

Chhatrapati Shivaji Shikshan Mandal's

Dadasaheb Jotiram Godse

Arts, Commerce, Science College, Vaduj.

District Satara. (Maharashtra)

Internal **Q**uality **A**ssurance **C**ell

(IQAC)

**Program Outcomes (POs),
Program Specific Outcomes (PSOs)
and
Course Outcomes (COs)**

Introduction:

The Program Outcomes(POs), Program Specific Outcomes(PSOs) and Course Outcomes are the strategic discussion, with self, of entire educational activity on the campus. This activity answers the questions like

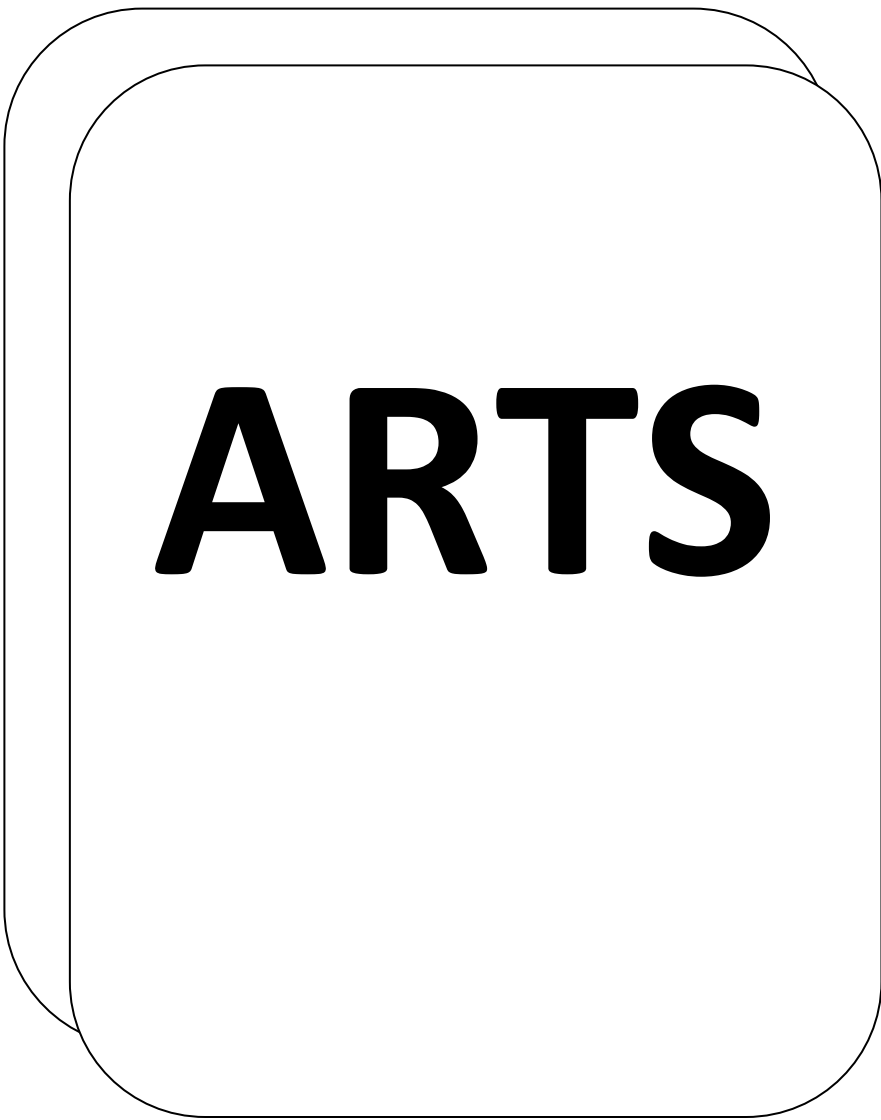
1. What to teach?
2. Why to teach?
3. When to teach
4. How to teach?
5. How to assess?

These outcomes help an individual teacher define the **Teaching Management System (TMS)**. It helps him define the ways and manner of teaching and decide which teaching tools to use and methods to follow. Well formed POs, PSOs, and COs help him define the assessment tools and techniques and modify them as per the need of the level of the target group. If a teacher enters the class well prepared, then definitely good and sweet are the fruits of his painstaking efforts.

Objectives:

POs, PSOs, and COs are the final expectation or characteristics of the final product of education system. This final product needs to be polished in such a way that it survives in critical and adverse conditions as well. So POs, PSOs and COs are formed with objectives:

1. To define the Teaching Management System (TMS) of every teacher in higher education institution.
2. To imagine the features or qualities in the student at an individual and collective level.
3. To mould and manage teaching methodology, and Assessment tools and techniques.



ARTS

Program Outcomes (POs):

Program Name: B. A. (Bachelor of Arts):

Student, after completing three year degree program in B.A. will display the following qualities in their personality and thinking in their day to day life as a citizen of free India.

1. Student will realize the significance of human values in values and social values.
2. Student will show the sense of social service.
3. Students will a part and parcel of Indian culture and responsible and dutiful citizen.
4. Student will develop critical temper and display logical and emotional temperament.
5. Student will develop creative abilities in their thinking, behavior.

Program Specific Outcomes: (PSOs)

B. A. in English:

A student that has taken admission to bachelor's degree program with English as his special course finds himself capable of reading, writing, speaking and reading in English.

- Students understand that basic knowledge of English language is essential in life irrespective of place, culture, time and milieu.
- Knowledge of English language and literature creates among students an ability to think critically and logically and the feeling of universal brotherhood and all-inclusiveness.
- Students relate literature with life and start thinking that without aesthetic beauty of literature, life is dull, dry, and devoid of feeling.
- Students start thinking in terms of duties, beauties and pleasures of life.
- Students realize that English stories, poems, plays, essays and novels have enabled them to face the challenges of life with a smile on face.

- All Arts are imitative and can be divided into two types viz. Useful arts and Fine arts. Literature, music, painting, sculpture etc are the fine arts and they are as useful to human mind as food is to human body.

B. A. in Marathi:

मराठी विभाग –

मराठी हा विषय घेऊन पदवी संपादन करणारा विद्यार्थी हा उत्तमपणे खालील व्यावसायिक कौशल्ये प्राप्त करेल -

१. बातमीदार म्हणून तसेच ब्लॉगलेखक यांच्या माध्यमातून सामाजिक नैतिकता अन्यायाविरुद्ध आवाज उठवणे, सर्व धर्म समभाव व सहिष्णूता यांचे रूजवणूक समाजामध्ये करणे
२. सर्जनशिलपणे कथाकविताकादंबरी, नाटक यांच्या मार्फत सामाजिक बांधीलकी जपणे तसेच बँका पोस्ट.ऑफीस, सरकारीऑफीस, बसस्थानक इ. सार्वजनिक ठिकाणी अज्ञ जनांना मदत करणे.
३. जबाबदार व कर्तव्यदक्ष नागरीक म्हणून वृत्तपत्रात लेख लिहणे, भाषणामधून भारताच्या समृद्ध पंपरेचा प्रचार करणे.
४. सुज्ञ नागरीक म्हणून साहित्याची समीक्षा करणे त्यातील गुण दोष दाखवणे तसेच त्याची समाजावर इष्ट अनिष्ट परीणामांची जाणीव करून देणे.
५. नव्याकथा, कविता, कादंबरी यांची निर्मितीकरणे. जाहिराती, चित्रपट व नाटकसंहितानिर्माण करणे.

B. A. in Hindi:

हिंदी विषय में स्तानक पदवी धारण कर छात्रों में निम्न कौशल्य विकसित होंगे।

१. अनुवादक के रूप में काम कर जीवन ज्ञापन कर सकता है।
२. विद्यार्थी में साहित्य के प्रति अभिरुची बढ़ाकर साहित्यकार बनने के लिए प्रेरित हो सकता है।
३. छात्र पत्रकारीता के क्षेत्र में अपना नाम लौकिक कर सकता है।
४. भाषा और साहित्य का समिक ज्ञान प्राप्त कर आपने जीवन को अंतर बाह्य सुंदर बना सकता है।
५. गदय एवं पदय एवं नाटय साहित्य एवं हिंदी भाषा का व्याकरण का अध्ययन कर आपने जीवन में मानवी मूल्य एवं राष्ट्रीय मूल्यों का संवर्धन कर एक अच्छा नागरिक बनने की क्षमता धारण करेगा।
६. आदि,मध्य,एवं आधुनिक साहित्यकारों की रचनाओं का अध्ययन करके समाज जीवन को बहतर बनायेगा।

B. A. in History:

On completion of the BA with History special, students will be able to

1. Understand the basic themes, concepts, chronology and the Scope of Indian History from ancient to the modern era.
2. Acquaint with range of issues related to Indian History that span distinct eras.

3. Understand the history of countries other than India with comparative approach.
4. Think and argue historically and critically in writing and discussion.
5. Prepare for various types of Competitive Examinations
6. Critically recognize the Social, Political, Economic and Cultural aspects of History

B. A. in Geography:

On the completion of three year integrated degree program in Geography, a student will be able to -

1. Serve as a Geographer
2. Work as a teacher in schools and high schools
3. Serve as conservator in forest, Soil, Agri, Departments.
4. Work in disaster and water resources management.
5. Serve in forest department as forest conservator.
6. Serve in cartographer in map making divisions of Government.
7. Work in NGOs.
8. Can Prepare for Competitive exams.

.....

Course Outcomes:

ENGLISH

B. A. Part- I : Compulsory English

Course Name : English for Communication

By the end of the course, students will be able to -

- acquire spoken and written communications like how to introduce oneself to others and how to introduce other people.
- describe things, persons and objects in simple English.
- communicate with others with the help of spoken language skills.

- enrich their emotional world and aesthetic world with the study of English poems and stories.
- write cohesive paragraphs in English language on the given topic.
- Know communication skills in day to day life situations.
- Acquire human values through poems and prose stories.
- Acquire language competence.

