2. To evaluate the role of transport in travel and tourism industry.

3. To develop the skills to arrange, manage and implement various types of tours.

3. Students will be able to perform online as well as offline booking and cancellation procedures for different available modes of travel and tourism.

4. Students will be able to acquire earning skills in tourism industry.

## T.Y.B.A. Geography

### Course Gg 310: Geography of India (G-3)

After successfully completing this course, students will be able to:

CO1: Describe geographical location, economic position and geological structure of India in relation to World.
CO2: Explain physiographic divisions and drainage system of India.
CO3: Describe climatic regions and seasons of India using climatic data.
CO4: Describe soil types and their distribution in India by using geographical map.
CO5: Describe major forest types, crops and their distribution and production in India
CO6: Describe mineral power resources and major Industries distribution in India
CO7: Evaluate population growth and distribution in India.
CO8: Evaluate regional development in terms of infrastructure, industries and agriculture.

### Course Gg: 320 Agriculture Geography (S-3)

After successfully completing this course, students will be able to:

CO1: Explain principal terms, definitions, nature and scope of Agriculture Geography
CO2: Discuss fundamental concept, land use, crops, agricultural production and Development, determinants of agricultural activities, physical determinants, and socio-economic determinants.
CO3: Explain different types of agriculture.
CO4: Discuss problems and prospects of agriculture with Indian examples. CO5: Demonstrate knowledge of irrigation and watershed management.
CO6: Evaluate allied areas in agriculture and agricultural development.
CO7: Apply the geographical knowledge in the sustainable agriculture development and agriculture in India.

### Course Gg-301 Techniques of Spatial Analysis (S-4)

After successfully completing this course, students will be able to:

CO1: Explain basic concepts of statistical and remote Sensing. CO2: Identify different methods of Relief Representation.
CO3: Describe basic of Statistical data and the skill of data representation. CO4: Apply Remote Sensing Techniques in Geography.
CO5: Interpret top sheet/ map, aerial photographs and analysis of toposheet/ map, aerial Photographs.
CO6: Describe weather instruments and their applications in Geographical phenomena.
CO7: Calculate Central Tendency, Variance and Standard Deviation, Correlation and Regression, and Testing of Hypothesis.
CO8: Conduct Survey of socio-economic conditions of a village and geomorphologic field investigation and report writing.

# DEPARTMENT OF HISTORY

## B.A Program Outcomes

1) Understand the Salient features of Indus Valley Civilization.
2) Visualize the administration of Mauryas and the arts and architecture of Mauryas.
3) Identify the administration of Gupts and their contribution to Nalanda University.
4) Understanding of Delhi Sultanate
5) Annalise Mughal rule administrations, art, and architecture
6) Maps- important centers in Delhi Sultanate, Mughal Empire under Akbar and Aurangzeb
7) Evaluate consolidation of British Power in India
8) Identify Modern Indian Maps- sites of mutiny of 1857, Princely States in 1858, major sites of National congress sessions, major sites in Civil Disobedience Movement Ahmadabad, Dandi, Midnapur, Peshwar.
9) Write articles on historical topics ,Writing History and Techniques of historical writing
10) Developed their ability to assess critically historical analysis and argument, past and present
11) Gained an understanding of the development of the academic study of history throughout the world since the later eighteenth centur

# •PROGRAM SPECIFIC OUTCOMES: BA History

**On completion of the M.A. (History), students are able to:**

1**. Jobs in Government**: policy analysts, government historians, intelligence analysts, museum curators, administrative and programs specialists, communication specialists, and corporate communication managers.

2. **Travel and Tourism Expert**: Work as a tourist guide at historical and religious places.

3. **School Teacher**: Work as a teacher in schools and high schools

4. **College Teacher**: Work as a assistant professor in colleges

5. **Archivist**: A history graduate can find employment with Archaeological Survey of India or with private firms related to archaeology.

6**. Researcher**: Many Government and non-government institutes along with research center offer several career options for qualified geographers with numerous specializations.

7. **Competitive Examinations**: For History graduates, the option of public service and NET/SET is always open. 8. Social Work: NGOs and Social Welfare Organizations also employ BA History graduates.

10. **Writer/Subject Matter Expert**

11. **Journalist:** Journalism is a common career for History graduates.

# COURSE OUTCOMES: B.A. History

## F.Y.B.A. History General

## Semester – I

### Early India: From Prehistory to the Age of the Mauryas

1) The history of Early India is a crucial part of Indian history. It is a base for Understanding the entire Indian history.

2) The course is aimed at helping the student to understand the history of early India from the prehistoric times to the age of the Mauryas.
3) It Attempts to highlight the factors and forces behind the rise, growth and spread of civilization and culture of India along with the dynastic history.

## Semester-II

### Early India: Post Mauryan Age to the Rashtrakutas

1) The history of India after the Mauryas is very important to understand the developments in early India after the Mauryas, which finally led to the transition to medieval India.
2) The course is aimed at introducing the students to the developments in different parts of India through a brief study of regional kingdoms up to the tenth century C.E.
3) It attempts to highlight the consequences of the foreign invasions, particularly on the polity, economy, society and art and architecture.

# S.Y.B.A History

## Semester - III

## Core Course-I (CC- 1C)

**History of the Marathas: (1630-1707)**

1. Student will develop the ability to analyse sources for Maratha History.
2. Student will learn significance of regional history and political foundation of the region.
3. It will enhance their perception of 17th century Maharashtra and India in context of Maratha history.
4. Appreciate the skills of leadership and the administrative system of the Marathas.

## Discipline Specific Elective Course (DSE-1A)

**Medieval India - Sultanate Period**

1. Provides examples of sources used to study various periods in history.
2. Relates key historical developments during medieval period occurring in one place with another.
3. Analyses socio - political and economic changes during medieval period
4. Estimate the foreign invasion and the achievement of rulers

## Discipline Specific Elective Course (DSE-2A)

**Glimpses of the Modern World - Part I**

1. It will enable students to develop the overall understanding of the Modern World.
2. The students will get acquainted with the Renaissance, major political, socio-religious and economic developments during the Modern World.
3. It will enhance their perception of the history of the Modern World.
4. It will enable students to understand the significance of the intellectual, economic, political developments in the Modern World.

## Skill Enhancement Courses (SEC)

**Art and Architecture of Early India (From 3000 B.C. to 12th Century A.D.)**

1. Students will get an overall understanding of the emergence and development of the art and architecture in Early India.
2. They will understand the emergence of the Pottery, Terracotta figures, Ornaments, Town Planning, preparation of seals and coins.

3. They will have an understanding of the art and architecture in early India.

## Semester – IV

## Core Course-I (CC- 2C)

**History of the Marathas: (1707-1818)**

1. Students will be able to analyze the Marathas policy of expansionism and its consequences.
2. They will understand the role played by the Marathas in the 18th century India.
3. They will be acquainted with the art of diplomacy in the Deccan region.
4. It will help to enrich the knowledge of the administrative skills and profundity of diplomacy.

## Discipline Specific Elective Course (DSE-1B)

**Medieval India: Mughal Period**

1. Draws comparisons between policies of different rulers.
2. Understanding Role of Akbar in the consolidation of Mughal rule in India.
3. Understand Aurangzeb's conflict with Rajputas, Maratha and weakening Mughals age.
4. Analyses factors which led to the emergence of new religious ideas and movements (bhakti and Sufi)

## Discipline Specific Elective Course (DSE-2 B)

**Glimpses of the Modern World - Part II**

1. It will enable students to develop the overall understanding of the Modern World.
2. The students will get acquainted with the major nationalist movements, the World War II and its consequences, the Cold War and its Consequences.
3. It will enhance their overall perception of the history of the Modern World.
4. It will enable students to understand the significance of the strategic political developments in the Modern World.

## Skill Enhancement Courses (SEC 2B)

**Medieval Indian Arts and Architecture (1206 To 1857)**

1. Students will get an overall understanding of the development of the Medieval Art and Architecture.
2. They will understand the changing patterns of the Art and Architecture during the Medieval India.
3. They will have an understanding of the impact of Persian Art on Islamic Art and Architecture in Medieval India.

# T.Y.B.A. History General - 3 (3177)

### History of the World in 20th century

1. Students got knowledge of concept in world history.
2. Students got global event knowledge it is use for increased intellectual level.
3. World trend of thinking, Marxist, Communalism, Dictatorship, Empearalism, Nazism, fascism, Terrorism, Feminism, Globalization, etc. introduced to Students.

# History Special - 3 (3178)

### Introduction to History

1. Students known source of history.
2. Practically student known to how much write history.
3 Increased the knowledge of research in history
4. Students know external and internal Criticism.
5 Students know historian works.

# History Special - 4 (3179)

### History of Asia in 20th Century

1. Students know history of America.
2. Concept of American history introduced to Students
3. Students know causes of Great Depression and policy of New Deal and Fear Deal.

4. Students know American politics in world.
5. Students got knowledge of international relation with America

# PROGRAM OUTCOMES: MA History

1.Students enable to adequate conceptual base of history and better understanding ofHistory and its forces, Students enable to research in terms of form formulating hypotheses and develop broadframes of interaction with other social sciences and attain certain level of interdisciplinary approach. Students understanding the social, economic and institutional bases of Ancient India.
2. Students enable to understanding the Ancient Indian history.
3. Students enable to understand historical materials efficiently and effectively integrate and use of historical information to accomplish a specific purpose. Students understand cultural, ethical, social, legal, and economic issues history

# •PROGRAM SPECIFIC OUTCOMES: MA History

**On completion of the M.A. (History), students are able to:**
1**. Jobs in Government**: policy analysts, government historians, intelligence analysts, museum curators, administrative and programs specialists, communication specialists, and corporate communication managers.
2. **Travel and Tourism Expert**: Work as a tourist guide at historical and religious places.
3. **School Teacher**: Work as a teacher in schools and high schools
4. **College Teacher**: Work as aassistant professor in colleges
5. **Archivist**: A history graduate can find employment with Archaeological Survey of India or with private firms related to archaeology.
6**. Researcher**: Many Government and non-government institutes along with research center offer several career options for qualified geographers with numerous specializations.
7. **Competitive Examinations**: For History graduates, the option of public service and NET/SET is always open.
8. **Social Work:** NGOs and Social Welfare Organizations also employ BA History graduates.
9. **Writer/Subject Matter Expert**
10. **Journalist:** Journalism is a common career for History graduates.

# COURSE OUTCOMES: M.A. History

## M.A. History Part-I (Sem.-I)

### HS - Core Course- 1 History and its Theory

1. Students got knowledge of History writing theory.
2. History writing trends in the world introduced to students.
3. Students get helped to research in terms of formulating hypotheses and develop broad frames of interaction with other social sciences and attain certain level of interdisciplinary approach

### HS -Core Course- 2 Evolution of Ideas and Institutions in Ancient India

1. Students understand of the social, economic and institutional bases of Ancient India.
2. It is based on the premise that an understand of Ancient Indian history is crucial to understand Indian history as a whole.

### HS – Core Course- 3 Maratha Polity

1. Students understand administrative system of the Marathas in an analytical way, to acquaint the student with the nature of Maratha Polity.
2. Students understood basic components of the Maratha administrative structure, to enable the student

to understand the basic concepts of the Maratha polity.

### HS – Core Course- 4History of Deccan – Pre History to Chalukyas

1) The paper is designed to make the student aware of the background of the history of the region.
2) A broad survey of the pre-history which connects with the early history is aimed at emphasising the continuities and changes in terms of geographical and cultural conditions created by the rulers.

## M.A. History Part-I (Sem. - II)

### HS -Core Course- 4 Approaches to History

1. to helped student interrogate existing paradigms and challenge the outdated.
2. to helped students in developed critique.
3. To helped student help research in terms of formulating hypotheses and developed broad frames of interaction with other social sciences and attain certain level of Interdisciplinary approach.

### HS- Core Course- 5 Evolution of Ideas and Institutions in Medieval India

1. Student introduced nature of medieval Indian society, economy, state formations, and the main religious currents of the time.
2. It is seen as a continuation of the course on ancient India. Students understand of the nature of society, and the problems of the challenge to that society, through colonialism, at a later stage.

### HS Core Course- 6 Socio – Economic History of the Maratha

1. Students were the components of social structure and their functions, to understand the relationship between religion, caste, customs, traditions, class in 17th and 18th century Maratha Society,
2. To enable the student to understand aspects of economic life, to trace the determinants of changes in social and economic life.