B. A. Part- I : Optional English (Paper-I and II)

Course Name : Indian Literature in English Translation

By the end of the course, students will be able to know about-

- the meaning, nature of short story and elements and function of literature.
- They will come to know the nature of literature in translation.
- They will start thinking logically and scientifically against superstitions.
- They will come to know the value of education in human life.
- They will be able to enjoy life in the company of literary works.

B. A. Part- II : Compulsory English

Course Name : Ability Enhancement Compulsory Course

By the end of the course, students will be able to know about-

- To explain written texts in spoken English and compare functions.
- They will transform information given in one form into other forms.
- They will write small notices, agendas and paragraphs, in formal English.
- They will learn the significance of discipline and hard work in life.
- They will develop ability to discriminate between good and bad

B. A. Part- II : Optional English (Paper- III and V)

Course Name : Literature and Cinema (Theory of Adaptation)

By the end of the course, students will be able to know about-

- The difference between literature and cinema
- They will learn about essentials of drama novel and Hindi Cinema.
- They will enjoy Hindi movie in a scientific manner.
- They will compare and contrast between English Drama and Hindi Cinema.

- They will compare and contrast between Hindi novel and Hindi Cinema.

B. A. Part- II : Optional English (Paper- IV and VI)

Course Name : Partition Literature

By the end of the course, students will be able to –

- Know the partition scenario
- Know the hidden human dimensions of partition
- Know the impact of partition on human society.

B. A. Part- III : Compulsory English

Course Name : English for Communication (Paper-E and F)

By the end of the course, students will be able to -

- Communicate in English in oral and written modes, in their day to day lives as well as at work places.
- Face job interviews confidently and efficiently.
- Acquire soft skills required at work places and in real life.
- Learn group behavior and team work.
- Learn to value and respect other's opinion and views and develop democratic spirit.
- Face competitive examinations confidently and efficiently with adequate linguistic confidence.
- Acquire professional skills required in media writing such as writing editorials.
- Learn to appreciate and to enjoy reading poetry and prose passages.
- Acquire human values and develop cultural outlook.

B. A. Part- III : Special English (Paper- VII and XII)

Course Name : Literary Criticism and Critical Appreciation

By the end of the course, students will be able to know about-

- major ancient and modern trends in literary criticism
- They will know about various literary theories.
- They will know about the importance of poetry in man's life.
- They will develop critical approach towards life and literature.
- They will appreciate any piece of literature in a critical manner.

B. A. Part-III : Special English (Paper- VIII and XIII)

Course Name : Understanding Poetry

By the end of the course, students will be able to know about-

- how to enjoy poetry reading and aesthetic beauty of poetry.
- They will be able to understand the function of poetic literature.
- They will understand meaning, origin and development of poetry through various ages of human history.
- They will be able to study of poetry and its relation with human mind and human emotions

B. A. Part- III : Special English (Paper- IX and XIV)

Course Name : Understanding Novel

By the end of this course, our students will be able to

- Know about origin of English drama and Indian drama in particular and Indian and western literature in general.
- Know about drama as a form of literature and as a performing art.
- Know and understand various shades of human nature and aspects of human life.
- Develop decision making ability among students and also they will relate literature to human life.

B. A. Part- III : Special English (Paper- X and XV)

Course Name : Understanding Drama

By the end of this course, our students will be able to

- Understand different forms of novel.
- Relate novel to their ideological and socio-political context.
- Improve their creative and imaginative faculties through the reading of novels.
- Know about various aspects of novel.

B. A. Part- III : Special English (Paper- XI and XVI)

Course Name : Structure and Function of Modern English

By the end of this course, our students will be able to

- Know the concept of communication

- Get familiar with varieties of the English language
- Different levels of English language
- Know the basic units of English language.

मराठी

बी. ए. भाग १ आवश्यक मराठी

- १ व्यक्तीमत्व विकासातील भाषेचे महत्व स्पष्ट करणे
- २ विविध कार्यक्रमाच्या संयोजनात भाषीक कौशल्याचा वापर करणे
- ३ थोर व्यक्तीमत्वाच्या जीवनचरीत्राची चिकित्सा करणे

बी. ए. भाग १ ऐच्छिक मराठी

१. कथा लेखन करणे व कथांचे समीक्षण करणे
२. चित्रपटाच्या कथांचे लेखन करणे
३. कथा व कादंबरीचे रूपांतर पटकथेत करणे.

बी. ए. भाग २ पेपर ३ व ५

- १ ऐतीहासीक व्यक्तीवर लिहलेल्या साहित्याचे ऐतीहासीक व वाङ्मयीन चिकित्सा करणे.
- २ मराठी भाषेतील मजकुराचा इतर भाषेत व इतर भाषेतील मजकुराचा मराठी भाषेत अनुवाद करणे.
- ३ जाहिरात व बातमीचा अनुवाद करणे

बी. ए. भाग २ पेपर ४ व ६

१. वृत्तपत्रातील बातम्यांचे संपादन करणे
२. नियतकालीके गौरव ग्रंथ यांची रचना करणे.
३. संताच्यासामाजिककार्याचापरीचय करून देणे.

बी. ए. भाग २ मराठी साहित्याचा इतिहास (IDS)

१. मराठी चरित्रात्मक साहित्याचा परिचय होईल
२. व्यक्तिमत्वाचे जीवन समजेल
३. पौराणिक वाङ्मयाचा परिचय होईल
४. समाजव्यवस्था समजेल.

बी. ए. भाग ३ पेपर ७ व १२

१. अलंकारवृत्ते व छंदाचावापर करून भाषेचेसौंदर्य वाढविणे.
२. कथा दृ कवीता लेखनामध्ये भाषेचा अचूक वापर करणे.
३. साहित्याच्या भाषीक वापराचे स्वरूप स्पष्ट करणे

बी. ए.भाग ३ पेपर ८ व १३

१. भाषेच्या सांस्कृतिक व सामाजिक उत्पत्तीचा अन्वयार्थ लावणे
२. विविध बोलीभाषेचा वापर लेखनामध्ये व व्यवहारात करणे.
३. प्रमाण भाषेमध्ये लेखनकरणे.

बी. ए.भाग ३ पेपर ९ व १४

१. संताच्यासामाजिककार्याचापरीचय करून देणे.
२. संस्कृत, अरबीफारसीभाषांचामराठीवरीलप्रभावस्पष्टकरणे
३. लोककथालोकगीतातूनलोकसंस्कृती व परंपरेचावारसा शोधणे.

बी. ए.भाग ३ पेपर १० व १५

१. आकाशवाणी, वृत्तपत्र व दूरदर्शन यांच्यासाठी बातमी संकलन, संपादन करणे
२. कथा, कविता लेखन करणे
३. नाटक, चित्रपट यांच्या संहितेचे लेखन करणे

बी. ए.भाग ३ पेपर ११ व १६

१. शेतकरी जीवनाच्या सामाजिक समस्यांचे स्वरूपांची मांडणी करणे.
२. आदिवासींचे जीवन, संस्कृती परंपरा यांची मांडणी करणे.
३. दलीतांच्या जीवन, संस्कृती परंपरा यांची मांडणी करणे.

HINDI:

B.A. Part – 1, Hindi- Optional (Paper –I-II)

प्रश्नपत्र क.-1 (साहित्य जगत) विशेष ऐच्छिक कविता

प्रश्नपत्र क.-2 (साहित्य जगत) हिंदी गद्य साहित्य विशेष ऐच्छिक

1. छात्रों को हिंदी साहित्य के प्रति रुचि बढेगी। तथा साहित्य की विधाओं का परिचय होगा।
2. हिंदी के प्रतिनिधी कवि/गद्यकारों का परिचय होकर साहित्य निर्मिती के लिए प्रेरित होंगे।
3. हिंदी भाषा के श्रवण, पठन, एवं लेखन की क्षमताओं का विकास होगा।
4. छात्रों में नैतिक मूल्य, राष्ट्रीय मूल्य एवं उत्तरदायित्व के प्रति आस्था निर्माण होगी।
5. छात्रों में राष्ट्र के प्रति प्रेम, राष्ट्रीय ऐक्य, सामाजिक प्रतिबद्धता हेतु राष्ट्रभाषा हिंदी का प्रचार-प्रसार होगा।
6. छात्रों को विचार क्षमता तथा कल्पनाशीलता को बढावा मिलेगा।

B.A. Part – 2, Hindi- Optional (Paper –III- V)

प्रश्नपत्र क.-3 एवं 5 – अस्मितामूलक और हिंदी गद्य साहित्य-

इस विषय का अध्ययन करने के उपरंत छात्रों में

1. कथा साहित्य का स्वरूप, तत्त्व, प्रकार आदि का परिचय होगा।
2. समीक्षात्मक अंग का परिचय होगा।
3. वर्तमान प्रासंगिकता, मानवी प्रवृत्तियों का परिचय होगा।
4. विभिन्न विधाओं (गद्य की) का परिचय मिलेगा।
5. यथार्थ समस्याएँ, सैद्धांतिक पक्ष से अवगत होंगे।

Hindi – IV/VI - मध्यकालीन काव्य एवं आधुनिक काव्य

B.A. Part – II, -हिंदी आधुनिक काव्य– III

1. हिंदी के छात्रों को मध्यकालीन कवियों की कविताओं तथा संतों के विचारों का परिचय मिलेगा।
2. मध्यकालीन कवी—कबीर, तुलसी, मीरा, बिहारी, तथा वृंद जैसे मध्यकालीन कवी अथवा रचनाकारों के पदों का परिचय पाकर सक्षम होंगे।
3. आधुनिक कविताओं का परिचय करके तथा राष्ट्रीय सामाजिक विचारों को बढ़ावा मिलेगा।
4. हिंदी मध्यकालीन कविता अथवा काव्य प्रकार (खंडकाव्य) सैरन्धी कथा का परिचय होगा।
5. हिंदी मध्यकालीन लंबी कविता 'तुलसीदास' नामक कविता का और कविताओं का परिचय होगा।