### HS – Core Optional Course- 7 Marathas in 17th and 18th century Power Politics

## M.A. History Part-II (Sem.-III)

### HS –Core Paper No. 7 Cultural History of Maharashtra

1. Students know relatively neglected part of social history; it is an attempt to provide voice to the history of the oppressed.
2. It defines and provides understand of various concepts, further explains the caste system and evil practices like untouched ability and its regasification in ancient and medieval times.
3. Students get knowledge of it lays emphasis on the earlier forms of protest by Buddhism, Jainism and later by Bhakti movement, in the medieval period especially in Maharashtra,
4. Students know that, which lays the foundation for social awareness and renaissance of the per Ambedkarian period.

### HS – Core Course- 8 Intellectual History of the Modern West

1. Students were understand the concepts that are used in history, both of west Europe and India; to acquainted the student with the intellectual activity that played an important role in shaping events; the transition from medieval to modern times.

### HS- Core Course – 9 Economic History of Modern India

1. Student understands to structural and conceptual changes in Indian economy after coming of the British.
2. Students were awareness of the exploitative nature of the British rule,
3. Students understand the process of internalization by Indians of new economic ideas, principles and practices.

### HS-Core Optional Course- 13 Maharashtra in the 19th Century

1. Student knows the history of modern Maharashtra from an analytical perspective; to point out to them the dialectical relationship between continuity and change in Maharashtra.
2. Students understand the ideas, institutions, forces and movements that contributed to the structural changes in Maharashtra.
3. Students understand various interpretative perspectives. To helped them in articulating their own ideas and views leading to orientation for research.

## M.A. History Part-II (Sem.-IV)

### HS –Core Course- 10 History of Modern India (1857 -1971)

1. Students understood the history of Modern India in an analytical perspective.
2. To made them awareness of the multi-dimensionality of Modern Indian History.

### HS- Core Course- 11 Debates in Indian Historiography

1. Students introduced the student to some of the issues that that have been debated by historians and to introduce some perspectives with reference to Indian History.

### HS Core Course- 12 World after World War II (1945 – 2000)

1. To acquainted the student with the post-World War II scenario and to enable them to understand contemporary world from the historical perspective.

### HS-Core Optional Course - 25 Ancient and Medieval Civilization of the World

1. Ancient and Medieval cultures with a view to understand the students,
2. Students were known reinterpret and present them in historical perspective.
3. Student to understand intellectual trends in the modern world to enable the student to have a better understand of Indian History in the World context.

## Department of Political Science

## Program Outcomes:

We are a theoretically innovative department that encourages methodological and intellectual pluralism. The Department of Political Science **offers graduation** to students interested in learning about the political world around them, and to students seeking career options in government and related fields.

The study of Government and Politics gives our students broad training in political science and is especially useful in preparation for the further study. This subject also accommodates students wishing to enter public service or who are interested in public administration or law school. Those wishing to enter public service or are interested in the study of public administration at the post- graduate level greatly benefited from the subject. With the help of Political Science programs, students analyze the fundamental theories and philosophies of government, economy, and civil society; and apply them to contemporary political systems. They can compare and contrast complex political issues and events within the context of the diverse political systems around the world. Students are prepared to enter positions within the government at the federal, state, and local levels or within the private sector as government relations specialists, public policy mangers, and contractors. The subject enables students to start or advance career in political science.

## Course outcomes of Political Science:

Introduction to Indian Constitution (F.Y.B.A.)

To understand the philosophy of Indian constitution. • To identify the causes, impact of British colonial rule. • To appreciate the various phases of Indian national movement. • To create value in young youth regarding the patriotism. • To familiarize students with the working of the constitution of India.• To understand the various Government of Indian acts their provision and reforms. • To know the salient features in making of Indian constitution • To appreciate the socio-economic political factors which lead to the freedom struggle. • To understand the constitutional orderings and institutional arrangement. • To appreciate the fundamental rights and duties and the directive principle of state policy. • To understand the Federal system of India. • To evaluate the evolution, functioning and consequences of political parties in India. • To identify how electoral rules and procedure in India effect election outcomes.

## Introduction to Political Science (S.Y.B.A.)

To understand the nature and scope of political Science. • To understand the significance of political Science. • To acquaint with the theories, approaches, concepts and principles of political Science. • To appreciate the procedure of different theoretical ideas in political Science. • To Interpret and assess information regarding a variety of political theory. • To understand the various traditional and modern theories of political science. • To understand the basic political value like Liberty, Equality and Justice. • To understand the various political concepts and Ideologies. . • To understand functions and role of International and Regional organizations. • To evaluate the theories of origin of the state. • To comprehend the sources of political information's.

## Political Ideologies (T.Y.B.A.)

The study of political ideologies gives the student a window through which to view complex political phenomena. This course examines the origins and impact of ideologies on the development of societies. Major ideologies such as nationalism, liberalism, conservatism, anarchism, Marxist theory, socialism, applied Marxism, fascism, Nazism, feminism, environmentalism and Third World ideologies are covered.

- To examines the origin and impact if ideologies.
- To search the role of ideologies in policy making/law making.
- Student get the idea, 'How ideologies force to act ones as political actor'.

## B.SC. BOTANY

## PROGRAM OUTCOMES

**1. To increase knowledge of basic natural sciences:**
Basic science knowledge is important for any further study and research.Students are known about different types of lower plants such as Algae, Fungi, Bryophyte andPteridophytes that indicates the evolution in plants.Students will be able to apply the scientific method to questions in biology by formulating testable hypotheses, gathering data that address this hypothesis, and analyzing those data to assess the degree to which their scientific work supports their hypotheses.

**2. To aware about scientific knowledge:**Students will be able to apply the scientific method to questions in biology by formulating testable hypotheses, gathering data that address these hypotheses, and analyzing those data to assess the degree to which their scientific work supports their hypotheses. Experiments are based on scientific techniques. Industrial product production requires basic skills and knowledge which is useful for welfare of society and career of Students.

**3. To study modern technique:**This is anera of Biotechnogy, in which different microbial origin biotechnological product used daily for normal survival of human beings. Cell biology and genetics, provide knowledge about tools & technique of recombinant DNA technology plant tissue culture and their importance and applied in different scientific practices.

**4. Basic sciences and advanced biotechnological techniques:** In Food Industries, Pharmaceutical Industries, Wine Industries, Fiber Industry, Fodder Industry, Leather Industry, Agriculture Industry, Plant Tissue Culture Industry, Mushroom Industry, Biofuel Industry, Biopesticide Industry, Biofertilizer Industry, Vermi culture Industry, Fruit Processing Industry, Horticulture Industry etc. mainly based on biotechnological techniques.

**Practical skills:**Students getting idea about how to perform the experiments of different Botany subject. He learns many things like imagination, innovation, procedure, applications, interpretation of results, plant part sectioning, staining and many other laboratory techniques. Student easily identification of plant, classification, uses of plants. Student learns many physiological, pathological, genetical, ecological phenomenon.

**5. Critical thinking:**Curriculum is modified for the betterment of the students; enhance the ability and thinking power.

**6. Environment and sustainability:**Healthy environment is necessary for normal and healthy life. Due to industrialization and automotive vehicles environment get imbalanced.Today's environment is polluted by different mechanisms. Conservation practices are need to sustainable development.

**7. Enhance life skills:** By learning Science, increase in reading, writing, thinking ability andplanning of work Increases our knowledge, curiosity bythe use of internet and otherresources.

**8. Processing goods according to need:**Know Industrial expectations, needof the Society; one can produce the product of best quality. The students aremakingaware about use of plants in the various Industries and their products. Students Motivated for the entrepreneurship.

**9. Successful career in Botany:** Botany is a fundamental basic natural science. By learning and applying basic techniques to start up a business. In other fields like Forestry, Plant Nursery, Plant Tissue Culture, Plant Research Institutes. Also good career is available in Agriculture sector, different government and non-government fields.

**10. Effective communication:**Field visits and study tours leads to improve our Communicationskills in English language. So we can able to write effectively reports, presentations and explanation. Individual work is effectively done in a team and as a member. By this students communication skill enhanced.

**11. To help to farmers:** Agriculture is a backbone of our country. Botany learners can help the farmers in response of Diseases Control, Plant Yield, Biopesticide, Hybrid Seed Production, Use of Biofertilizers etc. Botany Department has organized two days state level Seminar on "Role of Biofertilizers in Modern Agriculture" on 16$^{th}$ and 17$^{th}$Jan. 2015. In this seminar eminent resource persons shared their experiences, views and practical knowledgewith the farmers.

**12. Research:** Skillful experimental study is useful for sustainable development, conservation of environment, reduce pollution, Agricultural problems and many burning issues related to Agriculture can be solved by the research activities.

**13. Socio economical challenges:** Increasing population and unemployment is the main barrier of development of India. To establish small scale Industries like Food Industries, Pharmaceutical Industry, Wine Industry, Fiber Industry, Fodder Industry, Leather Industry, Agriculture Industry, Plant Tissue Culture Industry, Mushroom Industry, Biofuel Industry, Biopesticide Industry, Biofertilizer Industry, Vermi culture Industry, Fruit Processing Industry, Horticulture Industriesare economically empowering the unemployed youth.

## ProgrammeSpecificOutcomes (PSOsofB.Sc.Botany):

**PSO1.** Critically evaluation of ideas and arguments by collection relevant information about the plants, so as recognize the position of plant in the broad classification and phylogenetic level.

**PSO2.** Identify problems and independently propose solutions using creative approaches, acquired through interdisciplinary experiences, and a depth and breadth of knowledge/expertise in the field of Plant Identification.

**PSO3**. Accurately interpretation of collected information and use taxonomical information to evaluate and formulate a position of plant in the taxonomy are done properly.

**PSO4**. Students will be able to apply the scientific method to questions in botany by formulating testable hypotheses, collecting data that address these hypotheses, and analyzing those data to assess the degree to which their scientific work supports their hypotheses.

**PSO5**. Students will be able to present scientific hypotheses and data both orally and in writing in the formats that are used by practicing scientists.

**PSO6.**Students will be able to access the primary literature, identify relevant works for a particular topic, and evaluate the scientific content of these works.

**PSO7.**Students will be able to apply fundamental mathematical tools (statistics, calculus) and physical principles (physics, chemistry) to the analysis of relevant biological situations.

**PSO8**. Students will be able to identify the major groups of organisms with an emphasis on plants and be able to classify them within a phylogenetic framework. Students will be able to compare and contrast the characteristics of plants, algae, and fungi that differentiate them from each other and from other forms of life.

**PSO9.**Students will be able to use the evidence of comparative biology to explain how the theory of evolution offers the only scientific explanation for the unity and diversity of life on earth. They will be able to use specific examples to explicate how descent with modification has shaped plant morphology, physiology, and life history.

**PSO10.**Students will be able to explain how Plants function at the level of the gene, genome, cell, tissue, Flower development. Drawing upon this knowledge, they will be able to give specific examples of the physiological adaptations, development, reproduction and mode of life cycle followed by different forms of plants.

**PSO11.**Students will be able to explain the ecological interconnectedness of life on earth by tracing energy and nutrient flow through the environment. They will be able to relate the physical features of the environment to the structure of populations, communities, and ecosystems.

**PSO12.**Students will be able to demonstrate proficiency in the experimental techniques and methods of analysis appropriate for their area of specialization withinbiology.