B.A. Part – III,

प्रश्नपत्र क VII and XII - विधाविशेष का अध्ययन

1. विधा के तात्त्विक स्वरूप का परिचय होगा।
2. रचनाकार के व्यक्तित्व एवं कृतित्व से अवगत होंगे।
3. रचना विशेष का समीक्षात्मक मूल्यांकन कर सकेंगे।
4. प्रासंगिकता से परिचित होंगे।
5. हिंदी के विशेष रचनाकारों का परिचय होगा।
6. दलित नारी की व्यथा और दशा के प्रति संवेदना जागृत होगा।
7. कौशल्य बैसन्त्री का जीवन परिचय, व्यक्तित्व, कृतित्व एवं आत्मकथा के रूप में दुहरा अभिशाप का परिचय होकर उनके प्रति संवेदना जागृत होगी।

प्रश्नपत्र क VIII एवं XIII –साहित्यशास्त्र

1. साहित्य की मर्म ग्राहिणी क्षमता का विकास होगी।
2. काव्य विभिन्न का सामान्य परिचय होगा।

3. साहित्य समिक्षा की दृष्टि विकसित होगी।
4. भारतीय तथा पाश्चात्य समिक्षा सिंधदातों तथा हिंदी अलोचनाओं की विभिन्न प्रनालियों का ज्ञान प्राप्त करेगे।

प्रश्नपत्र क IX एवं XIV –हिंदी साहित्य का इतिहास

1. विभिन्न कालखंडों से अवगत होंगे।
2. इतिहास की परंपरा का परिचय होगा।
3. तात्कालिक परस्थितीओं से रुबरुब होंगे।
4. संत साहित्य, संत कवि, विचारधारा, मैलिक तत्वओं का परिचय होगा।
5. भक्तिधाराएँ, राजाश्रीत कवी परंपरा का परिचय होगा।

प्रश्नपत्र क X एवं XV प्रयोजनमुलक हिंदी

1. अंग्रजी परिभाषिक शब्दावली के पर्यायवाची हिंदी रूपों का अध्ययन करेगे।
2. संदर्भस्रोतों का परिचय होंगे।
3. जनसंचार माध्यमों का मुद्रित एवं इलेक्टॉनिक से परिचय होंगे।
4. पत्रकारीता और वृत्तांत लेखन से परिचित होंगे।
5. अनुवाद का रोजगार उपलब्धि की दृष्टि से विवेचन होगा।

प्रश्नपत्र क XI एवं XVI -भाषा विज्ञान और हिंदी भाषा

1. भाषा के विविध रूपों का परिचय होंगे।
2. भाषा विज्ञान से मानक हिंदी से परिचित होंगे।
3. हिंदी भाषा और लिपी के उद्भव और विकास का परिचय मिलेगा।
4. भाषा के शुध्दता के प्रति छात्रों जागृत होंगे।
5. मानक हिंदी वर्तनी और व्याकरण से छात्रों परिचय होंगे।

History:

Paper I: Rise of the Maratha Power (1600-1707)

By the end of this Course, students will be able to know about:

1. Students understand history from 1600 to 1707 was an important epoch in

the history of Marathas. Chhatrapati Shivaji Maharaj established the Maratha state.

2. Introduce students to the history of the rise of Maratha power with main emphasis on life and work of Chhatrapati Shivaji Maharaj.
3. The course is also expected to apprise the students with the sacrifices made by Maratha leaders and people to protect freedom and sovereignty of the region)
4. Students able to give historical speeches on Maratha power and the Shivaji Maharaj.

Paper II: Polity, Society and Economy under the Marathas (1600- 1707)

By the end of this Course, students will be able to know about:

1. Students understand history from 1600 to 1707 was a period of rapid change in the history of Marathas.
2. Students understand the social, political and religious policy of Chhatrapati Shivaji Maharaj.
3. The course is designed to acquaint the students with the political, socio-economic and religious life of the people during the 1600- 1707 period.
4. It will educate the students about the policy and contribution of Chhatrapati Shivaji Maharaj.

Paper III: History of Modern Maharashtra (1900 To 1960)

By the end of this Course, students will be able to:

1. Understand the beginnings and growth of nationalist consciousness in Maharashtra.
2. Explain the contribution of Maharashtra to the national movement.
3. Give an account of various movements of the peasants, workers, women and backward classes.
4. Know the background and events which led to the formation of separate state of Maharashtra.

Paper IV: History of India (1757-1857)

By the end of this Course, students will be able to:

1. Acquaint himself with significant events leading to establishment of the rule of East India Company
2. Know the colonial policy adopted by the company to consolidate its rule in India
3. Understand the structural changes initiated by colonial rule in Indian economy
4. Explain the various revolts against rule of the East India Company

Paper V: History Of Modern Maharashtra (1960 To 2000)

By the end of this Course, students will be able to

1. Acquaint themselves with the contribution of eminent leaders of Maharashtra
2. Know about the economic transformation of Maharashtra
3. Understand the salient features of changes in society
Explain the growth of education.

Paper VI: History of Freedom Struggle (1858-1947)

By the end of this Course, students will be able to:

1. Understand the events which lead to the growth of nationalism in India
2. Acquaint himself with major events of the freedom struggle under the leadership of Mahatma Gandhi
3. Explain the contribution of Revolutionaries, Left Movement and Indian National Army
4. Know the concept of Communalism and the causes and effects of the partition of India

Inter Disciplinary Course: HSRM

Paper I: Social Reforms in India

By the end of this course, students will be able to:

1. Understand the salient features of prominent socio-religious reform movements
2. Explain the thought and work of Mahatma Phule for radical

transformation of Indian society

3. Know the measures taken by Rajashri Shah Maharaj for emancipation of lower classes and women
4. Understand the thoughts of Ambedkar on the annihilation of the caste system and untouchability in India.
5. Know how the Indian constitution embodies the values of social justice and equality

Paper- II: Social Reforms in Maharashtra

By the end of this course, students will be able to:

1. Know about the beginnings of social reforms in Maharashtra by the Paramhansa Mandali and Prarthana Samaj.
2. Understand the contribution of women reformers
3. Explain the contribution of Social reformers in the fight for social justice.
4. Explain the role played by educational reforms in transformation of society

Paper – VII: History of Ancient India

By the end of this course, students will be able to know about:

- 1) Archaeological history of India.
- 2) Different pre historic human cultures in India.
- 3) Vedic literature in India.
- 4) Prehistoric Civilization.

Paper– VIII: History of Mughal india

By the end of this course, students will be able to knowabout:

- 1) Historiography and its approaches .
- 2) The period of Akbar Chand Bibi Ibrahim Adilshah Allauddin Khilaji, Krishnadevrai Aurangazeb and their relations in religion
- 3) Trade and commerce in India.

Paper – IX: History of India Since Independence Part- I

By the end of this course, students will be able to know about:

- 1) Political journey part of congress in Indian politics.
- 2) Other political parties in short IP ,ID,BJP, their birth, rise and participation in Indian political structures.
- 3) Agriculture and its role in India in the period of 1947-1991.
- 4) Development in sectors like Industry and Trade , Import , Export, Heavy Industries.

Paper– X: History of the Marathas (1707-1818)

By the end of this Course, students will be able to know about:

- 1) Political condition during Chh. Shahu and the third war of Panipat.
- 2) Political conditions in the period of Mahadevrao Savai Madhavrao and Bajirao II.
- 3) Socio – economic conditions in the period of Pashwas.
- 4) About Culture, Visual Arts and Architecture during the era.

Paper –XI: Introduction to Historiography -

By the end of this Course, students will be able to know about:

- 1) meanings , Nature and kinds of History.
- 2) classification and Important of Historical sources.
- 3) process of writing History.
- 4) Tools of the study of history

Paper – XII: History of Ancient India

By the end of this Course, students will be able to know about:

- 1) Jainism Buddhism and Expansion of settlements and Urbanization .
- 2) Maurya Empire and Ashokas.
- 3) The age of Guptas and culture progress.
- 4) Harshavardhnas Administration and religious policy.

Paper – XIII: History of Mughals in India

By the end of this Course, students will be able to know about:

- 1) Urban centers.

- 2) Cultural Development, and language, literature and Art .
- 3) Religion and culture of Sufis and saint tradition.

Paper –XIV History of India Since Independence part –II

By the end of this Course, students will be able to know about:

- 1) The Foreign policy of India or they will be introduced to foreign policy .
- 2) The problems like students’ interest in terrorism, Naxalism ,Maoism and antisocial movements.
- 3) Environment of Women’s and Depressed class movement .
- 4) Understand concept merit Demerits of LPG since’ 1992.

Paper – XV: Modern Maharashtra - 1960 – 2000

By the end of this Course, students will be able to know about:

- 1) The formation of Maharashtra state.
- 2) Economy of India.
- 3) Social movements and their effect on social conditions in India.
- 4) The cultural life in India.

Paper – XVI: Applications of History

By the end of this Course, students will be able to know about:

- 1) Museums, deeply. Ref. Chh. Shivaji Maharaj.
 - 2) Historical tourism places in Maharashtra : Ajantha caves, Ellora caves, Eliphanta caves, Forts of the era of Shivaji such as, Daulatabad , Raigad, Shivneri etc.
 - 3) Preservation and conservation of Documents, paintings and movements.
 - 4) Opportunities of careers in tourism industry in Maharashtra and in India
-

GEOGRAPHY

Paper I: Physical Geography

By the end of this Course, students will be able to:

1. Understand the effect of rotation of revolution the Earth
2. Know the internal structure of the earth know the importance of longitudes & latitudes International Date line and Standard time.
3. Understand interior structure of the earth
4. Understand Theory regarding of Origin of Continents and oceans
5. Study the formation of Rocks
6. Understand the work of internal and external forces and their associated landforms.
7. Understand the importance of Atmosphere
8. Understand the composition of atmosphere

Paper II: Human Geography

By the end of this Course, students will be able to:

1. Understand the relationship of man and environment
2. Studies of races of man kinds.
3. Understand the modes of life of Eskimo, pigmy, Gonad , Bhil And Nagas.
4. Importance of Right to Information Acts.