## Course Outcomes of B.Sc. Botany

| Sr No | Class/ Program | Course Name/ Title | Outcomes |
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| CO1 | F.Y.B.Sc. SEM – I **CBCS Pattern** | **BO: 111: Plant Life and Utilization- I** | 1.To understand about lower plants and their life Cycle pattern.<br>2. student are able to know about Non-Vascularplants and vascular plants<br>3. Know the biodiversity, habitat, habit, thallus structure and life cyclesPatterns and their economic importance.<br>4. To observe and understood microscopic plants<br>5. Know about economic importance and life cycle of algal member, Spirogyra, fungal member mushroom, bryophyte Riccia<br>6.Students have to play important role for conservation of flora and fauna |
| CO2 | F.Y. B. Sc. SEM – I **CBCS Pattern** | **BO:112 Plant Morphology and Anatomy** | 1. Understand the habit of the Angiospermic plant body.<br>2. Know the vegetative characteristics of the plant (Root, Stem, Leaves, Inflorescence, Flower, Fruits)<br>3. Learn about the reproductive characteristics of the plant.<br>4.Understand the plant morphology<br>5. To know internal organization of different tissues in the monocot and Dicot plants.<br>6. To describe Anatomical & Physiological characters related to study of plant.<br>**7.** The knowledge of basic science are the pillars of life science. |
| CO3 | F.Y. B. Sc. SEM – I **CBCS Pattern** | **BO:113 Practical Paper-III** | Students understand practically by handling of plant materials, equipment's and apparatus<br>1.To observe and study the life cycle of Spirogyra, Agaricus and Riccia<br>2. To observe the forms of lichens.<br>3. Procedure of mushroom cultivation<br>4. Visit to biodiversity area<br>5. Learn about Angiospermic plants inflorescence and their types.<br>6. Study of flower and its floral whorls<br>7. Study of fruit Morphology and types.<br>5. To learn internal structure of Root, Stem and Leaf of Monocot and Dicot |
| CO4 | F.Y. B. Sc. SEM – II **CBCS Pattern** | **BO 121 Plant Life and Utilization II** | 1.To Understand the basic concepts and morphology of Pteridophytes, Gymnosperms and Angiosperms.<br>2. Learn about morphology, anatomy and reproductive structures of Pteridophytes, Gymnosperms and Angiosperms<br>2.Know the economic importance of Pteridophytes, Gymnosperms and Angiosperms |
| CO5 | F.Y. B. Sc. SEM – II **CBCS Pattern** | **BO:122- Principles of Plant Science: Plant Physiology and Cell Biology** | 1. They understand the pattern of inheritance in various life forms.<br>2. They develop a strong fundaments basics for further molecular studies.<br>3. Students will be able to understand the various physiological life processes inplants<br>4. They will also gain about the various uptake and transport |

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| | | | mechanisms in plants.<br>During the course students will gain knowledge about various mechanisms suchas channel or transport proteins involved in nutrient uptake in plants.<br>5. They explain the different mechanisms in plants used for water transport.<br>6. They explain the structure, importance of Chloroplast, Mitochondria in photosynthesis and Respiration.<br>7. They distinguish the structure of prokaryotic and eukaryotic cell.<br>**Molecular Biology**<br>1. They learn about DNA, RNA andtheir replication,<br>2. The course teaches the studentsabout molecular biology, central dogma of molecular biology.<br>3. They learn types of chromosomes, packing of DNA into chromosomes. |
| CO6 | F.Y. B. Sc. SEM – II **CBCS Pattern** | **BO: 123- Practical Paper-III** | 1. Learn the Life cycle and economic importance of Pteridophytes, Gymnosperms.<br>2. To learn utilization, economic importance and comparative account of Monocots and Dicots<br>3. Uses of Angiospermic plants like food, fodder, fibers, medicines etc.<br>4. To observe, compare and study of characteristics of Prokaryotic and Eukaryotic plant cell.<br>5. To learn cell division mitosis and its stages<br>6. To know about meiosis cell division by the use of buds<br>7. Quantitative estimation of Chl.a and Chl. B by using spectroscopic method<br>8. To study demonstrationof plasmolysis by endo and exosmosis with the help of Rhoeo leaf peeling<br>9. Isolate DNA from cauliflower heads |
| CO7 | S. Y. B. Sc. SemIII **CBCS Pattern** | **BO 231: Taxonomy of Angiosperms and Plant Ecology** | **Understand the diversity of angiosperms.**<br>1. Know about Angiospermic plantsidentification, nomenclature and classification.<br>2. Understand about various systems of classifications<br>3. Study of Angiospermic families with floral characters<br>4. Learn about binomial nomenclature<br>5. Know about ecology, biodiversity, vegetation study, ecosystem diversity<br>6. Learn about hot spots in India<br>7. Know about ecological grouping<br>Hydrophytes, Mesophytes, Xerophytes and Halophytes |
| CO8 | S. Y. B. Sc. Sem.III **CBCS Pattern** | **BO:232- 23142 - Plant Physiology** | 1. They know importance and scope of Plant Physiology, Plant water relation, absorption of water, ascent of sap, Transpiration phenomenon etc.<br>2. Plant growth and plant growth regulators, nitrogen metabolism.<br>3. They understand Seed dormancy, Physiology of flowering etc |

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| | S. Y. B. Sc. Sem.III **CBCS Pattern** | **SEM III -BO:233-23143 Practical Paper** | 1. Plant families representing different groups of Angiosperms w. r. t systematic position, morphological characters, floral formula and floral diagram.<br>2.Know the ecological adaptations like hydrophytes and xerophytes<br>3. Know the vegetation by list count quadrat method.<br>4. Handling the taxonomic and ecological instruments.<br>5. Determine DPD and transpiration rate<br>6. They calculate seed germination percentage |
| CO9 | S. Y. B. Sc. Sem.IV **CBCS Pattern** | **BO:241- 24141-Plant Anatomy and Embryology** | 1. Students understand the scope & importance of Plant Anatomy and Embryology.<br>2. Know various tissue systems.<br>3. Understand the normal and anomalous secondary growth in plants and their causes (Bignonia, Raphanus and Dracaena)<br>4. Performs the techniques in Plant anatomy.<br>5. Understand structure and development in microsporangium and Megasporangium.<br>6. Understand microsporogenesis and Megasporogenesis.<br>7. Understand male and female gametophytes and Know fertilization, endosperm types and embryogeny. |
| CO10 | S. Y.B. Sc. Sem.IV **CBCS Pattern** | **BO 242: Plant Biotechnology** | 1.Understand scope and application of biotechnology<br>2. To know about plant tissue culture technology<br>3. Learn about single cell protein *Spirulina* and yeast<br>4. To know about advanced techniques of Plant Genetic Engineering<br>5. Understand about Genomics, Proteomics and Bioinformatics<br>6. To know about Bioremediation and Biofuel technology |
| CO11 | S. Y.B. Sc. Sem.IV **CBCS Pattern** | **SEM IV - BO:243- 24143 Practical Paper** | 1. Study of epidermal tissue and mechanical tissue systems.<br>2. Study of normal secondary growth in the Stem of Annona.<br>3. Study of anomalous secondary growth in the Stems of Bignonia and Dracaena.<br>4. Students can understand Tetrasporangiate anther and types of ovules.<br>5. They prepare and sterilize MS medium, sterilize and inoculate nodal sector, leaf, maize embryo etc.<br>6. They cultivate Spirulina at experimental level. |
| CO12 | T.Y. B.Sc. Botany Sem. III **2013 pattern** | **BO 331: 91413 Cryptogamic Botany** | 1. Understand the diversity and Know the systematic position, morphology and structure, understand the life cycle pattern of among<br>• Algae (*Nostoc, Chara, Sargassum* and *Batrachospermum*)<br>• Fungi(*Rhizopus, Saccharomyces, Puccinia* and *Cercospora*)<br>• Bryophytes (*Marchantia*, *Anthoceros* and *Polytrichum*)<br>• Pteridophytes (*Psilotum, Selaginella* and *Marsilea*).<br>2. Understand the economic importance of Algae, Fungi, Bryophytes and Pteridophytes.<br>Lower plants are also used as non conventional food sources. |

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| CO13 | T.Y. B.Sc. Botany Sem. III **2013 pattern** | **BO: 332: 91423 Cell and Molecular Biology** | Gain knowledge about Cell Science<br>Cell biology gives knowledge about cell organelles, importance and their function.<br>1. prokaryotic and eukaryotic cell<br>2. Understand component of cell is cell wall, Plasma Membrane, organelles and Cytoplasmic matrix.<br>3. Cell organelles w. r. t. ultra structure, chemical composition and functions<br>• Endoplasmic reticulum<br>• Golgi Complex<br>• Lysosomes<br>• Mitochondrion<br>• Plastids<br>• Ribosomes<br>• Micro bodies<br>4. Learn the scope and importance of molecular biology.<br>5. Understand the biochemical nature of nucleic acids, their role in living systems, experimental evidences to prove DNA as a genetic material. (Watson & Crick Model)<br>6. Understand the process of DNA replication, DNA damage synthesis of proteins.<br>7. Know the concept of gene organization, Transcription, Translation and role of genetic code in polypeptide formation.<br>8. Gene action and regulation in governing specific functioning and characters |
| CO14 | T.Y. B.Sc. Botany Sem. III **2013 pattern** | **BO: 333:91433 Genetics and Evolution** | 1.Understand the Science of Heredity, Mendelism, laws of heredity<br>2. Interaction of gene<br>3. Study of multiple alleles, linkage and crossing over<br>4. Cytoplasmic inheritance<br>5. Sex linked inheritance<br>6. Euploidy, aneuploidy and chromosomal aberrations.<br>7. Realize the role of genes in evolution of species and theories.<br>8. Know the population genetics.<br>9. New varieties must be developed to show resistance to change in climatic conditions. |
| CO15 | T.Y. B.Sc. Botany Sem. III **2013 pattern** | **BO:334: 91443 Spermatophyta and Palaeobotany** | 1. Understand the diversity of angiosperms.<br>2. Know the origin and classification systems<br>3. Understand distinguishing features and the comparative account among the families of angiosperms.<br>4. Know the scope of Paleobotany, types of fossils and geological time scale<br>5. Understand the various fossil genera representing different fossil groups. |

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| CO16 | T.Y. B.Sc. Botany Sem. III **2013 pattern** | **BO: 335: 91453 Horticulture and Floriculture** | 1. To understand scope , importance & disciplines of horticulture.<br>2. To familiar with horticultural zone of Maharashtra & India.<br>3. To understand different horticultural practices & methods.<br>4. To understand production technology, harvesting and preservation techniques of fruits, vegetables, Ornamentals, floriculture.<br>5. Knowledge of horticulture and floriculture is useful for development of small scale industries for the youth |
| CO17 | T.Y. B.Sc. Botany Sem. III **2013 pattern** | **BO: 336 : 91463 Computational Botany** | 1.Understand the techniques of statistics to biological data<br>2. Collection, Sampling, representation of data and its advantages<br>3. Measures the mean, mode, median, dispersion methods, correlation and regression of biological data.<br>4. Probabilities and its theories.<br>5. Determine test of significance.<br>6. Seed testing methods, vegetation data and satellite data |
| CO18 | T.Y. B.Sc. Botany Sem. IV **2013 pattern** | **BO: 341:91414 Plant Physiology and Biochemistry** | 1. Know scope and importance of plant Physiology.<br>2. Understand the process of Photosynthesis in higher plants with particular emphasis on light and dark reactions, $C_3$, $C_4$ and CAM pathways.<br>3. Understand the respiration in higher plants with particular emphasis on Aerobic and Anaerobic Respiration.<br>4.To understand the Stress Physiology<br>5. Understand the current status of Biochemistry.<br>6. Understand the importance of Bio-molecules<br>6. Recognize the impact of Biochemistry on socioeconomic aspects of life and Industrial application of Biochemistry |
| CO19 | T.Y. B.Sc. Botany Sem. IV **2013 pattern** | **BO: 342: 91424 Plant Ecology And Biodiversity** | 1. Know the scope and importance of the ecology, to Provide knowledge about environmental factors and natural resources and their importance in sustainable development.<br>2. Understand plant communities and ecological adaptations in plants and environmental impact assessment.<br>3. Learn about loss and conservation of biodiversity,<br>4. Discover botanical regions of India and vegetation types of Maharashtra.<br>5.Understand Bioremediation, Global warming and climate change.<br>6. Knowledge is useful for conservation of natural resources. |

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| CO20 | T.Y. B.Sc. Botany Sem. IV **2013 pattern** | **BO: 343: 91434 Plant Pathology** | 1. Understand the scope and importance of Plant Pathology. To give knowledge about plant disease, plant growth, plant metabolism and structure between different groups of plant.<br>2. Mechanism of disease development and defense mechanism<br>3. Know the diseases caused by fungal, bacterial, mycoplasma, nematodal and viral pathogens<br>4. Different control measures of plant diseases |
| CO21 | T.Y. B.Sc. Botany Sem. IV **2013 pattern** | **BO:344: 91444 Medicinal and Economic Botany** | 1. Know about origin, history herbal treatment systems<br>2. Understand about Ayurvedic, Siddha, Unani, Tibi and Chinese system w. r. t. principles, formulations and plant used.<br>3. Preparation of crude drugs and adulteration of drugs<br>4. Understand medicinally important drug plants<br>5. Know about ethno botany. |
| CO22 | T.Y. B.Sc. Botany Sem. IV **2013 pattern** | **BO:345: 91454 Plant Biotechnology** | 1. Understand the biotechnology scope, significance, To learn advanced techniques and achievement.<br>2. Fundamentals of totipotency in plant tissue culture techniques.<br>3. Know the transgenic technology for the Improvementof quality and quantity of plant and there by product.<br>4. Understand the advantages of in vitro propagation in various areas.<br>10. Realize the application and importance of plant tissue culture and transgenic plants.<br>6. Known the working of NCBI and data retrieval tools. |
| CO23 | T.Y. B.Sc. Botany Sem. IV **2013 pattern** | **BO:346: 91464 Plant Breeding and Seed Technology** | 1. Understand the science of plant breeding.<br>2. To study the different techniques of production of new superior crop verities.<br>3. Know the seed production, seed certification, seed processing, seed packaging, seed Marketing and seedpurity analysis |
| CO24 | Annual Pattern **2013 pattern** | **BO:347: 91474 practical paper I** | Students understand practically by handling and sectioning plant materials.<br>1.The range of thallus structure reproductive structure The life cycle pattern in Algae, Fungi, Bryophytes and Pteridophytes<br>2.Preparation of fixative and stains<br>3. The Mitosis and Meiosis techniques.<br>4. Study of polytene chromosome from Chironomus larvae.<br>5. Isolation of DNA from Cauliflower plant material.<br>6. Separation of photosynthetic pigment by paper Chromatography method.<br>7. Demonstration experiments<br>8. Learn the laboratory techniques of preparation of MS medium<br>9. In vitro callus induction by using maize embryo.<br>10. Student know the importance of applications of |