Paper III: Soil Geography

By the end of this Course, students will be able to:

1. Importance of soil in food Production.
2. Examine and study the soil forming process.
3. Understand Chemical and physical properties of soil.
4. Know soil types of India.
5. Understand food Security and soil quality.

Paper IV: Resource Geography

By the end of this Course, students will be able to know about:

- 1 The importance of geographical Resources
- 2 The types of resources

- 3 Understand the degradation of resources
- 4 Know the conservation of natural resources

Paper V: Agricultural Geography

By the end of this Course, students will be able to know about:

1. Examining the introduction to agriculture, nature, scope, significance and development of agriculture geography, approaches to study.
2. Understand the fundamental concept, land use, crops, agricultural production and envelopment and study the determinants of agricultural activities, physical determinants, and socio-economic determinants.
3. To understand the agricultural system its meaning and concept, whittlesey's classification of agricultural system, types of agricultural, study of the following types of agricultural in respect of area, salient features and their problems.
4. Understand the agricultural regionalization and modes in agricultural geography and their classification of agricultural models and some theories.
Understand the agricultural statistics & land use survey techniques and agrarian revolution, meaning & merit and demerit of green revolution and white revolution

Paper VI: Oceanography

By the end of this Course, students will be able to know about:

1. Understand importance of ocean.
2. Knowledge about effect of ocean Currents.
3. Understand human impacts on Ocean.
4. Study about types of tides.

Paper VII: Physical Geography of India

By the end of this Course, students will be able to know about:

1. Knowledge about basic geographical Personality of India.
2. Understand the variability of Physiography, climate in India.

3. Study of problems of soil erosion and their conservation methods.
4. Acquire knowledge of forests in India.

Paper VIII: Economic Geography of India

By the end of this Course, students will be able to know about:

1. Get knowledge about problem and prospect about agriculture, trade and transport.
2. Aware the student about need of conservation and Protection of natural resource

Paper IX: Economic Geography

By the end of this Course, students will be able to know about:

1. Study the Human Economic Activities
2. Explain the Weber theory Rostov modal
3. Understand the mineral and power resources
4. Study of the distribution of engineering, cotton sugar Industries in India
5. Study Of India's foreign tread

Paper X: Urban Geography

By the end of this Course, students will be able to know about:

1. Study the urban planning
2. Study the urbanization process
3. Get knowledge about problems of urban area.
4. Study the fundamental factors of urbanization

Paper XI: Research Methodology

By the end of this Course, students will be able to know about:

1. Examining the introduction of research, motivation in research, types of research, significance of research, research process and criteria of good research.

2. To understand the research problems, selecting research problems, literature review and to study the hypothesis, its types, sources, formation of hypothesis and utility of hypothesis in scientific research.
3. To understand the research design, need, features, basic principal and developing of research plan, and sampling design and its basic types, steps, characteristics of sampling design.
4. Study about type's data and methods of data collection and study the processing and analysis of data using different statistical methods.
5. Understand the interpretation and report writing, techniques, precaution of interpretation, layout of research report, types of reports and oral presentation mechanics of writing a research report.

Political Geography

By the end of this Course, students will be able to know about:

1. Understand the history of Political Geography.
2. Get knowledge about Evolution of states & nations.
3. Get knowledge of Geopolitical theories.
4. Investigate Problems and disputes in India

ECONOMICS

B.A. PART- I

Paper-I: INDIAN ECONOMY - I

By the end of this Course, students will be able to know about:

1. Intends to acquaint the students with various dimensions of, as also the challenges, confronting the Indian economy.
2. It endeavors to provide useful insights to the students about the present economic standing and composition of the Indian economy, the major sectors and their relative importance in the Indian economy and the major challenges faced by it.

3. Introduce the students to the Indian economy.
4. Develop an understanding of challenges facing the Indian economy.
5. Acquaint the students with Structure of the Indian economy and Changes Taking Place therein.

Paper-II: INDIAN ECONOMY - II

By the end of this Course, students will be able to know about:

1. Acquaint the students with various dimensions of, as also the challenges, confronting the Indian economy.
2. It endeavors to provide useful insights to the students about the present economic standing and composition of the Indian economy, the major sectors and their relative importance in the Indian economy and the major challenges faced by it.
3. Acquaint the students with the policies and performance of major sectors in Indian Economy.
4. Explain the economic reforms introduced in India since 1991.

B.A. PART- II

Paper No– IV: MONEY AND BANKING

By the end of this Course, students will be able to know about:

1. Generate the awareness among the students and Job Prospects in Banks and Financial Sector.
2. Clear understanding of the operation of banks and financial institutions to the students with practical inputs.
3. Understanding the function, structure and process of Reserve Bank of India.
4. Improve knowledge of Banking and Finance.

Paper-V: BANKS AND FINANCIAL MARKETS

By the end of this Course, students will be able to know about:

1. Generating awareness about the working of co-operatives in Rural and Urban area.
2. Understanding the cooperative credit structure in India.
3. Understanding the function and importance of financial system in India.

4. Improve knowledge of Banking and Finance.

Paper-III: MACRO ECONOMICS -I

By the end of this Course, students will be able to know about:

1. Introduce the basic primary and analytically important concepts, theories and policies in the working of the economy to the learners.
2. Able students to apply various concepts in the process of policy making, planning of measures to ensure and achieve the fundamental objectives of macroeconomic policy.
3. Understanding the various concept of National Income.
4. Understanding the various theories regarding output and employment.

Paper-VI: MACRO ECONOMICS –II

By the end of this Course, students will be able to know about:

1. Introduce the basic primary and analytically important concepts, theories and policies in the working of the economy to the learners.
2. Understand the basic theoretical framework underling in the field of macro economics.
3. Understanding the various concept of Inflation and Trade Cycles.
4. Understanding the aspects of public finance and public expenditure

INTER-DISCIPLINARY COURSE: PRINCIPLES OF CO-OPERATION

By the end of this Course, students will be able to know about:

1. Generating awareness about the working of co-operatives in Rural and Urban area.
 2. Understanding the concept, nature and structure of cooperation
 3. Understanding the organization of Capitalism and Socialism.
 4. Increase knowledge regarding cooperative audit.
-

POLITICAL SCIENCE:

B. A. Part-I

Paper-I and II

By the end of this Course, students will be able to:

- 1 Create political awareness in themselves, in their family and among masses.
- 2 Think critically and participate in political activities for the creation of a better society.
- 3 Think about the past and present of the country and will imagine of the future.
- 4 Know about the legislature, its function, and work strategy.
- 5 Inculcate in themselves and among others the three greatest principles of life viz. Liberty, Equality and Fraternity.
- 6 Democracy, its nature, its comparison with other forms of govt. and Indian Electoral System.
- 7 Create nationalism in themselves and others.

Political Science: Paper-III / V

By the end of this Course, students will be able to:

- 1 Participate in political activities at local level.
- 2 Think of local social issues and will try to solve them.
- 3 Acquire knowledge of the governance in their constituency.
- 4 Understand the agenda, strategy of the political parties.
- 5 Create pressure on the governments for their legal rights.

Political Science: Paper-IV / VI

By the end of this Course, students will be able to:

- 1 Know about the political system ancient India.
- 2 Know about the political thinkers in ancient India, their contribution to thinking and their significance.
- 3 Know about that thought are permanent and have everlasting effect.
- 4 Know about the international political system in the present scenario.
- 5 Create interest for reading books of great Western thinkers.

6 Create interest in the biographies of the world famous political thinkers.

INTER DISCIPLINARY COURSE: Public Administration :

By the end of this Course, students will be able to:

- 1 Know about public administration at the local level.
 - 2 Make preparation for competitive examinations in public sector.
 - 3 Think critically and comparatively about the various administrative systems.
 - 4 Know about various schemes of governments for people deprives social groups.
 - 5 Differentiate between the public sector administration and private sector administration.
-

SOCIOLOGY:

Sociology: Paper-I and II (Optional Course for B. A. Part-I)

By the end of this Course, students will be able to:

- Define sociology and describe the historical and social context from which it emerged.
- Explain sociological imagination and the relationship between the individual and the broader workings of the society.
- Differentiate between the three main theoretical paradigms or perspectives in sociology.
- Describe and apply the scientific methods of sociology.
- Identify and differentiate between types of research methods, discussing the benefits and limitations of each.

Sociology: Paper-III / V (Optional Course for B. A. Part-II)

By the end of this Course, students will be able to:

- Describe the causes and development collective behavior and social movements, and social change.
- Describe technology in social context.
- Evolution and role of media in society.

- Understand and discuss how we analyze media and technology through various sociological perspectives.

Sociology: Paper-IV / VI (Optional Course for B. A. Part-II)

By the end of this Course, students will be able to:

- Know about gender, sex and sexuality, gender identity.
- Differentiate between sex and gender and define sexual orientation and understand gender identity.
- Describe the socialization of gender and gender inequality.
- Explain sexual attitudes and practices.

ENVIRONMENTAL STUDIES:

(Compulsory Course at B. A. / B. Com. / B. Sc. Part-II)

By the end of this Course, students will be able to:

1. Describe demographic measurements
2. Read population graphs
3. Describe the causes of growth of cities and the process of urbanization
4. Understand the impact of climate change on population and vice-versa.
5. Significance of our environment in human life.
6. Create awareness about our environment among their life and among masses.



COMMERCE

Program Outcomes (POs):

Program Name: B. Comm. (BACHELOR OF COMMERCE)

Students taking admission to academic program of B. Comm. are expected to get equipped with following outcomes:

- a. Importance of money and human values and their proportion in their life.
- b. They will be able to get acquainted with cooperative movement and the significance of cooperation in their life.
- c. They will be able to know that taxes are collected to develop infrastructure to make the life of people in the country, easy, livable and hand in hand with modernity.
- d. Ability to handle the unexpected financial situation by critically analyzing the problem.
- e. Ability to keep record of financial activities.
- f. Students will learn principles of economics and implement them in their life.

Course Outcomes:

B. Comm. Part-I

Course Name: English for Business Communication

By the end of the course, students will be able to:

1. The use of English language in corporate sector
2. How to think logically and systematically
3. Value and importance of English language in human life in general
4. Get equipped with effective business communication skills
5. Include emotional aspect and values in business communication to make it meaningful
6. Improve their language competency
7. Improve their vocabulary that would result in effective verbal communication.
8. Enter the job places with confidence and ability to communicate effectively and ultimately to work effectively.

Course Name: Management Principles and Applications

By the end of the course, students will be able to know about:

1. Meaning and nature and importance of management and its significance of in life and entrepreneurship.
2. They will come to know the nature of corporate management.
3. They will start thinking logically and scientifically about management.
4. They will come to know the value of management in human life.
5. They will be able to get placed as assistant manager in some corporate firm.

Course Name: Insurance

By the end of the course, students will be able to know about:

1. The importance of insurance in human life
2. Various types of insurance such as life insurance, property insurance, home insurance, vehicle insurance, health insurance, body part insurance, individual and group insurance and family insurance and their benefits
3. How to make themselves able to get job as Insurance Professional

Course Name: Financial Accounting

By the end of the course, students will be able to know about:

- 1 Meaning, nature and scope of the concepts like finance, accounting, money, its value, loss, profit etc. and importance of accounting.
- 2 Basic principles of accounting such as financial information, basic activities and importance of decision making in entrepreneurship.

Course Name: Principles of Marketing

By the end of the course, students will be able to know about:

- 1 Meaning, nature and scope of marketing and their applications in their say day to day life
- 2 The condition of marketing and will be able to take decision on how to proceed further.
- 3 Job opportunities in their life to support their families.
- 4 The value of marketing in decision making.

- 5 How to compete in their business or jobs in future.
- 6 How to identify the needs of the costumers and how to fulfill their needs and ultimately how to make money.
- 7 How to analyze their companies and competitors and how to define their strategies.

Course Name: Business Economics

By the end of the course, students will be able to know about:

1. the global as well as Indian Economic scenario
2. applied economics and its applications.
3. They will be able to know the changing picture and needs of Indian economy.
4. The concept, principles, and theories in business economics.

B. Comm. Part- II

Course Name: Ability Enhancement (Compulsory course in English)

By the end of the course, students will be able to:

1. Communicate effectively and orally
2. Increase their reading speed and comprehension of academic articles
3. Improve their speaking ability in English in terms of both fluency and comprehensibility
4. Use English language for general and specific purposes such as competitive examinations and corporate communication
5. Manage their emotional issues skillfully.

Course Name: Corporate Account

By the end of the course, students will be able to know about:

1. How to manage account in corporate sector
2. How to provide complete and systematic record
3. What are the concepts like loss, profit, profit ratio, production cost etc.
4. Get jobs in corporate and private and public sectors.

Course Name: Macro Economics

By the end of the course, students will be able to know about:

- 1 The meaning, nature and scope of macro economics and will be able to differentiate between micro and macro economics.
- 2 They will come to know the concept of macro economics and its use in Indian economy.
- 3 They will start thinking logically and systematically.
- 4 They will come to know how to face economic problems in their life.

Course Name: Money and Financial System

By the end of the course, students will be able to know about:

1. The value of money in their life and money management.
2. How to create money.
3. Banking system in India.
4. How to use money and how to save money and how saving money is crating or making money.

Course Name: Fundamentals of Entrepreneurship

By the end of the course, students will be able:

- 1 Acquire necessary knowledge and skills for organizing and carrying out entrepreneurial activities.
- 2 Understand and analyze business conditions in which entrepreneurs act.
- 3 Acquire knowledge necessary for business activity.

Course Name: Business Statistics

By the end of the course, students will be able to know about:

- 1 Meaning, nature and scope of statistical techniques.
- 2 Develop understanding in statistical concepts to include dispersion and probability.
- 3 Will be able to deal with numerical and quantitative issues in business.
- 4 The use of statistical, graphical and algebraic techniques wherever relevant.
- 5 Applications of statistical data in economics and management.

B. Comm. Part- III

Course Name: Accountancy - I

By the end of the course, students will be able to know about:

1. Job opportunities in private and public and corporate sectors.
2. How to maintain complete and systematic record.
3. The concepts of profit and loss and how to convert loss into profit.
4. Assessment of tax liabilities

Course Name: Accountancy - II

By the end of the course, students will be able to know about:

1. Tax procedures.
2. Job opportunities in income tax department,
3. How to calculate tax liabilities.
4. The concepts like TDS, GST etc.

Course Name: Business Regulatory Framework

By the end of the course, students will be able to know about:

1. Business laws and legal provisions for entrepreneurs.
2. Job opportunities in corporate sector.
3. How and where to lodge complaint against misconduct that has caused them wrong.
4. Procedures for start ups.

Course Name: Business Environment

By the end of the course, students will be able to know about:

1. What is business and what is business environment and how to create business environment and the elements of business environment.
2. Agricultural activities in India and their impact on Indian economy.
3. The problems of Indian Economy and will be able to think their individual contribution in the nation's development.
4. the difference between rural economy and urban economy and their problems.
5. How to create agricultural marketing system.

Course Name: Cooperative Development

By the end of the course, students will be able to know about:

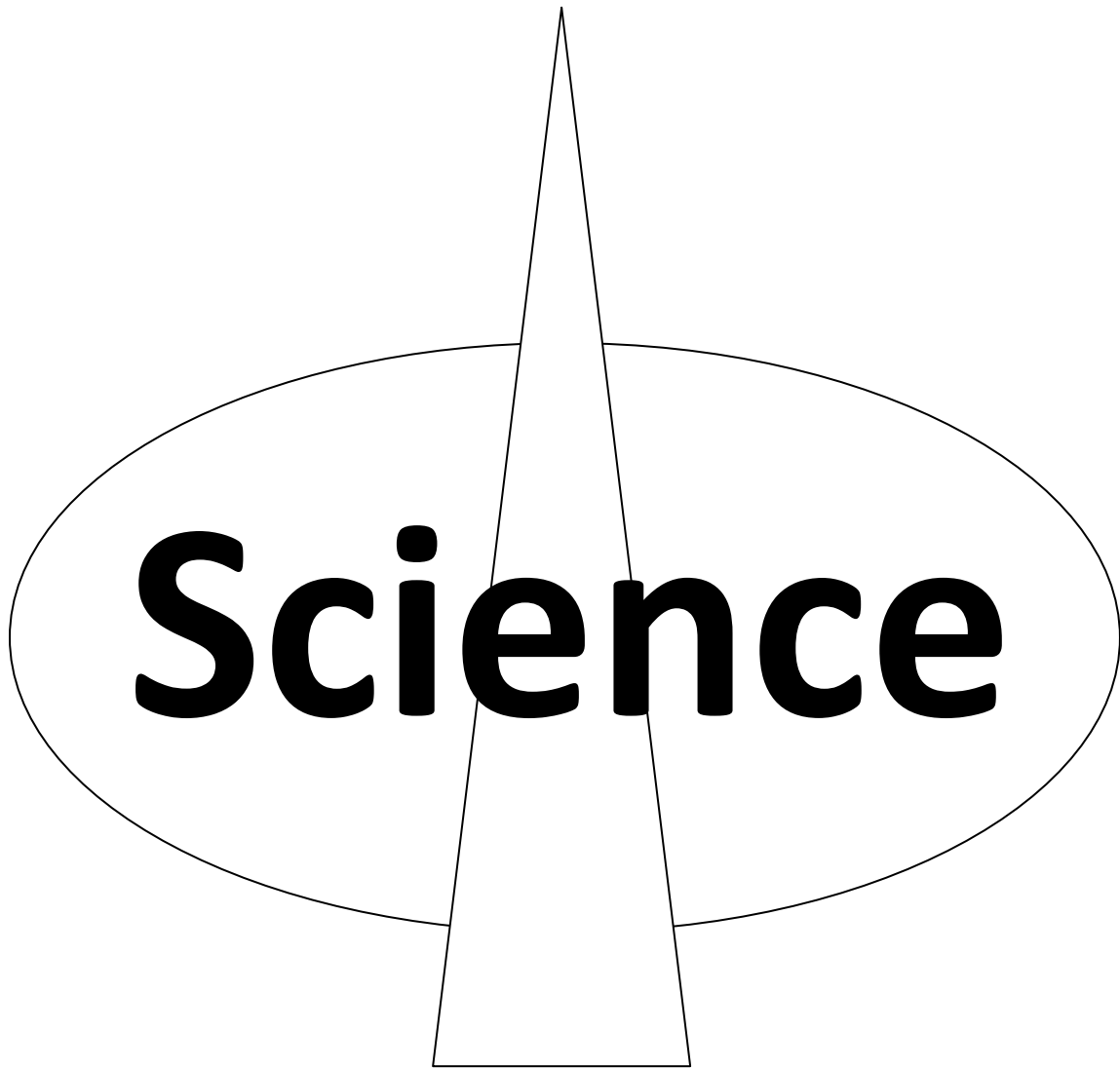
1. Meaning of the concept of cooperation and how it works.
2. The cooperative movement in India in general and in Maharashtra in Particular.
3. The cooperative banking system in Maharashtra especially in Western Parts of the state.

4. The types of cooperative farming and its opportunities in India and in Maharashtra.
5. The cooperative movement in the sectors like Dairy Farming, Cotton Mills and Sugar Industry.
6. They will be able to think positively to use cooperation in their own lives and to raise their standard of living by cooperation.