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| | | | Biofertilizers.<br>11. Study of transgenic plants Bt cotton, Bt tomato Bt brinjal |
| CO25 | Annual Pattern **2013 pattern** | **BO:348: 91484 practical paper II** | 1. Student understand induction of tetraploidy in onion root tips in vitro condition<br>2. Students Estimation of frequency of PTC taste sensitivity in their family, earlobe and rolling tongue<br>3. Study the problems on gene mapping using three points test cross.<br>4. Study of Gymnosperms Pinus and Gnetum w r t morphology, anatomy (root, stem and leaf), male and female cone.<br>5. Study of eight plant families representing different groups of angiosperms w. r. t. systematic position, morphological characters, floral formula and floral diagram.<br>6. Identification of plant with help of floras<br>7. Student prepare artificial key on the basis of vegetative and reproductive characters.<br>8. Student studies the fossils types.<br>9. Study of plant vegetation by list quadrat method.<br>10. Student knows the hybridization technique practically.<br>11. Induction of polyploidy in *Allium cepa* by colchicines treatment<br>12. Understand the seed moisture test and sampling equipment photographs. |
| CO26 | Annual Pattern **2013 pattern** | **BO:349: 91494 practical paper III** | 1. Student understand the phenology of fruits, vegetables and flowering crops<br>2. Student handled garden tools like sprayer, duster, pruning knife, sprinkler etc.<br>3. Student do practically filling of garden pots for plantation.<br>4. Know the techniques of propagation like cutting, layering, budding and grafting.<br>5. Learn the technique of pruning<br>6. Student understands the cut flower preservation methods.<br>7. Methods of dry flower making.<br>8. Student learn statistical analysis of biological data<br>• Mean, mode, median, variance and standard deviation methods<br>• Graphical methods<br>• Student 't' test and $X^2$ test<br>• Correlation<br>9. Determine seed germination indices<br>10 Analysis of satellite data collected on biomass<br>11. Student prepares PDA culture medium.<br>12. Student understand Koch's postulates, pure culture techniques,<br>13. Student study the fungal, bacterial, viral diseases of |

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| | | | crop plants<br>14. Student studies the fungicides and microbial pesticides.<br>15. Study of six drug yielding plants w. r. t. macroscopic, microscopic and applications.<br>16. Student performs Ayurvedic formulations.<br>17. Know the qualitative test for secondary metabolites.<br>18. Calibration of microscope and measurement of stomatal index and vein islet number (Micrometry) |

## DEPARTMENT OF CHEMISTRY

**B. Sc. Chemistry**

**Goals:**

**The Department has formulated three broad educational goals for the undergraduate degree programs:**

**Chemistry knowledge:** To provide students with the basic foundation in Chemistry and allied subjects, the interplay of theory and experiment, and to motivate scientific enthusiasm and curiosity and the joy of learning.

**Problem solving skills:** To provide students with the tools needed to analyse problems with the skills required to succeed in graduate school, the chemical industry or professional school.

**Employment and technical skills:** To provide the students with technical skills necessary for successful careers in chemistry and related or alternative careers for which a chemistry foundation can be very useful. These include to a breadth of experimental techniques using modern instrumentation and communication skills (oral and written).

**Programme Outcomes:**

**Knowledge outcome:**

After completing B.Sc. Chemistry Programme students will be able to:

PO1: Transfer and apply the acquired fundamental knowledge of chemistry, including basic concepts and principles of 1) organic chemistry, Inorganic chemistry, Physical and Analytical Chemistry; (2) analytic techniques and experimental methods for chemistry to study different branches of chemistry;

PO2: Demonstrate the ability to explain the importance of the Periodic Table of the Elements and represent key aspects of it and its role in organizing chemical information.

**Skills Outcomes**

**Professional Skills**

After completing B.Sc. Chemistry Programme students will be able to:

PO3: apply and demonstrate knowledge of essential facts, concepts, laws, principles and theories related to chemistry;

PO4: demonstrate the learned laboratory skills, enabling them to perform qualitative and quantitative analysis of given samples and able to make conclusions on it;

PO5: set procedure and synthesize simple compounds of commercial importance.

PO6: engage in oral and written scientific communication, and will prove that they can think critically and work independently.
PO6: Communicate effectively using graphical techniques, reports and presentations within a scientific environment.
PO7: to recognize problems in chemical science and make strategies to solve it.
PO8: Respond effectively to unfamiliar problems in scientific contexts
PO9: Plan, execute of design experiment, make documentation of it, interpret data at entry level of chemical industry and report the results;
PO10: Integrate and apply these skills to study different branches of chemistry.

**Generic Competencies**

PO11: The student will acquire knowledge effectively by self-study and work independently, present information in a clear, concise and logical manner and apply appropriate analytical and approximation methods
PO12: The student will learn professionalism, including the ability to work in groups and in society, and apply basic ethical principles.

**Program Specific Outcomes**

After completing B. Sc. Chemistry, students will be able to
PSO1: Understand the nature and basic concepts of Physical, Organic and Inorganic chemistry;
PSO2: Analyse Organic and inorganic compounds qualitatively and quantitatively;
PSO3: Understand the applications of physical, organic, inorganic and analytical chemistry in pharmaceutical, agriculture and chemical industries;
PSO4: Able to perform experimental procedures as per laboratory manual in the area of physical, Inorganic and organic chemistry;
PSO5: interpretation and synthesis of chemical information and data obtained from chemical and instrumental analysis.

**Course Outcomes:**

**F.Y.B.Sc. Chemistry**

**CH- 101: Physical Chemistry (Sem-I)**

**At the end of course student will be able to -**

CO1: **Chemical Energetics**

1. Students will be able to apply thermodynamic principles to physical and chemical process
2. Calculations of enthalpy, Bond energy, Bond dissociation energy , resonance energy
3. Variation of enthalpy with temperature –Kirchoff's equation 4. Third law of thermodynamic and its applications

CO2: **Chemical Equilibrium**

Knowledge of Chemical equilibrium will make students to understand
1. Relation between Free energy and equilibrium and factors affecting on equilibrium constant.
2. Exergonic and endergonic reaction
3. Gas equilibrium, equilibrium constant and molecular interpretation of equilibrium constant
4. Van't Haff equation and its application

CO3: **Ionic equilibria**

Ionic equilibria chapter will lead students to understand
1. Concept to ionization process occurred in acids, bases and pH scale
2. Related concepts such as Common ion effect hydrolysis constant, ionic product, solubility product
3. Degree of hydrolysis and pH for different salts, buffer solutions

**CH- 102: Organic Chemistry(Sem-I)**

By the end of this course students will able to

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

CO2: It is expected to inspire and boost interest of the students towards chemistry as the main subject.

CO3: To familiarize with current and recent developments in Chemistry.

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

**CH- 103: Chemistry Practical Course-I**

At the end of course student will able to

CO1: handle laboratory glassware's, hazardous chemicals safely in laboratory.

CO2: Set up the apparatus properly for the given experiments. Perform all the activities in the laboratory with neatness and cleanness.

CO3: maintain records of quantitative and qualitative analysis.

CO4: Importance of chemical safety and Lab safety while performing experiments in laboratory

CO5: Determination of thermochemical parameters and related concepts

CO6: Techniques of pH measurements

CO7: Preparation of buffer solutions

CO8: Elemental analysis of organic compounds (non instrumental) Chromatographic Techniques for separation of constituents of mixtures

**CH-201: Inorganic Chemistry (Sem-II)**

CO1: **Atomic Structure**

1. Various theories and principles applied to revel atomic structure
2. Origin of quantum mechanics and its need to understand structure of hydrogen atom
3. Schrodinger equation for hydrogen atom
4. Radial and angular part of hydrogenic wave functions
5. Significance of quantum numbers
6. Shapes of orbitals

CO2: **Periodicity of Elements**

1. Explain rules for filling electrons in various orbitals- Aufbau's principle, Pauli exclusion principle, Hund's rule of maximum multiplicity
2. Discuss electronic configuration of an atom and anomalous electronic configurations.
3. Describe stability of half-filled and completely filled orbitals.
4. Discuss concept of exchange energy and relative energies of atomic orbitals
5. Design Skeleton of long form of periodic table.

CO3: **Periodicity of Elements**

6. Describe Block, group, modern periodic law and periodicity. 7. Classification of elements as main group, transition and inner transition elements
8. Write name, symbol, electronic configuration, trends and properties.
9. Explain periodicity in the following properties in details:
   a. Effective nuclear charge, shielding or screening effect; some numerical problems.
   b. Atomic and ionic size.
   c. Crystal and covalent radii
   d. Ionization energies
   e. Electronegativity- definition, trend, Pauling electronegativity scale.

f. Oxidation state of elements

CO4: **Chemical Bonding**

1. Attainment of stable electronic configurations.
2. Define various types of chemical bonds- Ionic, covalent, coordinate and metallic bond

3. Explain characteristics of ionic bond, types of ions, energy consideration in ionic bonding, lattice and solvation energy and their importance in the context of stability and solubility of ionic compounds

4. Summarize Born-Lande equation and Born-Haber cycle,

5. Define Fajan's rule, bond moment, dipole moment and percent ionic character.

CO5: **Chemical Bonding**

6. Describe VB approach, Hybridization with example of linear, trigonal, square planer, tetrahedral, TBP, and octahedral. 7. Discuss assumption and need of VSEPR theory.

8. Interpret concept of different types of valence shell electron pairs and their contribution in bonding.

9. Application of non-bonded lone pairs in shape of molecule 10. Basic understanding of geometry and effect of lone pairs with examples such as ClF3, Cl2O, BrF5, XeO3 and XeOF4

**CH- 202: Analytical Chemistry (Sem-II)**

CO1: **Introduction to Analytical Chemistry**

1. Analytical Chemistry –branch of chemistry
2. Perspectives of analytical Chemistry
3. Analytical problems

CO2: **Calculations used in Analytical Chemistry**

1. Calculations of mole, molar concentrations and various units of concentrations which will be helpful for preparation of solution
2. Relation between molecular formula and empirical formula
3. Stoichiometric calculation
4. Define term mole, millimole, molar concentration, molar equilibrium concentration and Percent Concentration.
5. SI units, distinction between mass and weight
6. Units such as parts per million, parts per billion, parts per thousand, solution-dilatant volume ratio, function density and specific gravity of solutions.

CO3: **Qualitative Analysis of Organic Compounds**

Basics of type determination, characteristic tests and classifications, reactions of different functional groups.

1. Separation of binary mixtures and analysis
2. Elemental analysis -Detection of nitrogen, sulphur, halogen and phosphorous by Lassaigne's test.
3. Purification techniques for organic compounds.

CO4: **Chromatographic Techniques –**
**Paper and Thin layer Chromatography**

1. Basics of chromatography and types of chromatography
2. Theoretical background for Paper and Thin Layer Chromatography.

CO5: **pH metry**

1. pH meter and electrodes for pH measurement
2. Measurement of pH
3. Working of pH meter,Applications of pH meter

**CH- 203: Chemistry Practical Course–II**

CO1:Inorganic Estimations using volumetric analysis
CO2: Synthesis of Inorganic compounds
CO3: Analysis of commercial products
CO4: Purification of organic compounds
CO5:Preparations and mechanism of reactions involved

**S.Y.B.Sc. Chemistry**

**CH-301: Physical and Analytical Chemistry (Sem-III)**

After completion of course student will able to

CO1: Define / Explain concept of kinetics, terms used, rate laws, Molecularity, order. Explain factors affecting rate of reaction. Explain / discuss / derive integrated rate laws, characteristics, expression for half-life and examples of zero order, first order, and second order reactions.

CO2: Explain / discuss the term energy of activation with the help of energy diagram. Derivation of Arrhenius equation and evaluation of energy of activation graphically.

CO3: Define / explain adsorption, classification of given processes into physical and chemical adsorption. Discuss factors influencing adsorption, its characteristics, differentiates types as physisorption and Chemisorption

CO4: Explanation of adsorption results in the light of Langmuir adsorption isotherm, Freundlich's adsorption Isotherm and BET theory. Apply adsorption process to real life problem.