Course Name: Modern Management Systems:

By the end of the course, students will be able to know about:

- 1 How to derive maximum yield from minimum efforts.
 - 2 How to increase the efficiency of factors that are involved in production.
 - 3 How to set goals and how to achieve them.
 - 4 How to manage everyday business activities such as planning, decision making, quality controlling reducing production cost etc.
 - 5 Importance of management in human life.
 - 6 To differentiate between good management and bad management.
-



Program Outcomes (POs):

Program Name: B.Sc. (BACHELOR OF SCIENCE)

Students taking admission to academic program of B.Sc. are expected to get equipped with following outcomes:

- a. Explaining the basic scientific principles and methods.
 - b. Inculcating scientific thinking and awareness among the student.
 - c. Ability to communicate with others in regional language and in English.
 - d. Ability to handle the unexpected situation by critically analyzing the problem.
 - e. Understanding the issues related to nature and environmental contexts and sustainable development.
-

Program Specific Outcomes:

B.Sc. in CHEMISTRY

1. Proficiency in Chemistry concepts.
2. Ability to apply Chemistry knowledge to analyze Chemical phenomenon.
3. Laboratory skills to inculcate experimentation.
4. Use of ICT/ software.
5. Critical thinking and independent work.
6. Prepare students for higher education.
7. General competence and analytical skills on advanced level.
8. Use of Chemistry for ethical problems.
9. Prepare students as man force for industry.
10. Prepare students for entrepreneurs.

B.Sc. in BOTANY

1. The student will graduate with proficiency in the subject of his choice.
2. The student will be eligible to continue higher studies in his subject.
3. The student will be eligible to pursue higher studies abroad.
4. The student will be eligible to appear for the exams for jobs in government

organizations.

5. The student will graduate with proficiency in Plant Sciences.
6. The student will be eligible to continue higher studies in Botany both in India and abroad.
7. The student will be able to understand the plant diversity around him or her and will be in a position to create career opportunity in the field of plant sciences.
8. The student will be eligible to appear for the exams for jobs in government organizations like UPSC, MPSC, IFS, Banking sector etc.
9. The student will prove useful in the knowledge, development and management of plants in the Western Ghats.

B.Sc. in PHYSICS

1. Identifying and describing physical systems with their professional knowledge.
2. Developing their scientific attitude, ability and techniques to tackle problems either theoretical or experimental in nature.
3. Knowledge of general physics like sound, wave, friction, forces and laws of motion and use of mathematics.
4. Information of electrical current, circuits, construction and their use.
5. Learning about concepts of nuclear physics and nuclear energies and importance of their use for mankind.
6. Knowing about the light and its importance in life, its characteristics, properties and use in various instruments.

B. Sc. In ZOOLOGY

1. Improving the knowledge about criteria for animal classification.
 2. Study of salient features of chordates and non-chordates.
 3. Improving the knowledge of animals about their special adaptations and evolutionary relationship.
 4. Scientific study of their nature of habitant with environment.
 5. Improving information about external morphology and anatomy of animals including human being.
-

Course Outcomes:

ENGLISH

Paper- A and B (Ability Enhancement Compulsory Course)

By the end of this Course, students should be able to know about:

1. Students are acquainted and equipped with communication skills.
2. Human values are inculcated among the students through poems and prose.
3. Language competence is improved among the students.
4. Students are aware Indian culture and literature with the help of prose.
5. The syllabus helped the students in preparing data and its presentation as well as telephonic communication, narration and description of the event or incident.

Part C and D (Ability Enhancement Compulsory Course)

By the end of this Course, students should be able to know about:

1. Students are prepared in avoiding common errors in written English.
2. Students are also prepared in interacting in a group discussion, writing official reports and letters and organizing paragraphs.
3. The syllabus makes student aware about eminent personalities and their contribution in the development of India.
4. The syllabus also makes the students aware about diverse Indian culture and literature.
5. Students are prepared in communication skills including vocabulary and writing and speaking skills.

STATISTICS

Paper I: Descriptive Statistics–I

By the end of this Course, students should be able to know about:

1. Acquaintance with some basic concepts in statistics.
2. Making familiar with some elementary statistical methods of analysis of data viz. Measures of Central Tendency, Dispersion, Moments, Skewness, and Kurtosis

and to interpret them.

3. To compute various measures of central tendencies, dispersion, moments, skewness, kurtosis and to interpret them.
4. Analysis of data pertaining to attributes and to interpret the results.

Paper II: Elementary Probability Theory

By the end of this Course, students should be able to know about:

1. Acquainting with some basic concepts of probability.
2. To distinguish between random and non-random experiment.
3. To find the probabilities of various events.
4. To understand the concept of conditional probability and independence of events.
5. Ability to distinguish between univariate and bivariate probability distribution.

Paper III: Descriptive Statistics – II

By the end of this Course, students should be able to know about:

1. To understand the concept of correlation and computation of correlation coefficient.
2. Interpreting the value of correlation coefficient and its use in regression analysis.
3. Understanding the concept of multivariate distributions.
4. Application of correlation and regression theory in various fields viz. Agriculture, Business, Medical Science, Industry etc.
5. To compute various index numbers.

Paper IV: Discrete Probability Distributions

By the end of this Course, students should be able to know about:

1. To apply discrete probability distribution in different situations.
2. Distinguish between discrete variable and study their distributions.
3. Understanding some standard discrete probability distributions with real life situations.
4. Understanding concept of bivariate distribution and computation of related probabilities.

Paper-V: Continuous Probability Distributions-I

By the end of this Course, students should be able to know about:

1. To apply continuous univariate and bivariate probability distribution in different situations.
2. Distinguish between univariate and bivariate variable and study their distributions.
3. Transformations of continuous univariate and bivariate random variables.
4. Study of Uniform and Exponential Distribution probability distributions with real life situations.

Paper VI: Bivariate Discrete Distributions and Multiple Regression Analysis

By the end of this Course, students should be able to know about:

1. To apply Bivariate discrete probability distribution in different situations.
2. To apply bivariate discrete probability distribution in different situations.
3. Study and analysis of multiple linear regression.
4. Study and analysis of Multiple and Partial Correlation.

Paper-VII: Continuous Probability Distributions-II

By the end of this Course, students should be able to know about:

1. To apply continuous probability distribution in different situations.
2. Study of Gamma distributions with real life situations.
3. Study of Beta distribution of first kind and second kind distributions with real life situations.
4. Study of Normal probability distributions with real life situations.
5. Study of Exact Sampling Distributions (Chi-square, t & F) with real life situations.

Paper VIII: Statistical Methods

By the end of this Course, students should be able to know about:

1. Study of the Index Numbers and its applications.
2. To understand the concept of Time Series and its applications.
3. To understand the concept of Tests of Hypothesis and its real life applications.
4. To understand the concept of Statistical Quality Control (SQC) and its applications.

.....

ZOOLOGY:

Paper I: Animal Diversity I

By the end of this Course, students should be able to know about:

1. Understanding the arrangement of organism or groups of organism in distinct categories in accordance with particular & well established plan.
2. Explanation of unity in diversity of organism.
3. Studying specific & scientific names to organism.
4. Collecting information about useful and harmful animals, helps in understanding the nature of habitat.

Paper II: Animal Physiology

By the end of this Course, students should be able to know about:

1. Understanding the structure and function of cell & cell organelles.
2. To study animal tissue to improve knowledge about genetic information. it study how organism evolve from a single cell division, get knowledge about unicellular & multi-cellular organisms.
3. Understanding normal function of cell, organ or tissue.

Paper IV: Genetics

By the end of this Course, students should be able to know about:

1. Structure, function, molecular organization, growth, reproduction and genetics of cell.
2. Mendelian and Post Mendelian genetics .
3. Linkage and Crossing Over.
4. Mutations.
5. Evolutionary history of certain animals, study their sericulture which is one of the longest agro industries & silk is used in the manufacture of woven materials.

Paper V: Animal Diversity II

By the end of this Course, students should be able to know about:

1. Understanding the arrangement of organism or groups of organism in distinct categories in accordance with particular & well established plan.

2. Understanding General features and Classification up to orders; Venomous and non-venomous snakes, Biting mechanism in snakes.
3. Study General features and Classification up to orders; Osmo regulation in Fishes.

Paper VI: Biological Chemistry

By the end of this Course, students should be able to know about:

1. Study of chemistry within living organisms.
2. Perceiving the chemical components & chemical structure in organisms.
3. Study how body functioning with the help of chemical molecules & elements.

Paper VII: Reproductive Biology

By the end of this Course, students should be able to know about:

1. Study outline and histology of female and male reproductive system
2. Functional anatomy of female and male reproduction.
3. Understand infertility in male and female: causes, diagnosis and management; Assisted
4. Reproductive Technology: sex selection, sperm banks, frozen embryos, invitro fertilization, ET, EFT.

Paper VIII: APPLIED ZOOLOGY

By the end of this Course, students should be able to know about:

1. Improving proper knowledge about Transmission, Prevention and control of diseases Tuberculosis, typhoid..
2. Understanding Insects of Economic Importance.
3. Study the principles of poultry breeding, Management of breeding stock and broilers, Processing and preservation of eggs.

MATHEMATICS

Paper I: Differential Calculus.

By the end of this Course, students should be able to know about:

1. The student learns to find the n^{th} derivative of product of two functions.
2. The student learns the notion of partial differentiation and the importance of Euler's theorem on homogeneous function.

3. The student learns the method of finding extreme values of a function by Lagrange's method of undetermined multipliers.
4. The student learns the notion of hyperbolic functions and their properties function.

Paper II: Calculus

By the end of this Course, students should be able to know about:

1. The student learns the Mean Value Theorems.
2. The student learns L'Hospital's rule and the indeterminate forms.
3. The student learns the series expansions by using Taylor's and Maclaurin's theorems.
4. The student learns the notion of continuity.