CO5: Define, explain and compare meaning of accuracy and precision. Apply the methods of expressing the errors in analysis from results. Explain / discuss different terms related to errors in quantitative analysis.

CO6: Explain / define different terms in volumetric analysis such as units of concentration, indicator, equivalence point, end point, standard solutions, primary and secondary standards, complexing agent, precipitating agent, oxidizing agent, reducing agent, redox indicators, acid base indicators, metallochome indicators, etc. Perform calculations involved in volumetric analysis.

CO7: Explain why indicator show colour change and pH range of colour change. To prepare standard solution and perform standardization of solutions. To construct acid – base titration curves and performs choice of indicator for particular titration.

CO8: Explain / discuss acid-base titrations, complexometric titration / precipitation titration / redox titration. Apply volumetric methods of analysis to real problem in analytical chemistry / industry.

**CH-302: Inorganic and organic Chemistry (Sem-III)**

After completion of course student will able to

CO1: Define terms related to molecular orbital theory (AO, MO, sigma bond, pi bond, bond order, magnetic property of molecules, etc). Explain and apply LCAO principle for the formation of MO's from AO's. Explain formation of different types of MO's from AO's.

CO2: Draw and explain MO energy level diagrams for homo and hetero diatomic molecules. Explain bond order and magnetic property of molecule. Explain formation and stability of molecule on the basis of bond order. Apply MOT to explain bonding in diatomic molecules other than explained in syllabus.

CO3: Define different terms related to the coordination chemistry (double salt, coordination compounds, coordinate bond, ligand, central metal ion, complex ion, coordination number, magnetic moment, crystal field stabilization energy, types of ligand, chelate effect, etc.)

CO4: Explain Werner's theory of coordination compounds. Differentiate between primary and secondary valency. Correlate coordination number and structure of complex ion. Apply IUPAC nomenclature to coordination compound.

CO5: Identify and draw the structures aromatic hydrocarbons from their names or from structure name can be assigned. Explain / discuss synthesis of aromatic hydrocarbons. Give

the mechanism of reactions involved. Explain /Discuss important reactions of aromatic hydrocarbon. To correlate reagent and reactions.
CO6: Identify and draw the structures alkyl / aryl halides from their names or from structure name can be assigned. Explain / discuss synthesis of alkyl / aryl halides. Write / discuss the mechanism of Nucleophilic Substitution (SN1 , SN2 and SNi) reactions. Explain /Discuss important reactions of alkyl / aryl halides. To correlate reagent and reactions. Give synthesis of expected alkyl / aryl halides.
CO7: Identify and draw the structures alcohols / phenols from their names or from structure name can be assigned. Able to differentiate between alcohols and phenols. Explain / discuss synthesis of alcohols / phenols.
CO8: Write / discuss the mechanism of various reactions involved. Explain /Discuss important reactions of alcohols / phenols. To correlate reagent and reactions of alcohols / phenols. Give synthesis of expected alcohols / phenols.

**CH-303: Practical Chemistry-III**
After completion of practical course student should be able to
CO1: verify theoretical principles experimentally
CO2: interpret the experimental data and improve analytical skills
CO3: correlate the theory and experiments and understand their importance and Acquire the simple and complex practical skill
CO4: Separation of organic compound and their identification by chemical methods.
CO5: Write balanced equation for all the reactions, they carry in the laboratory.
CO6: Perform organic synthesis and follow the progress of the reaction by using TLC technique.
CO7: Set up the apparatus properly for the given experiments. Perform all the activities in the laboratory with neatness and cleanness
CO8: Perform the complete qualitative chemical analysis of the given inorganic mixture and find out acidic and basic radicals.

**CH-401: Physical and Analytical Chemistry (Sem-IV)**
After completion of course student will able to
CO1: 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. 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. Derive of phase rule. Explain of one component system with respect to: Description of the curve, Phase rule relationship and typical features for i) Water system ii) Carbon dioxide system iii) Sulphur system
CO3: Define various terms, laws, differentiate ideal and no-ideal solutions. Discuss / explain thermodynamic aspects of Ideal solutions-Gibbs free energy change, Volume change, Enthalpy change and entropy change of mixing of Ideal solution. Differentiate between ideal and non-ideal solutions and can apply Raoult's law.
CO4: Explain distillation of liquid solutions from temperature – composition diagram. Explain / discuss azeotropes, Lever rule, Henrys law and its application. Discuss / explain solubility of partially miscible liquids- systems with upper critical. Solution temperature, lower critical solution temperature and having both UCST and LCST.
CO5: Explain / define different terms in conductometry such as electrolytic conductance, resistance, conductance, Ohm's law, cell constant, specific and equivalent conductance, molar conductance, Kohlrausch's law, etc. Discuss / explain Kohlrausch's law and its Applications, Conductivity Cell, Conductivity Meter, Whetstone Bridge. Explain / discuss conductometric titrations.

CO6: Explain / define different terms in Colorimetry such as radiant power, transmittance, absorbance, molar, Lamberts Law, Beer's Law, molar absorptivity Discuss / explain / derive Beer's law of absorptivity.
CO7: Apply colorimetric methods of analysis to real problem in analytical laboratory. Solve problems based on theory / equations. Correlate different terms with each other and derive equations for their correlations.
CO8: Explain / define different terms in column chromatography such as stationary phase, mobile phase, elution, adsorption, ion exchange resin, adsorbate, etc. Explain properties of adsorbents, ion exchange resins, etc. Apply column chromatographic process for real analysis in analytical laboratory

**CH-402: Inorganic and organic Chemistry (Sem-IV)**
After completion of course student will able to
CO1: Isomerism in coordination complexes. Explain different types of isomerism in coordination complexes.
CO-2: Apply principles of VBT to explain bonding in coordination compound of different geometries. Correlate no of unpaired electrons and orbitals used for bonding.
CO-3: Identify / explain / discuss inner and outer orbital complexes. Explain / discuss limitation of VBT.
CO-4: Explain principle of CFT. Apply crystal field theory to different type of complexes (Td, Oh, Sq. Pl complexes). Explain: i) strong field and weak field ligand approach in Oh complexes ii) Magnetic properties of coordination compounds on the basis of weak and strong ligand field ligand concept. iii) Origin of colour of coordination complex.
CO-5: Calculate field stabilization energy and magnetic moment for various complexes. To identify Td and Sq. Pl complexes on the basis of magnetic properties / unpaired electrons. Explain spectrochemical series, tetragonal distortion / Jahn-Teller effect in Cu(II) Oh complexes only.
CO-6: Identify and draw the structures aldehydes and ketones from their names or from structure name can be assigned. Explain / discuss synthesis of aldehydes and ketones. Write / discuss the mechanism reactions aldehydes and ketones. Explain /Discuss important reactions of aldehydes and ketones.
CO-7:Identify and draw the structures carboxylic acids and their derivatives from their names or from structure name can be assigned. Explain / discuss synthesis of carboxylic acids and their derivatives. Write / discuss the mechanism reactions carboxylic acids and their derivatives. Explain /Discuss important reactions of carboxylic acids and their derivatives.
CO-8: Identify and draw the structures amines from their names or from structure name can be assigned. Explain / discuss synthesis of carboxylic amines. Write / discuss the mechanism reactions carboxylic amines. Explain /Discuss important reactions of carboxylic amines. To correlate reagent and reactions of carboxylic amines.
CO-9: Draw the structures of different conformations of cyclohexane. Define terms such as axial hydrogen, equatorial hydrogen, confirmation, substituted cyclohexane, etc. Convert one conformation of cyclohexane to another conformation and should able to identify governing structural changes. Explain / discuss stability with respect to potential energy of different conformations of cyclohexane.

**CH-403: Practical Chemistry-IV**
After completion of practical course student should be able to
CO1: verify theoretical principles experimentally
CO2: interpret the experimental data and improve analytical skills
CO3: correlate the theory and experiments and understand their importance and Acquire the simple and complex practical skill

CO4: Separation of organic compound and their identification by chemical methods.
CO5: Write balanced equation for all the reactions, they carry in the laboratory.
CO6: Perform organic synthesis and follow the progress of the reaction by using TLC technique.
CO7: Set up the apparatus properly for the given experiments. Perform all the activities in the laboratory with neatness and cleanness
CO8: Perform the complete qualitative chemical analysis of the given inorganic mixture and find out acidic and basic radicals.

**T.Y.B. Sc. Chemistry**
**CH-331 Paper –I:Physical chemistry (Sem-III)**
At the end of course students will able to
CO1: define / recall various terms related to electrolytic conductance, molecular spectroscopy, chemical kinetics and phase diagram.
CO2: write correct equation such as Ohms law, equivalent conductance, molar conductance, rate constant of first, second, third order reactions, Kohlarch's law, Debye equation, transport number, molar polarization, force constant, energy of rotational, vibrational excitations, etc.
CO3: derive equations for half-life of third order reaction, rate constant of third order reaction, transport number, dipole moment, molar polarization, reduced mass of diatomic molecule, etc.
CO4: explain / describe various terms in electrolytic conductance, molecular spectroscopy, chemical kinetics and phase diagram. To derive relations between / among various terms / quantities in electrolytic conductance, molecular spectroscopy, chemical kinetics and phase diagram
CO5: differentiate between / among the terms / quantities with suitable example such as molecularity and order of reaction, conductance and resistance, equivalent and molar conductance, rotational and vibrational spectra, etc.
CO6: apply his knowledge to explain / interpret spectra of simple diatomic molecules.
CO7: describe facts and observations in electrolytic conductance, molecular spectroscopy, chemical kinetics and phase diagram.
CO8: solve numerical related to electrolytic conductance, molecular spectroscopy, chemical kinetics and phase diagram.
**CH-341 Paper –I:Physical chemistry(Sem-IV)**
At the end of course students will able to
CO1: define / recall various terms related to electrochemistry, nuclear chemistry and application of radioactivity, crystallography and basics of quantum chemistry.
CO2: write / remember the correct equation such as Nernst equation, representation of cell and cell reactions, Bragg equation, half of radioactive materials, etc.
CO3: derive equations for potentials of various types of cells and electrodes, Bragg equation, half of radioactive materials, kinetics of decay of radioactive materials, particle in 1D box, quantum tunnelling, etc.
CO4: explain / describe various terms related to electrochemistry, nuclear chemistry and application of radioactivity, crystallography and basics of quantum chemistry.
CO5: derive relations between / among various terms / quantities related to electrochemistry, nuclear chemistry and application of radioactivity, crystallography and basics of quantum chemistry.
CO6: apply his knowledge to explain experimental observation andshould able to correlate theory and particle or observed facts.
CO7: describe facts and observations related to electrochemistry, nuclear chemistry and application of radioactivity, crystallography and basics of quantum chemistry.

CO8: solve numerical in in electrolytic conductance, molecular spectroscopy, chemical kinetics and phase diagram.

**CH-332 Paper –II: Inorganic Chemistry (Sem-III)**

At the end of course students will able to

CO1: Define terms related to molecular orbital theory, coordination chemistry

CO2: Explain mononuclear and hetero nuclear molecules, LCAO principle, primary and secondary valency, bond order and magnetic properties of molecules

CO3: Distinguish between atomic and molecular orbitals, bonding and antibonding molecular orbitals, different theories of coordination chemistry

CO4: Draw MO energy level diagrams for homo and hetero nuclear diatomic molecules, crystal field splitting energy level dig. for octahedral and tetrahedral complexes

CO5: Apply IUPAC nomenclature rules and writ name of coordinate complexes, predict structure of complexes by using hybridization CO6: Describe valance bond theory and crystal field theory to different type of complexes

CO7: Calculate effective atomic number and crystal field stabilization energy for various complexes

CO8: solve numerical problems related to syllabus

**CH-342 Paper –II: Inorganic Chemistry (Sem-IV)**

At the end of course students will able to

CO1: define lanthanides, actinides, semiconductors, superconductor, close packed structure, lanthanide contraction, super heavy elements, catalyst, catalysis

CO2: describe lanthanide contraction, types of holes in close pack structure

CO3: distinguish between lanthanides and actinides, homogeneous and heterogeneous catalysis, n-type and p-type semiconductor, nuclear fusion and fission

CO4: explain applications of lanthanides and actinides, superconductivity, acetic acid synthesis, properties of heterogeneous catalyst, separation of lanthanides

CO5: explain n(E), and N(E) curves for semiconductors, band structures for sodium metal, haemoglobin, vita. B12

CO6: predict product of nuclear reactions, geometry of ionic solid from radius ratio effect

CO7: derive names of super heavy elements and symbols form IUPAC rules

CO8: solve numerical problems related to syllabus.

**CH -333 Paper III: Organic chemistry (Sem-III)**

By the end of this course students will able to

CO1: define the terms related to Organic Reactions such as Aliphatic Nucleophilic, Aromatic electrophilic and Nucleophilic Substitution Reactions

CO2: list Different factors responsible for reactivity of organic compounds in Addition reactions to unsaturated compounds

CO3: recall the information about acidity and Basicity

CO4: explain the Elimination reactions

CO5: solve the chemical Reactions for Aliphatic Nucleophilic, Aromatic electrophilic and Nucleophilic Substitution Reaction

CO6: classify the organic reactions like substitution, Addition and elimination Reactions.

CO7: categorize different nucleophiles Electrophiles and Bases.

CO8: judge what type of reagent need for the organic Conversion.

**CH-343 Paper III: Organic chemistry (Sem-IV)**

By the end of this course students will able to

CO1: define the terms related to Organic Reactions such as Carbanion, Retrosynthetic analysis Rearrangement Reactions and Spectroscopic methods of structure determination.

CO2: list Different factors responsible for reactivity of organic compounds in Oxidation, Reduction, Rearrangement Reactions

CO3: recall the information about Reactivity stability of carbanion

CO4: explain the Rearrangement reactions

CO5: solve the chemical Reactions for Carbanion Retrosynthetic analysis and rearrangement reactions

CO6: calculation of Wavelengths of Organic compounds.

CO7: identification of different functional groups in organic compounds.

CO8: judge the structure of organic compounds

**CH-334 Paper- IV:Analytical Chemistry(Sem-III)**

At the end of course students will able to

CO1: remember /write/ explain terms/ recall the terms such as gravimetric analysis, common ion effect, solubility product, formation of complex ion, TGA, DTA DSC, spectrophotometry, terms related to absorption measurement, polarography, FES, AAS.

CO2: explain principles of electro-gravimetric analysis, Thermogravimetric analysis, differential thermal analysis, beers law and lamberts law, Polarography, AASand FES.

CO3: describe various components used in UV-Visible Spectrophotometry, AAS, FES, Polarography, TGA and DTA

CO4: describe equations or reaction of solubility product, law of mass action, Lambert –Beers Law equation, Ilkvoic equation, equation for no. atoms in excited state, Nernst equation.

CO5: describe Instrumentation of UV-Visible Spectrophotometry, AAS, FES, Polarography, TGA and DTA

CO6: solve numerical problems related to solubility product, common ion effect, Thermal methods of analysis, polarography, spectrophotometry, AAS and FES

CO7: apply Electro-gravimetric analysis for separation of metal ion, TGA, DTA, spectrophotometry, polarography AAS and FES.

CO8: select particular chemical or instrumental method for analysis of sample

**CH-344 Paper- IV:Analytical Chemistry(Sem-IV)**

At the end of course students will able to

CO1: remember /write/ explain terms/ recall the terms such as Distribution coefficient, Distribution ratio, Solvent extraction,chromatography, types of chromatography, Electrophoresis, types of electrophoresis, Nephelometry and Turbidimetry.

CO2: define the terms migration velocity, moving boundary method, zone electrophoresis, disc electrophoresis, Rf value, retention time, supercritical fluid chromatography, normalization, secondary peak, salting out, masking agent, counter-current extraction, synergistic extraction.

CO3: discuss various components used in GC, HPLC, Turbidimetry and Nephelometry.

CO4: derive relationship between distribution coefficient and distribution ratio, equation of turbidance, equation of multiple extraction.

CO5: describe Instrumentation of HPLC, GC, Turbidimetry, Nephelometryand electrophoresis.

CO6: solve numerical problems related to distribution ratio, % extracted, Rf values, no. of plates and theoretical plate, turbidance.

CO7: apply HPLC, paper chromatography, solvent extraction, GC, electrophoresis, Turbidimetry and Nephelometry technique for analysis.

CO8: select particular techniques for separation of sample

**CH 335 Paper –V: Industrial Chemistry (Sem III)**

By the end of this course student will able to-

CO1: define all the terms related to modern approach to chemical industry, agrochemicals, food and starch.
CO2: list basic chemicals, petrochemicals and eco-friendly fuels, cement and glass industry.
CO3: recall information about basic chemicals used in industry, agrochemicals, fuels and their types, nutritive aspects of food.
CO4: explain processes of manufacture of chemicals related to industry, properties of fuels, nutritive aspects of food and quality of soil.
CO5: calculate/determine calorific values of fuels.
CO6: classify fuels, chemical reactions, plant nutrients, herbicides, pesticides, insecticides and fungicides, glass and cement.
CO7: analyse applications and synthesis of different types of industrial chemicals and agrochemicals
CO8: select which principles are appropriate for industrial set up and to improve the yield of product.

**CH 345 Paper –V: Industrial Chemistry (Sem IV)**

By the end of this course students will able to
CO1: define the terms related to polymer chemistry, sugar and fermentation industry, soaps, detergents and cosmetics, dyes and paints, pharmaceutical industry, and terms related with pollution prevention and management.
CO2: list types of polymers, soaps, detergents, cosmetics, dyes, paints and pharmaceuticals.
CO3: recall information about soaps, detergents, fermentation process, dyes paints, drugs and pollution.
CO4: explain properties of drugs, polymers, soaps, detergents, dyes, paints and sugars.
CO5: determine quality of manufactured products in sugar and fermentation industry.
CO6: classify commercial polymers, soaps, detergents, cosmetics, dyes, paints, pigments and drugs.
CO7: analyse different types of manufacturing process of sugar industry, fermentation process and pollution prevention and waste management.
CO8: select what types of cosmetic products, drugs are important for human health.

**CH 336D Paper-VI: Environmental and Green Chemistry**
**(Sem-III)**

By the end of this course students will able to
CO1: Importance and conservation of environment
CO2: Study of composition of atmosphere, ozone depletion and understand social issues
CO3: Study of water resources, Quality of potable water, limits for toxic materials in water stream, quality measures.
CO4: Introduction to Green chemistry
CO5: Need of green chemistry technology and principle of green chemistry
CO6: Advantages of green chemistry, Catalytic routes for sustainable developments

**CH 346DPaper-VI: Environmental and Green Chemistry**
**(Sem-IV)**

By the end of this course, the student will able to
CO1: Study of waste water treatment process and study of waste water plants, Method of water purification
CO2: Explain types of soil, components of soil and types of solid waste and their disposal
CO3: discuss about techniques used to monitor hazardous materials present in environment
CO4: explain the greenhouse gases and their effects, global warming and climate change
CO5: Importance of water as a green solvent
CO6: Study of natural sources of energy

**CH-347 Practical Paper-I, Physical Chemistry Practical**

CO1: Maintaining records of chemical and instrumental analysis.
CO2: Laboratory skills for the purpose of collecting, interpreting, analysing, practical data.
CO3: Laboratory skills for the purpose handling different analytical instruments.
CO4: Interpretation of results of experiment and their correlation with theory.
CO5: Study of reaction kinetics practically.
CO6: Study of conduct metric, potentiometric, colorimeter and pH metric principles.
CO7: Application of conduct metric, potentiometric, colorimetric and pH metric measurement in quantitative analysis.
CO8: Viscosity measurement and its application.
CO9: Refractometric measurement and its application.

**CH-348 Practical Paper-II, Inorganic Chemistry Practical**
CO1: Maintaining records of quantitative and qualitative analysis.
CO2: Laboratory skills for the purpose of collecting, interpreting, analysing, and reporting (in written form) chemical data.
CO3: Laboratory skills for the purpose handling different equipment's and analytical instruments.
CO4: Identify methods and instruments that can be used qualitative and quantitative analysis.
CO5: Mole concept and its application in the preparation of normal and molar solutions, and use of mole concept in quantitative calculations for inorganic analysis.
CO6: Choice of proper quantitative methods for analysis of samples containing inorganic substances.
CO7: Synthesis and purify coordination compounds.
CO8: Statistical treatment to quantitative data
CO9: Quantitative analysis using instrumental methods of quantitative analysis.

**CH-349 Practical Paper-III, Organic Chemistry Practical**
CO1: Maintaining records of quantitative and qualitative analysis.
CO2: Laboratory skills for the purpose handling different equipment's and analytical instruments.
CO3: Study of organic reactions their applications.
CO4: Separation of mixture of organic compound and their identification by chemical methods.
CO5: Perform organic synthesis and follow the progress of the reaction by using TLC technique.
CO6: Choice of proper quantitative methods for analysis of samples containing organic substances.
CO7: Synthesis and purify organic compounds.
CO8: understanding of reaction mechanism involved.
CO9: physical constant determination.

# Department of Mathematics

# Course Outcomes of B.Sc Mathematics:-

- Students will demonstrate the ability to solve financial math problems.
- Students will demonstrate the ability to solve exponential growth and decay problems.

- Students will demonstrate the ability to solve basic problems in probability and statistics.
- Students will demonstrate the ability to think critically, research, and reason. (Ethical Leadership)
- Students will recognize and differentiate among diverse cultures through the history of mathematics.
- Students will engage in activities directly benefitting the broader community.
- Students will demonstrate an understanding of the common body of knowledge in mathematics.
- Students will demonstrate the ability to apply analytical and theoretical skills to model and solve mathematical problems.
- Students will demonstrate the ability to analyze data and draw appropriate statistical conclusions.
- Students will demonstrate the ability to effectively utilize a variety of teaching techniques and classroom strategies to positively influence student learning.
- Students will acquire problem-solving skills in a broad range of mathematics.
- Students will be able to produce and judge the validity of rigorous mathematical arguments.
- Students will be able to communicate mathematical ideas and arguments, both written and orally.
- Students will be prepared to use mathematics in their careers
- The ability to communicate and interact effectively with different audiences.
- Students will be able to solve arithmetic, algebraic, geometric, equations, functions, and problems using appropriate technology.
- Students will be able to represent mathematical information numerically, symbolically, graphically, verbally, and visually using appropriate technology.
- **Programme Outcomes:-**

At the end of B.Sc Mathematics Programme,Students

- Acquires the ability to understand & analyze the problems.
- Develops the skill to think critically on abstract concepts of Mathematics.
- Analyses the situation, make a Mathematical problem & find it's solution.
- Formulates & develops Mathematical arguments in logical manner.
- Provides a systematic understanding of the concepts & theories of Mathematical & computing their application in the real world.
- Enhances Logical Reasoning Skills, Arithmetic Skills, Aptitude Skills, Communication Skills,Self Confidence for better employability.

- The mathematical maturity of students in their current and future courses shall develop.
- The student develops theoretical, applied and computational skills.
- The student gains confidence in proving theorems and solving problems.

**Programme Specific Outcomes:-**

- Use the basic concepts of divisibility, congruence and their applications in basic algebra.
- Prove results involving divisibility and greatest common divisors .
- Understand the concept of limit of a function, use it to prove properties of continuous functions & the derivative of a function.
- Ability to solve differential equations of first order using graphical, numerical & analytical methods.
- Familiarize characteristic roots & characteristic vectors.
- Ability to compute the area & volume by applying the techniques of double & triple integrals.
- Students learn analysis of multivariable functions, continuity, and differentiability.
- learn the concepts of multiple integrals and their Application to area and volumes
- Learn the methods and properties of Laplace transform and Inverse Laplace Transform, apply them to solve Linear Differential equations.
- Apply the fundamental concepts of Fourier series, Fourier Sine series, Fourier Cosine series to find series representation of irrational numbers.
- Ability to work within vector spaces & to distill vector space properties.
- Ability to manipulate linear transformations & to distill mapping properties.
- Use the concept of basis and dimension of vector spaces linear dependence and linear independence,to solve problems.
- Use the concept of inner product spaces to find norm of vectors, distance between vectors, check the orthogonality of vectors, to find the orthogonal and orthonormal basis.
- Apply the properties of linear transformations to linearity of transformations, kernel and rank of linear transformations, inverse transformations to solve the problems of matrix transformations,change of basis.
- Calculate a definite integral using an appropriate numerical method & find roots of functions.

- Derive numerical methods for various mathematical operations & tasks, such as interpolation,differentiation,integration.
- Ability to solve the problems using Newton forward & Newton backward formula.

## Department of Physics

## Programme Specific outcomes

PSO1 Students are expected to acquire acore knowledge in physics, including the major premises of classical mechanics, quantum mechanics, electromagnetic theory, electronics, optics, special theory of relativity and modern physics.

PSO2 Students are also expected to develop a written and oral communication skills in communicating physics-related topics.

PSO3 Students should learn how to design and conduct an experiment (or series of experiments) demonstrating their understanding of the scientific method and processes. Not only that they are expected to have an understanding of the analytical methods required to interpret and analyze results and draw conclusions as supported by their data.