Paper III: Differential Equations-I

By the end of this Course, students should be able to know about:

1. The student learns exact differential equations, condition for exactness, integrating factors (I.F.), linear differential equations and Bernoulli's equation.
2. The student learns differential equation of first order but not of first degree, Clairaut's equation,
3. The student learns to find general solution of $f(D)y=0$ and $f(D)y=X$
4. The student learns homogeneous linear equation.

Paper IV: Differential Equations-II

By the end of this Course, students should be able to know about:

1. The student learns second order linear differential equations.
2. The student learns simultaneous linear differential equations.

3. The student learns partial differential equations.
4. The student learns first order partial differential equations.

Paper V: Differential Calculus

By the end of this Course, students should be able to know about:

1. Define epsilon delta definition of Limit and continuity of function of one variable.
2. State and prove basic properties of Limit and continuity of function.
3. Prove some important theorems on continuity.
4. Explain differentiability using concept of limit.
5. Define Jacobian and solve examples on it.
6. Find maxima and minima of function of two variables.
7. Solve examples based on Lagrange's undetermined multipliers of three variables.
8. Find error and approximations.
8. Define basic concepts Gradient, Divergence and Curl and solve examples on it.

Paper VI: Differential Equations

By the end of this Course, students should be able to know about:

1. Find solution of homogeneous linear equations of higher order.
2. Compute all solutions of second order linear diff. equations using various methods.
3. Compute solutions of ordinary simultaneous diff. equations.
4. Give Geometrical interpretation of ordinary simultaneous diff. equations.
5. Solve Total Diff. equation.
6. Explain Geometrical interpretation of Total diff. equation.

Paper VII: Integral Calculus

By the end of this Course, students should be able to know about:

1. Define Gamma and Beta function.
2. State properties of Gamma and Betafunction.
3. Evaluate integral using Gamma and Beta function.

4. State and use Duplication formula.
 5. Derive relation between Gamma and Beta function.
 6. Evaluate double integral and triple integral over the given region.
 7. Apply change of order method to find double integral.
 8. Find Fourier series expansion for given function.
 9. Find Cosine and Sine series expansion for given function.
 10. Find integral with its limit as constant.
 11. Find integral using Leibnit's Rule .
 12. Find error function.
-

CHEMISTRY

Paper I: Physical chemistry.

By the end of this Course, students should be able to know about:

6. The students will understand concept of distribution law, thermodynamics, chemical kinetics, gaseous state and nuclear chemistry.
7. The students will identify order and molecularity of a chemical reaction.
8. The student will explain the velocity and productivity of reactions.
- 4 The student will explain the advantages and disadvantages of nuclear reactions theoretically.

Paper II: Inorganic Chemistry

By the end of this Course, students should be able to know about:

1. The student will understand the ionic solid and their crystal structure.
2. The student will understand the nature, applications of element of p block elements.
3. The student will get the knowledge of separations of metals from mixture.
4. The student able to group the chemical compounds aromatic and non aromatic category.
5. The student will get the knowledge acids and bases their applications in day to day life.
6. The student will aware about the Nobel gases

Paper III: Organic Chemistry

By the end of this Course, students should be able to know about:

1. The students will able to discuss the concept of stereochemistry.
2. The students will able to discuss the optically active or inactive compounds.
3. The students will able to discuss Fundamentals of organic reactions and mechanisms.
4. The student will explain brief idea of types of chemical reactions and reactive intermediates.
5. The students will discuss the reagents in organic synthesis.
6. The student will get the knowledge of aromatic and non aromatic compounds.

Paper IV: Industrial Chemistry

By the end of this Course, students should be able to know about:

1. The students will able to discuss the Scope and basic concept of industrial chemistry.
2. The students will explain the cause of pollutions and their control measures.
3. The student will explain applications of some important methods of industrial processes.
4. The student will get the knowledge of Petrochemical industry.
5. The student will get the knowledge Fertilizer analysis.

Paper V: Organic Chemistry

By the end of this Course, students should be able to know about:

1. The students will able to classify Polynuclear hydrocarbons
2. The students will able to discuss stereo chemical aspect with respectto the stereo specific and stereo selective reactions with their mechanism.
3. The students will understand importance of stereochemistry in the processes of industries.
4. The students are able to understand importance of heterocyclic compounds and

their classifications.

5. The students will understand the concept and need of green chemistry.

Paper VI: Analytical Chemistry

By the end of this Course, students should be able to know about:

1. The students will be able to understand the concept of analytical chemistry.
2. The students will be able to understand the inorganic qualitative and quantitative methods of analysis.
3. Students will understand basics of titration methods.
4. The students will be able to discuss mechanism Gravimetric analysis.
5. The students will be able to discuss about fertilizer analytical methods.

Paper VII: Physical Chemistry

By the end of this Course, students should be able to know about:

1. To provide the students with detailed knowledge of Electrochemistry.
2. To provide a good knowledge of physical properties of liquids.
3. To know practical and theoretical knowledge electrochemical processes and instrumentations.

Paper VIII: Inorganic Chemistry

By the end of this Course, students should be able to know about:

1. The student will get knowledge of chemistry of elements of 1st row transition series.
2. The student will understand the nature, applications of f - block elements.
3. The student will get the knowledge of coordination compounds and their applications.
4. The student will be able to understand the concept and applicability of Non Aqueous solvents.
5. The student will get the knowledge of chelation and applications in day to day life.
6. The student will be aware about the term catalysis and their importance in synthetic chemistry.

Paper IX: Physical Chemistry

By the end of this Course, students should be able to know about:

1. Students will be able to understand concepts and applications of quantum mechanics.
2. Students will be able to understand the term spectroscopy.
3. Students will know photochemistry, photochemical reactions and their applicability in day today life.
4. Students will be able to understand definition and scope solutions.
5. Students will be able to understand the electromotive force and their uses.

Paper X: Inorganic Chemistry

By the end of this Course, students should be able to know about:

1. Students will be able to understand Hard and Soft acids and Bases (HSAB)
2. Students will be able to understand metal ligand bonding in transition metal complexes and their applications in industrial world.
3. Students will be able to understand polymer preparations and their recycle procedures.
4. Students will be able to understand the Organometallic chemistry.
5. Students will be able to understand the concept of metal semiconductor and superconductor and its uses.

Paper XI: Organic chemistry

By the end of this Course, students should be able to know about:

1. The students will be able to understand the physical methods of analysis.
2. The students will be able to discuss the data analysis and deductions of the structure of unknown organic compounds.
3. The students will understand importance of spectroscopy in the manufacturing processes of industries. It has wide applications in Research and developments section of various industries.
4. The students are able to understand importance data analysis and the confirmation of structure of unknown organic compounds.
5. The students will understand the concept and need of

spectroscopy in chemical industry.

Paper XII: Industrial Chemistry

By the end of this Course, students should be able to know about:

1. The students will able to understand the concept of Industrial chemistry.
2. The students will able to understand the manufacturing of heavy chemical processes and their applications.
3. Students will understand basics of corrosion and passivity.
4. The students will able to discuss mechanism sugar industry.
5. The students will able to discuss about soaps and detergents manufacturing process and mechanism.

Paper XIII: Physical Chemistry

By the end of this Course, students should be able to know about:

1. Students will able to understand concepts and applications of phase rule.
2. Students will able to understand the term solid state chemistry, synthetic applications.
3. Students will know surface chemistry

Paper XIV: Inorganic Chemistry

By the end of this Course, students should be able to know about:

1. Students will able to understand inorganic reaction mechanism.
2. Students will able to understand thermodynamic and chemical kinetic aspect of metal complexes.
3. Students will able to understand iron and steel and their production technique.
4. Students will able to understand the concept bioinorganic chemistry.

Paper XV: Organic chemistry

By the end of this Course, students should be able to know about:

1. Students will able to understand concepts and applications of name reactions.
2. Students will able to understand the term reagents and synthetic applications.
3. Students will know electrophilic addition reactions and their applicability in

day today life.

4. Students will able to understand definition and scope Natural Products.
5. Students will able to understand the Pharmaceutical products and their uses.

Paper-XVI: Analytical Chemistry

By the end of this Course, students should be able to know about:

1. The students will able to understand the concept of analytical chemistry.
 2. The students will able to understand the procedure of potentiometric titration and their application.
 3. Students will understand basics of colorimetry and spectrophotometry.
 - 4.
-

BOTANY

Paper I: Viruses, bacteria, Algae And Fungi.

By the end of this Course, students should be able to know about:

1. Understand the diversity among Viruses, Bacteria, Algae and Fungi.
2. Create interest in bio-industries
3. Know the systematic, morphology and structure, of Bacteria, Viruses and Algae.
4. Developing skill of identification algae, fungi, bacteria and viruses.
5. Understand the useful and harmful importance of Bacteria, Viruses and Algae

Paper II: Biodiversity of archegoniate.

By the end of this Course, students should be able to know about:

1. Understand the diversity among archegoniates salient features of each group with reference to example.
2. Understand the morphological diversity of Bryophytes, Pteridophytes and gymnosperms.
3. Understand the economic importance of gymnosperms.

Paper III: Plant Ecology

By the end of this Course, students should be able to know about:

1. Student know about ecological terms, ecosystem community, ecological groups of plants and their adaptations, Phyto-geography.

Paper IV: Plant Taxonomy

By the end of this Course, students should be able to know about:

1. Student becomes familiar with basic science Plant taxonomy includes nomenclature, classification and herbarium techniques.
2. Student know about advanced plant group angiosperms with reference to some families.

Paper V: Algae, fungi, Bryophytes and industrial applications.

By the end of this Course students should be able to know about:

1. Students becomes familiar with non vascular plants with classical examples of each.
2. Learn the industrial applications of various plants and plant products such as biofertilisers, mushroom cultivation techniques.

Paper VI: Plant physiology ecology and horticulture.

By the end of this Course, students should be able to know about:

1. Know importance and scope of plant physiology.
2. Understand the plants and plant cells in relation to physiological process growth
3. Know about role of phyto-harmones in plants.
4. Students becomes familiar with scope and branches of horticulture, methods of propogation of horticultureplant.

Paper VII: Pteridophytes, Gymnosperms, angiosperms and plant anatomy.

By the end of this Course, students should be able to know about:

1. Students become familiar with vascular plants with classical examples of each.
2. Students understand the anatomy of angiosperms.

Paper VIII: Cyto-genetics and utilization of plant resources.

By the end of this Course, students should be able to know about:

1. Understand structure of cell, cell organ allies, genetical process such as phenomenon of linkage and recombination.
2. Students becomes familiar with different plant resources, some medicinal plants with classical examples.

Paper IX: Biology of non vascular plants.

By the end of this Course, students should be able to know about:

1. Students become familiar with non vascular plants with classical examples of each.
2. To know the geological time scale, process of carbon dating, application of paleobotany in oil and coal exploration.

Paper X: Genetics and analytical techniques in plant science.

By the end of this Course, students should be able to know about:

1. Understood chromosome structure, number, mutation and population genetics.
2. To know extra chromosomal inheritance in plastid and mitochondria.
3. Students become familiar with analytical techniques in plant sciences.

Paper XI: Fundamentals of plant physiology and ecology.

By the end of this Course, students should be able to know about:

1. To understand plant life processes mineral nutrition, nitrogen metabolism Photosynthesis and respiration.
2. To understood the concept of population ecology and biogeochemical cycles.

Paper XII: Plant biochemistry.

By the end of this Course, students should be able to know about:

1. To understand the biochemistry of carbohydrate, lipid, protein and nucleic acid.
2. Understood biochemical processes and their significance in plants.

Paper XIII: Biology of vascular plants.

By the end of this Course, students should be able to know about:

1. Students become familiar with vascular plants and their significance.
2. Understood modern taxonomy in relation to paynology, anatomy and cyto

taxonomy in plants.

Paper XIV: Microbiology and plant pathology.

By the end of this Course, students should be able to know about:

1. Students become familiar with methods used in microbiology for isolation, culture methods, staining methods and their industrial applications.
2. To understand structure of different microbes and their genetics.
3. To become familiar with plant diseases.

Paper XV: Plant breeding biostatistics ethno-botany and horticulture.

By the end of this Course, students should be able to know about:

1. To understand by using modern plant breeding techniques.
2. Students become familiar with role ethno botany in modern medicine.
3. To understand applications of biostatistics in plant sciences.
4. Students becomes familiar with horticulture techniques such as gardening, ornamental plants and nursery management.

Paper XVI: Molecular biology and biotechnology.

By the end of this Course, students should be able to know about:

1. To understand DNA structure, replication and gene action
 2. Students become familiar with Dna recombinant technology, finger printing, Pcr technique and construction of genomic library.
 3. Students become familiar with gene transfer methods and tissue culture techniques.
-

PHYSICS

Paper I : Mechanics -I

By the end of this Course, students should be able to know about:

1. Different types of motions in nature.
2. Difference between translational motion and rotational motion.

3. Different laws of motions.
4. Differential equations and their applications.

Paper II : Mechanics -II

By the end of this Course, students should be able to know about:

1. Oscillations and waves and their properties.
2. Use of waves in general life.
3. Various elastic constants and properties of elasticity.
4. Surface tension and their applications.
5. Applications of GPS and Satellite.

Paper III : Electricity And Magnetism -I

By the end of this Course, students should be able to know about:

1. Scalar vector and their mathematical Applications.
2. Dielectric phenomenon.
3. Difference between polar and non-polar molecules.
4. Various types of Condenser and calculation of capacity.

Paper IV : Electricity And Magnetism -II

By the end of this Course, students should be able to know about:

1. What is the origin of magnetic property of material?
2. Complex number and their application in solving problems in AC circuits.
3. BiotSavarts law and its applications.
4. Maxwell's equations and electromagnetic waves propagation in vacuum and isotropic dielectric medium

Paper V : Thermal Physics and Statistical Mechanics -I

By the end of this Course, students should be able to know about:

1. General information of various types of gases and theories related to it.
2. Thermal properties of gases and various laws related in

thermodynamics.

3. Transport phenomena in gases.
4. Concept of heat and temperature and different types of thermometer.

Paper VI : Waves and Optics -I

By the end of this Course, students will be able to know about:

1. The use of Cathode ray oscilloscope in oscillations.
2. Linearity and superposition principles
3. Coupled oscillatory system.
4. Oscillations and waves and their properties.
5. Viscosity of liquid and its mathematical theory related with it.

Paper VII: Thermal Physics and Statistical Mechanics -II

By the end of this Course, students will be able to know about:

1. Study of thermodynamic and different thermodynamically relations
2. Study of theory of radiations.
3. Study of classical and quantum statistics
4. Thermodynamic probability and probability distribution.
5. LASERS and applications in various fields.

Paper VIII: Waves and Optics - II

By the end of this Course, students will be able to know about:

1. Lenses and various cardinal points.
2. Formation of Images by Newton's formula.
3. Properties of light like interference, diffraction and polarization with theory and experiments.
4. Resolving power of different optical instruments

Paper IX: Mathematical and Statistical Physics

By the end of this Course, students will be able to know about:

1. Study of different coordinate systems.
2. Differential equations and their applications.

3. Experimental study of Black body radiation spectrum.
4. Basic concepts in statistical physics and MB, BE, FD statistic.

Paper X: Quantum Mechanics

By the end of this Course, students will be able to know about:

1. Interpretation of wave function and Schrodinger's wave equation
2. Quantum mechanical treatment of particle in a rigid box.
3. Schrodinger's equation for hydrogen atom
4. Significance of quantum numbers.
5. Various operators in quantum mechanics.

Paper XI: Classical Mechanics

By the end of this Course, students will be able to know about:

1. Study of mechanics of particle and system of particle.
2. Coriolis force and effect of Coriolis force in nature
3. Applications of Lagrange's equations
4. Study of techniques of calculus of variation
5. Motion of rigid body in space

Paper XII: Atomic and Molecular Spectra, Astronomy and Astrophysics

By the end of this Course, students will be able to know about:

1. Doublet fine structure and electron spin orbit interaction
2. Effect of magnetic field on atomic spectra
3. Study the Raman effect and its classical theory.
4. Study of origin of solar system.
5. Evidences of geological activities.

Paper XIII: Nuclear and Particle Physics

By the end of this Course, students will be able to know about:

1. Need of accelerators and principal, construction and working conditions of accelerators.
2. Study of principal, construction and working conditions of nuclear

detector.

3. Study of nucleus and its properties.
4. Origin of cosmic rays and its types.

Paper XIV: Energy Studies and Material Science

By the end of this Course, students will be able to know about:

1. Classification of energy resources and their alternatives.
2. Solar energy from satellite power station.
3. Study of impurities in solid and defect in solids.
4. Study of super conductivity.
5. Introduction of nano science and nano technology

Paper XV: Electrodynamics and Electromagnetic Waves

By the end of this Course, students will be able to know about:

1. Study of electrostatics and motion of charge particle.
2. Electromagnetic inductions and their applications.
3. Maxwell's equations and their physical significance.
4. Study of skin depth conservation of energy in electromagnetic fields.

Paper XVI: Solid State Physics

By the end of this Course, students will be able to know about:

1. Study of crystalline and non-crystalline solids.
 2. Study of X ray diffraction method.
 3. Elastic vibrations of diatomic and mono atomic lattice
 4. Solid state devices and their applications.
 5. Study of metal semiconductors and insulator.
-

B. Sc. Part - I

Paper - I: Animal Diversity (Paper – I)

By the end of this Course, students will be able to know about:

1. Understanding the arrangement of organism or groups of organism in distinct categories in accordance with particular & well established plan.
2. Explanation of unity in diversity of organism.
3. Studying specific & scientific names to organism.
4. Collecting information about useful and harmful animals, helps in understanding the nature of habitat.

Paper II: Animal Physiology

By the end of this Course, students will be able to know about:

1. Understanding the structure and function of cell & cell organelles.
2. To study animal tissue to improve knowledge about genetic information. it study how organism evolve from a single cell division, get knowledge about unicellular & multi-cellular organisms.
3. Understanding normal function of cell, organ or tissue.

Paper IV: Genetics

By the end of this Course, students will be able to know about:

1. Study of structure function, molecular organization, growth, reproduction and genetics of cell.
2. Study of Mendelian and Post Mendelian genetics .
3. Study of Linkage and Crossing Over.
4. Study of Mutations.
5. Understanding evolutionary history of certain animals, study their sericulture which is one of the longest agro industries & silk is used in the manufacture of woven materials.

B.Sc. Part - II

Paper V: Animal Diversity (Paper - II)

By the end of this Course, students will be able to know about:

1. Understanding the arrangement of organism or groups of organism in distinct categories in accordance with particular & well established plan.
2. Understanding General features and Classification up to orders; Venomous and non-venomous snakes, Biting mechanism in snakes.
3. Study General features and Classification up to orders; Osmo-regulation in Fishes.

Paper VI: Biological Chemistry

By the end of this Course, students will be able to know about:

1. Study of chemistry within living organisms.
2. Perceiving the chemical components & chemical structure in organisms.
3. Study how body functioning with the help of chemical molecules & elements.

Paper VII: Reproductive Biology

By the end of this Course, students will be able to know about:

1. Study outline and histology of female and male reproductive system
2. Functional anatomy of female and male reproduction.
3. Understand infertility in male and female: causes, diagnosis and management; Assisted
4. Reproductive Technology: sex selection, sperm banks, frozen embryos, invitro fertilization, ET, EFT.

Paper VIII: Applied Zoology

By the end of this Course, students will be able to know about:

1. Improving proper knowledge about Transmission, Prevention and control of diseases Tuberculosis, typhoid..
 2. Understanding Insects of Economic Importance.
 3. Study the principles of poultry breeding, Management of breeding stock and broilers, Processing and preservation of eggs.
-