PSO4 Students will develop the proficiency in the acquisition of data using a variety of laboratory instruments and in the analysis and interpretation of such data.

PSO5 Students will learn the applications of numerical techniques for modeling physical systems for which analytical methods are inappropriate or of limited utility.

PSO6 Students will realize and develop an understanding of the impact of physics and science on society.

PSO7 Apply conceptual understanding of the physics to general real-world situations.

PSO8 Describe the methodology of science and the relationship between observation and theory.

PSO9 Learn to minimize contributing variables and recognize the limitations of equipment.

PSO10 Discover of physics concepts in other disciplines such as mathematics, computer science, engineering, and chemistry.

PSO11 Develop the following experimental tools: Numerically model simple physical systems using Euler's method, curve fitting, and error analysis.

PSO12 Analyze physical problems and develop correct solutions using natural laws.

## Course Outcomes

Principles of Physics:

Modern Physics:

CO1: Develop the concepts of modern physics: basic knowledge of special theory of relativity and general theory of relativity, elementary quantum mechanics, nuclear physics, and particle physics.

CO2: Understand the relationship between observation and theory and their use in building the basic concepts of modern physics.

CO3: Understand how major concepts developed and changed over time.

CO4: Capable of analyzing and solving problems using oral and written reasoning skills based

on the concepts of modern physics.

CO5: Ability to prepare and organize a presentation on the application of modern physics to modern technology.

Wave optics

CO1: Understand the basic concepts of wave optics and an ability to compute basic quantities in optics.
CO2: Learn to use methods for solving differential equations.
CO3: Experience the diverse applications of the wave equation.

Solid State Physics

CO1: Understand basic concepts and mathematical methods of solid state physics.
CO2: Practice problem solving by using selected problems in solid state physics.
CO3: Explore important connections between theory, experiment, and current applications.
CO4: Develop a basis for future learning and work experience.

Nuclear and Particle Physics

CO1: Acquire knowledge in the content areas of nuclear and particle physics, focusing on concepts that are commonly used in this area.
CO2: Develop and communicate analytical skills in subatomic physics.
CO3: Develop familiarity with the vast areas of nuclear and particle physics as well as develop an interest in these subjects.

Classical Mechanics

CO1: Understand the terminology used in Classical Mechanics.
CO2: Employ conceptual understanding to make predictions, and then approach the problem mathematically.
CO3: Understand the important connections between theory and experiment.
CO4: Connect concepts and mathematical rigor in order to enhance understanding.

Electricity and Magnetism

CO1: Know the vocabulary and concepts of physics as it applies to: Principles of Electric Fields, Gauss's Law, Electric Potential, Capacitance and Dielectrics, Current and Resistance, Direct Current Circuits, Magnetic Fields, Sources of Magnetic Fields, Faraday's Law, Inductance, Alternating Current Circuits, and Electromagnetic Waves.
CO2: Understand the relationship between electrical charge, electrical field, electrical potential, and magnetism.
CO3: Be able to use electromagnetic theory and principles in a wide range of applications.
CO4: Learn a variety of advanced mathematical methods and computer techniques.
CO5: Develop skill to solve numerical problems on it.

CO6: Solve mathematical problems involving electric and magnetic forces, fields, and various electro-magnetic devices and electric circuits.
CO7: Develop explicit problem-solving strategies that emphasize qualitative analysis steps to describe and clarify the problem.
CO8: Gain confidence in their ability to apply mathematical methods to understand electro-magnetic problems to real-life situations.

Principles of Optics

CO1: To develop an understanding of the principles of optics.
CO2: To build connections between mathematical development and conceptual understanding.

Thermal and Statistical Physics

CO1: Understand how statistics of the microscopic world can be used to explain the thermal features of the macroscopic world.
CO2: Be able to use thermal and statistical principles in a wide range of applications.
CO3: Learn a variety of mathematical and computer techniques.

Quantum Mechanics

CO1: Learn the mathematical tools needed to solve quantum mechanics problems. This will include complex functions and Hilbert spaces, and the theory of operator algebra. Solutions of ordinary and partial differential equations that arise in quantum mechanics will also be studied.
CO2: Develop problem solving methods that will include mathematical as well as numerical computations and solutions.
CO3: Build connections between mathematical development and conceptual understanding.

Atomic Physics

CO1: Apply the mathematical tools developed to various quantum mechanics problems.
CO2: Develop problem solving methods that will include mathematical as well as numerical computations and solutions.
CO3: Build connections between mathematical develop

**DEPARTMENT OF ZOOLOGY**

## Course Outcomes/Programme Outcomes.

## After completing B.Sc. Zoology Course students will be able to:

PO1: Demonstrate and apply the fundamental knowledge of the basic principles of major fields of Zoology;
PO2: Apply knowledge to solve the issues related to animal sciences.
PO3: Take appropriate steps towards conservation of endemic and endangered animal species.

## Skill outcomes:

After completing B.Sc. Zoology Programme students will be able to:
PO4: To foster curiosity in the students for Zoology.
PO5: To create awareness amongst students for the basic and applied areas of Zoology.

PO6: To orient students about the importance of abiotic and biotic factors of environment and their conservation.
PO7: To provide an insight to the aspects of animal diversity.
PO8: To inculcate good laboratory practices in students and to train them about proper handling of lab instruments.

**Generic outcomes:** Students will

PO9: Demonstrate knowledge and understanding of Zoology and management principles and apply these to one's own work, as a member and leader in a team.
PO10: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.
PO11: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

**Programme Specific Outcomes**

PSO1 - Understand the nature and basic concepts of cell biology, genetics, taxonomy, physiology, ecology and applied Zoology.
PSO2 - Analyse the relationships among animals with their ecosystems
PSO3 - Perform procedures as per laboratory standards in the areas of Taxonomy, Physiology, Ecology,Cell biology, Genetics,Applied Zoology,techniques of Zoology,Toxicology,Sericulture,Biochemistry,Immunology and reserch methodology.
PSO4 -Understand the applications of Zoology in Agriculture,Medicine and daily life.
PSO5 - Gains knowledge about research methodologies, effective communication and skills of problem solving methods.
PSO6 - Contributes the knowledge for Nation building.

**Course Outcomes**

**F. Y. B.Sc. Zoology**

Learning outcomes :

1. The student will be able to understand, classify and identify the diversity of animals.
2. The student will understand the importance of classification of animals and classify them effectively using the six levels of classification.
3. The student knows his role in nature as a protector, preserver and promoter of life which he has achieved by learning, observing and understanding life.

**ZO-111&121: Animal diversity I and II**

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
CO5: To classify invertebrates and to be able to understand the possible group of the invertebrate observed in nature.

**ZO- 112: Animal Ecology**

After successfully completing this course, students will be able to:
CO1: The learners will be able to 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: To understand anticipate, analyse and evaluate natural resource issues and act on a lifestyle that conserves nature.
CO3: The Learner understands and appreciates the diversity of ecosystems and applies beyond the syllabi to understand the local lifestyle and problems of the community.
CO4: The learner will be able to 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.
CO5: The working in nature to save environment will help development of leadership skills to promote betterment of environment.

**ZO – 122: Cell Biology**

After successfully completing this course, students will be able to:
CO1: Learner will know the importance of cell as a structural and functional unit of life.
CO2: The learner understands and compares between the prokaryotic and eukaryotic system and extrapolates the life to the aspect of development.
CO3: The dynamism of bio membranes indicates the dynamism of life. Its working mechanism and precision are responsible for our performance in life.
CO4: The cellular mechanisms and its functioning depends on endo-membranes and structures.They are best studied with microscopy.

**ZO113 & 123: Zoology Practical Paper .**

After successfully completing this course, students will be able to:
CO1: Recognize the live forms of vertebrates and invertebrates.
CO2: Analyse and describe zoological concepts, including morphology and anatomy.
CO3: Explain conservation and sustainable use of animals;
CO5: Explain and demonstrate the impact that animals have on human society.

## Course Outcomes

## S. Y. B.Sc. Zoology

## ZO 231 & 241: Animal Systematic and Diversity – III & IV

**Learning outcomes** :

1. The student will be able to understand, classify and identify the diversity of animals.
2. The students will be to understand the comllexity of higher vertebrates.
3. The students will be to understand different life functions of higher vertebrates.
4. The students will be to understand the linkage among different group of higher vertebrates.
5. The students will become aware regarding his role and responsibility towards nature as a protector ,to understand his role as atrustee and conservation of life which he has achieved by learning ,observing and undrestaning life.

After successfully completing this course, students will be able to:
CO1- Knowledge of classification of Non-chordates along with studies on various physiological functions and interactions of non-chordate organisms with type specimens.
CO2- Knowledge of classification of chordates along with studies on various physiological functions and comparative anatomy of organs of chordate with

example.

**ZO 232 & 242**: **Applied Zoology I & II**

**Learning outcomes** :

1.The learner understand the basics about beekeeping tools,equipments and managing beehives.

2. The learner understand the basic information about fishery,cultural and harvesting method of fishes and fish preservation techniques

3.The learner understand the biology ,varieties of silkworms and the basic techniques of silk production.

4.The learner understand the types of agricultural pests ,major insects pests of agricultural importance and pest control practices.

After successfully completing this course, students will be able to:

CO1- Understands processes of fisheries, sericulture, along with crop pest management techniques.

CO2- Students gain knowledge about various disease related vectors and their impact on human.

CO3- Understands concepts of apiculture, poultry, dairy along with tissue and cell culture techniques.

**ZO 233 & 243: Zoology Practical Paper**

After successfully completing this course, students will be able to:

CO1-First-hand knowledge about identification of non-chordate and chordate specimens (fresh and preserved) along with larval forms and study of endoskeleton of vertebrates.

CO2: Understand the nature and basic concepts of cell biology, genetics, taxonomy, physiology, ecology and applied Zoology.

CO3: Analyse the relationships among animals, plants and microbes.

**Course Outcomes**

**T. Y. B. Sc. Zoology**

**ZO 331**: **Animal Systematics and Diversity V**

After successfully completing this course, students will be able to:

CO1- Knowledge of classification of protochordates and chordates along with studies on various physiological functions and interactions of chordate organisms with examples.

CO2- Imparts conceptual knowledge of vertebrate adaptations in relation to their Environment.

CO3- Understanding of general taxonomic rules on animal classification.

CO6-Knowledge of classification of Non-chordates along with studies on various physiological functions and interactions of non-chordate organisms with examples.

**ZO 332: Mammalian Histology**

After successfully completing this course, students will be able to:

CO1: Define the basic terms in histology.

CO2: List the various types of tissues.

CO3: Identify the histological peculiarities in various organs.

CO4: Explain the location, structure and functions of various organs.

**ZO 333: Biological Chemistry**

After successfully completing this course, students will be able to:

CO1: Define the basic terms in biochemistry.

CO2: Explain the structure, functions and reactions of the various biomolecules.

CO3: Give examples of each group type of biomolecules.
CO4: Correlate the changes in the levels of these biomolecules with the diseases in human

**ZO 334: Environmental Biology and Toxicology**

After successfully completing this course, students will be able to:
CO1: An overview of evolutionary ecology and environmental concepts
CO2: Description of nature of ecosystem, production, food webs, energy flow, Biogeochemical cycles, resilience of ecosystem and ecosystem management.
CO3: Understanding the biosphere, biomes and impact of climate on biomes.
CO4: Description of biodiversity assessment, conservation and management, Sustainable development, natural resource management in changing environment.

**ZO 335: Parasitology**

After successfully completing this course, students will be able to:
CO 1: Define the basic terms in parasitology.
CO2: List common ectoparasites and endoparasites.
CO3: Explain animal associations and their types.
CO4: Discuss the life cycle and importance of major parasites.
CO5: Illustrate transmission routes of animal and zoonotic parasites
CO6: Classify parasites.
CO7: Justify the control measures of arthropod vectors.
CO8: Convince the importance of hygiene with respect to epidemic diseases.

**ZO 336 :General Pathology**

After successfully completing this course, students will be able to:
CO1: Define the terms in pathology.
CO2 :Understands about composition of blood, blood born diseases, autopsy and biopsy CO2 Techniques of microscopy, microtomy, biopsy, autopsy and immunological techniques CO3 Types of immunity, antigens-antibodies and their properties .
CO3 : Understanding of pathology of diseases caused by various microorganisms such as bacteria, virus, parasites and fungus.

**ZO 341 Biological Techniques**

After successfully completing this course, students will be able to:
CO1: Define the basic terms solution preparation.
CO2: List the separation techniques.
CO3: Explain the principle of separation techniques.
CO4: Explain the procedure of preparing permanent histological slides.
CO6: Illustrate the working of microscopes.

**ZO 342 Mammalian Physiology and Endocrinology**

After successfully completing this course, students will be able to:
CO1: Define the basic terms in physiology.
CO2: Explain the physiological processes in mammals.
CO3: Explain the anatomy of various systems.
CO4: Illustrate the reproductive cycles with hormonal control.
CO5:.Daigramatically represent the working of kidney.
CO6: Justify the endocrine disorders.

**ZO 343 Genetics and Molecular Biology**

After successfully completing this course, students will be able to:
CO1: Define the basic terms in genetics.
CO2: Discuss the linkage groups and gene frequency.

CO3: Explain the concept of mutation.
CO4: Explain DNA structure.
CO5: Paraphrase the Central dogma of molecular biology.
CO6: Illustrate the mechanism of replication, transcription and translation.

**ZO 344- Organic Evolution**

After successfully completing this course, students will be able to:
CO1: Students will know about population genetics, human evolution, various concepts about origin of species, extinctions, phylogenetic tree making. They will also understand few basic of bioinformatics.
CO2: Theories of Evolution
CO3: Knowledge of eras and evolution of species.

**ZO 345 General Embryology**

After successfully completing this course, students will be able to:
CO1: Identify the developmental stages .
CO2: Describe the key events in early and systematic embryological development.
CO3: Explain the theories of preformation, and concepts like growth, differentiation and reproduction.
CO4: Explain the principles and process of fertilization and cleavage.
CO5: Elucidation of early embryonic development of invertebrates and vertebrates.

**ZO 345-Public Health & Hygiene**

After successfully completing this course, students will be able to:
CO1: Demonstrate some knowledge and understanding of the wider determinants of health and ill-health.
CO2:Demonstrate some knowledge and understanding of the roles of people and agencies who undertake work in the promotion of public health.
CO3:Demonstrate an awareness of the debates and dilemmas that may arise from the promotion of public health.

**ZO 347, 348,349- Practical Paper I, II, III**

After successfully completing this course, students will be able to:
CO1-First-hand knowledge about identification of non-chordate and chordate specimens (fresh and preserved) along with larval forms and study of endoskeleton of vertebrates .
CO2-Students are able to handle microscopes, work with camera lucida and micrometers .
CO3-Identification of zooplanktons and phytoplanktons.
CO4-Gain skill about histological slide preparation, staining and mounting
CO5-Students gain skill about determination of pH and quantitative analysis of blood cells .
CO6-Students are able to parasites from rectal and fecal contents of animals.
CO7-Students are able to collect parasite and pest specimen.

**DEPARTMENT OF COMMERCE**
**DETAILS OF PROGRAMME OUTCOMES**
**Programme:B.Com**.

**Objectives of the course:**

1. To provide in depth knowledge of socio-economic aspects.
2. To familiarize with current and recent developments in Economics
3. To enrich knowledge through problem solving, hands-on activities projects.
4. To provide a broad and comprehensive knowledge in micro and macro Economics, Public Economics, Indian Economy and Agricultural Economics.
5. To develop analytical abilities towards real world problems

**Programme Specific Outcome:**

1. After completion of program, students will be able to have in-depth knowledge of basic concepts in Economics.
2. A good academic background to be able to seek admission for master's degree in Economics
3. An academic background to be able to crack the banking and administrative examinations

## F.Y.B.Com.

## Financial Accounting

Course Outcomes :-

1) To impact the knowledge of various accounting concepts.
2) To instill the knowledge about accounting procedure, methods and techniques
3) To acquaint them with practical approach to accounts writing by using software package.

Program Specific Outcomes :-

1) After completion of this course students will aware about various accounting concepts and accounting standards.
2) Students will aware about the basic course in tally.
3) Students will get ideas about the various accounting concepts like Amalgamation, dissolution, conversion and the basic concepts related royalty.

## Business Mathematics and Statistics

Course Outcomes :-

1) To prepare for competitive examination
2) To understand the concept of simple interest, compound interest and the concept of EMI
3) To understand the concept of shares and to calculate dividend
4) To understand the concept of population and sample
5) To use frequency distribution to make decision
6) To understand and calculation of various types averages and variations

Program Specific Outcomes :-

1) After studying this paper students will able to understand the basic concepts regarding Business math.
2) Students will well prepare for the competitive exam
3) Students will able to calculate the various calculations like simple interest, compound interest and the other terms related with busi. Math.

## Marketing and Salesmanship

Course Outcomes :-

1) To create awareness about market and marketing
2) To establish link between commerce and marketing
3) To understand the basic concept of marketing
4) To understand marketing philosophy and generating ideas for marketing research
5) To know the relevance of marketing in modern competitive world
6) To develop an analytical ability to plan for various marketing strategy

Program Specific Outcomes :-

1) After completion of the program students are understand the basic knowledge of market and marketing.
2) Students are understand the marketing philosophy and able to generate ideas about marketing research
3) After getting the knowledge of marketing students are able to plan

the marketing strategy

## Comsumar Protection and Business Ethics

Course Outcomes :-

1) Understand the concept of Consumerism
2) Equip the students with knowledge the evolution need and importance of Consumerism
3) Handling the emerging issues about consumer protection

Program Specific Outcomes :-

1) Understand the concept of E commerce and Consumer Protection

2) Acquaint Students sbout various issues of E commerce
3) Able to appreciate the emerging questions and policy issues

## Organizational Skill Development

Course Outcomes :-

1) To orient the students towards the concept of Organization and Modern Office.
2) To acquaint the students with the role of and Functions of Office Manager.
3) To develop the insights regarding Organizational Skills for Office Managers.
4) To know the functioning of Modern office appliances equipments and e- format records

Program Specific Outcomes :-

1) Students will aware about the modern office and the various functions of office manage
2) Students will able to get the organizational skill for office managers
3) Easy to clear the various function about the modern office appliances.

## S.Y.B.Com

**Marketing Management**

This subject is introduced with the intent of imparting marketing knowledge among students. It shall help students to build marketing capability in students and thus, be able to sell themselves in outside market. The subject covers strategies for developing new products and services that are consistent with evolving market needs. Evaluate the viability of marketing a product or service in a market or markets. Evaluate results of marketing activities using criteria related to budgeted sales, costs and profits.

**Business Administration**

The subject provides students with fundamental knowledge about business like finance, money policy and business management. It shall help to let students know about recent trends in management and business risk management. With this students will be equipped with necessary knowledge about running a business, business operations, having an overview of industrial and organizational establishments. It also will inform about the concepts of business and management like insurance, retail marketing, supply chain, banks etc.

## Business Communication

Course Outcomes :-

1) To understand the concept, process and importance of communication.
2) To develop awareness regarding new trends in business communication.
3) To provide knowledge of various media of communication.
4) To develop business communication skills through the application and exercises.

Program Specific Outcomes :-

1) Apply business communication strategies and principles to prepare effective communication for domestic and international business situations.
2) Identify ethical, legal, cultural, and global issues affecting business communication.
3) Utilize analytical and problem solving skills appropriate to business communication.
4) Participate in team activities that lead to the development of collaborative work skills.
5) Select appropriate organizational formats and channels used in developing and presenting business messages.
6) Compose and revise accurate business documents using computer technology.
7) Communicate via electronic mail, Internet, and other technologies.
8) Deliver an effective oral business presentation.

## Corporate Accounting

Course Outcomes :-

1) To make aware the students about the conceptual aspect of corporate accounting
2) To enable the students to develop skills for Computerized Accounting
3) To enable the students to develop skills about accounting standards

Program Specific Outcomes :-

1) After completing the syllabus of this course students will aware about the conceptual aspect of corporate accounting
2) Students will aware about accounting standard and computerized accounting practices

## Business Management

Course Outcomes :-

1) To provide basic knowledge & understanding about business management concept.
2) To provide an understanding about various functions of management.

Program Specific Outcomes :-

1) After studying this subject student will able to understand the basic concepts regarding the business management
2) Students will able to understand the functions of management and its applications

## Elements of Company Law

Course Outcomes :-

1) To impart students with the knowledge of fundamentals of Company Law.
2) To update the knowledge of provisions of the Companies Act of 2013.
3) To apprise the students of new concepts involving in company law regime.
4) To acquaint the students with the duties and responsibilities of Key Managerial Personnel.
5) To impart students the provisions and procedures under company law.

Program Specific Outcomes :-

1) Students will able to understand the basics of company law and its applications
2) To understand the various amendments made in the company act 2013.
3) After getting the knowledge students will able to work out as per company act 2013.

## Business Administration –I

Course Outcomes :-

1) To provide basic knowledge about various forms of business organizations
2) To acquaint the students about business environment and its implications thereon.
3) To aware them with the recent trends in business

Program Specific Outcomes :-

1) After studying this students will got the knowledge about various business entities like sole traders, partnership, co-operative and company
2) Students will aware about the environmental effects of various factors on the business.

## Markrting Management Paper I

Course Outcomes :-

1) To orient the students recent trends in marketing management
2) To create awareness about marketing of eco friendly prouduts in the society though students
3) To inclucate knowledge of various aspects of marketing though practical approach

Program Specific Outcomes :-

1) To acquaint the students with use of E-Commerce in competitive environment
2) To help the students understand the influences of marketing management on consumer behavior

## T.Y.B.Com

**Marketing Management**

This subject is introduced with the intent of imparting marketing knowledge among students. It shall help students to build marketing capability in students and thus, be able to sell themselves in outside market. The subject covers strategies for developing new products and services that are

consistent with evolving market needs. Evaluate the viability of marketing a product or service in a market or markets. Evaluate results of marketing activities using criteria related to budgeted sales, costs and profits.

**Business Administration**

The subject provides students with fundamental knowledge about business like finance, money policy and business management. It shall help to let students know about recent trends in management and business risk management. With this students will be equipped with necessary knowledge about running a business, business operations, having an overview of industrial and organizational establishments. It also will inform about the concepts of business and management like insurance, retail marketing, supply chain, banks etc.

## Business Regulatory Framework

Course Outcomes :-

1) To acquaint students with the basic concepts, terms & provisions of Mercantile and Business laws
2) To develop the awareness among the students regarding these laws affecting business, trade, and commerce.

Program Specific Outcomes :-

1) After studying this students will able to understand the basic concepts of law in respect of mercantile and business
2) After the study students will aware about the effects of this law on the business.

## Advanced Accounting

Course Outcomes :-

1) To impart the knowledge of various accounting concepts
2) To instill the knowledge about accounting procedures, methods and techniques.
3) To acquaint them with practical approach to accounts writing by using software package.

Program Specific Outcomes :-

1) Students will able to understand the various accounting concepts
2) Students will able to follow the computerized accounting practices
3) They will able to clear the accounting standard and its applications

## Auditing and Taxation

Course Outcomes :-

1) To acquaint themselves about the concept and principles of Auditing, Audit process,Assurance Standards, Tax Audit, and Audit of computerized Systems.
2) To get knowledge about preparation of Audit report.
3) To understand the basic concepts and to acquire knowledge about Computation of Income,Submission of Income Tax Return, Advance Tax, and Tax deducted at Source, Tax

Collection Authorities under the Income Tax Act, 1961.

Program Specific Outcomes :-

1) After studying the subject students will understand the application of auditing
2) They will liable to make audit report
3) Students will able to fill up return of the individual assesse.

## Business Administration II and III

Course Outcomes :-

1) To acquaint the students with basic concepts & functions of HRD and nature of Marketing
2) functions of a business enterprise.
3) To acquaint the students with the basic concepts in finance and production functions of a business enterprise.
4) The subject provides students with fundamental knowledge about business like finance, money policy and business management. It shall help to let students know about recent trends in management and business risk management. With this student will be equipped with necessary knowledge about running a business, business operations,having an overview of industrial and organizational establishments. It also will inform about the concepts of business and management like insurance, retail marketing, supply chain, banks etc.

Program Specific Outcomes :-

1) Students will able to follow the various functions of HRD
2) Application of functions of Marketing
3) Students will understand the basic function of finance and various function.

## Markrting Management Paper II & III

Outcomes :-

1) To understands the concepts and functioning of marketing planning and sales management
2) To know marketing strategies and organization
3) The inform various facets of marketing with regulatory aspects
4) This subject is introduced with the intent of imparting marketing knowledge among students. It shall help students to build marketing capability in students and thus, be able to sell themselves in outside market. The subject covers strategies for developing new products and services that are consistent with evolving market needs. Evaluate the viability of marketing a product or service in a market or markets. Evaluate results of marketing activities using criteria related to budgeted sales, costs and profits.

Program Specific Outcomes :-

1) To understand marketing in globalize scenario
2) To know detailing of Marketing Research

3) To understand the role Brand and Management in Marketing
4) To inform about Marketing and Economic Development
5) To know of the importance of control on marketing activities